Activity and Resource:
Alternative Views on the Analysis of Children's Activity in Neighborhood Environments

Jundo Yun*1, Byungho Min2, Michihiro Kita3 and Takeshi Suzuki3

1 Ph.D. Student, Department of Architectural Engineering, Graduate School of Engineering, Osaka University, Japan
2 Professor, Faculty of Architecture, Ajou University, Korea
3 Associate Professor, Department of Architectural Engineering, Graduate School of Engineering, Osaka University, Japan

Abstract
Observations of children playing in the neighborhoods of six cities in Vietnam present alternative views to the transaction of children's activities and their neighborhood environment. They indicate that children's activities are of such a complicated nature that each has in it a countable number of sub-activities called individual actions. Activity is a composite of these small actions and can successfully be defined by a structure of the interrelationships among these actions. This activity structure was analyzed and defined in terms of three dimensions – sequential relationship, dependence interaction, and dominance configuration.

Data also indicates that children's activity is dependent on environment because its individual actions interact with environmental resources. Environmental resources are elements and qualities of children's sociophysical environments required critically in the process of realizing the actions. Children in need of activity demand certain resources from the environment to realize the activity. It is, thus, suggested that individual actions, and activity as well, emerge as a result of the correlation between needed resources and found resources. This view demands an analysis that takes the interaction of individual action and environmental resource as a unit of analysis and as a way to operationalize human activity

Keywords: children; play; activity; resource; individual action; neighborhood

1. Introduction: Activity, Individual Action and Resource
This study attempted to understand children's neighborhood activity in terms of individual actions and environmental resources. It began with the assumption that the activity is comprised of individual actions, and the actions depending on environmental resources. It maintained, thus, that activity and environment should be more systematically defined in order to better understand the relationships between children and their neighborhood environment.

Activity obviously is multidimensional. Activity is defined in terms of that of an individual, group, organization, or culture. Activities of these different levels may coincide, complement, or conflict in one place at different times. It is suggested that this multilevel complexity may also be true in the analysis of the scale of activity. Place comes in differing scales (Low & Altman, 1992).

At least three scales, or three levels of analyses are conceived – activity system (an analysis of a system of activities at a larger scale), activity (a middle level analysis), and individual actions of activity (a more specific and analytic level).

On a larger scale, an activity system comprises several middle level activities that are interrelated functionally, geographically, or temporally. Studies of activity systems of different sociocultural groups (Rapoport, 1977) and systems of 'children's linked play' (Moore, 1985) indicate that an activity system may span a large area that constitutes a geographical network of many different places (Cooper Marcus, 1974). Conversely, an activity system may arise in one place so that a temporal system of activities, linear or cyclic, can be analyzed in the place (Abu-Ghazzeh, 1998). Similarly, on a smaller scale, an activity comprises several interrelated lowest level individual actions. A few examples can illustrate this. The activity of studying can incorporate numerous actions that include sitting, reading, writing, working on a computer, listening to music, talking with colleagues, and looking out the window. A particular studying activity is characterized and differentiated from other studying activities based on what actions are involved and how the actions are interrelated. Similarly, sitting is an essential component of dining. A simple question of 'sitting where,' sitting on the floor or sitting at the table, can make fundamental difference in the nature of the dining activity. This applies to all children's neighborhood activities.

In fact, the proposition that each activity is a particular combination of individual actions constitutes a major emphasis of this study. It maintains that (1) identifying the individual actions and the structure of their relationships is crucial for...
defining the activity. Changes in either the actions or the structure may entail changes in the meanings that the activity has to children. (2) Each child or a group of children has its own inventory of individual actions. The inventory is specific to the child (or the group) as well as the way in which the child selects actions from the inventory and organizes them to an activity. (3) Analysis at this more specific level of individual actions can improve our understanding of the activity-environment relationship. Since individual actions constitute an activity, they intervene into the interaction of the activity with the environment. By taking the unit of analysis down to the level of individual actions, it becomes possible to investigate environmental effects on actions. Thus it is also possible to compile these individual effects to identify the environmental influence on activity. Our interest is in the interactions of individual actions and the environment. It includes, for example, sitting where, talking with whom, watching what, whether the environment encourages or discourages children’s ball play, how the environment supports or inhibits hide-and-seek, and why children select a particular setting for run-and-tag: why not other settings. By taking each of these actions as the unit of analysis, environment also needs to be defined more specifically. That is, the analysis requires an alternative way to operationalize the environmental influence at the level of individual actions. This analysis intends to discuss one way of conceptualizing the environment by proposing a theoretical concept generically called environmental resource.

What is environmental resource? A simple example can illustrate what it basically is. A child who wants to sit and take a short rest may find a small ‘sit-on-able’ rock and use it to sit on (It does not necessarily have to be a rock. It can be a front step or a chair). This rock provides a resource for sitting. Then, the child may bump into a friend while sitting. They willingly find each other ‘talk-able’ and start talking. The friend is another resource, for talking. They may even want to lie down together on the rock. The rock and the friend are again used as resources for lying.

Additional resources are conceivable, such as shade over the rock and other children playing nearby to watch (the children’s play becomes a resource for watching). This particular activity, which can be called ‘taking a rest,’ has in it at least four interrelated individual actions – sitting, talking, lying down, and watching. Each of these actions is related to its own resource(s) taken from the child’s sociophysical environment. Therefore, environmental resources for the activity are identified as a composite of those for the individual actions.

2. Methods

Activity (individual actions) and resource were two key guiding constructs, so called 'sensitizing concepts' (Blumer, 1969), that steered theoretical orientation of this study throughout its field observations, data analyses, and hypotheses formulations. Children’s neighborhood activities were observed in six cities across Vietnam, from Da Lat, Nha Trang, Qui Nhon, and Pleiku to Da Nang and Hanoi. Vietnam was chosen for this study to avoid the researchers’ cultural biases or their predetermined sympathy to study subjects in their own culture groups.

In addition, Vietnamese neighborhoods were not professionally planned but full of children’s activities, which provided rich and unadulterated forms of children-environment transactions. During a one-month study trip to the cities, three observers collected 129 neighborhood activities with each city allocated for three to four days of observation of at least one of its urban residential areas.

The observation sessions did not start until the pre-observation phases were completed. These preparatory phases included reviews of public materials such as tour guides and Internet homepages of the cities and preliminary on-foot excursions of candidate communities. The reviews and excursions entailed notes, sketches, photos, and team discussions, which together helped the researchers to become familiar with the cities and to select study areas.

Observation walk-through routes were also determined at this time to include passing through public open spaces of the selected neighborhoods.

Most procedural decisions of this observational protocol, particularly the walk-through routes, time of the day, and sampling of activity cases, were made so as to encourage collecting of as many and various samples as possible within the limited time of the field study and to give this study some fundamental qualities of a naturalistic inquiry.

Every activity on the walk-through routes was observed, along with details of its social and physical contexts. The observations were kept least obtrusive all the way in order to capture the most unadulterated forms of activity and environment. The researchers used all possible measures not to draw any attention from the children observed. In addition, there were little or no theoretical presumptions or hypotheses imposed on the observations. The contextual observations incorporated several recording devices.

One of them was the time-lapse serial photo recording that attempted to record all visibly noticeable changes in actor, action, and other contextual event of each activity case. Field notes were also employed making active use of re-constructive methods such as sketches and diagrams. Supplemental techniques such as behavior mappings and trace observations were applied whenever needed to increase the fidelity of data. These multiple recording media all aimed to transcribe the realities as seen and experienced by children. These efforts enabled the observations not just to record what was seen, but also to encourage collecting of as many and various samples as possible within the limited time of the field study and to give this study some fundamental qualities of a naturalistic inquiry.

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Another naturalistic character of this study was the self-evolving, cumulative, and progressive form of data analysis. Analysis was conducted from the very first set of data in each city. After a day’s observation, data were preliminarily analyzed, initial findings meticulously marked, and theoretical implications carefully listed. The basic analytic strategy equated the constant comparative method (Glaser & Strauss,
in that collecting and analyzing each subsequent set of data was reflected and added to the analysis of the preceding sets of data. Initial findings derived from the first sets of data were constantly compared, revised, and developed based on those of the next sets of data.

In addition, focal interests of the study were also self-evolving in that they became more focused, better pinpointed, and more precisely defined as the investigation proceeded.

3. Results
3.1 Preliminary Findings on Individual Actions
Data first indicated that an activity did not exist alone but that it was a part of a rather larger flow of several interrelated actions. To understand it correctly seemed to entail a more comprehensive analysis of its linkages to other activities occurring in its temporal and spatial vicinities. On the other side of the level of analysis, data also began to suggest that a single activity was an event derived from rather complicated interrelationships of small actions. As the analysis proceeded throughout 129 activity cases collected, it was clearer and repeatedly confirmed that an activity was a composite of the countable number of these individual actions. Furthermore, activities that appeared similar at first encounter turned out to be, in fact, very different as the analysis identified actions involved and their interrelationships.

Walking, for example, seemed to mean much more than simple walking for children. Walking was itself a joyful experience when it went along with other actions such as talking, singing, holding hands, and playing with a toy. This was true to all walking cases (nine of 129 cases). More specifically, these walking cases apparently differed from one another because of the individual actions and the structure of their relationships. In some cases the constituent actions occurred one after another as walking proceeded (children walked along a neighborhood street while talking, then picked up a piece of foam, played with it the next moment, then started throwing it to each other, and soon came back to walking shoulder to shoulder, Fig.1.). In other cases they occurred simultaneously while walking, as in Fig.2. in which children walked, held hands, talked to each other, blew a toy horn, and carried a plastic bag, all at the same time. Another difference was in the extent to which any part of these small actions was given more emphasis than others and these key actions characterized the activity. Between these two walking activities (Figs.1. and 2.), walking was much less dominant in the former than it was in the latter (this dominance definition is further discussed in later sections). An exceptionally interesting example that again confirmed this structural character is shown in Fig.3. This was apparently a single child's playing hopscotch. This activity was composed largely of three actions, planning the play (thinking of how and where to play hopscotch), drawing lines on the ground, and finally playing on them. These constituents occurred in a strictly time-serial fashion while the child seemed quite conscious of what was the first and what should come next. None of them happened at random, and an action was functionally dependent on the preceding ones. Thus this case was a good example of a sequence of actions, strong mutual dependence (functional, in this case), and the domination-subordination relationship (playing hopscotch versus drawing lines).

3.2 Identification of Individual Actions

It was important at the beginning stages of the analysis to identify all individual actions from the cases collected and to construct the inventory of actions. Some qualitative analyses procedures related to coding, categorizing, and constant comparing (Strauss & Corbin, 1998) were selectively applied. This analysis resulted in five main criteria of individual action.

(1) Individual action is an objective, observable event. It is what is seen, not what can be interpreted. Sitting on a bicycle, for example, is an objective visual transcription whereas resting on a bicycle is an interpreted reality. For the same reasons, such internal processes as attitude, preference, and intention should also be excluded from the inventory of actions.

(2) Individual actions are pieces for an assembly. Children pull them together in different ways to conduct different activities. Ball play, for example, is not an individual action since it is already an assembled activity. It is important to identify smaller actions, such as kicking a ball against the wall, throwing it to each other, and using it in a structured game, in order to illustrate the processes in which these actions are assembled into different activities using a ball.

(3) Individual action is a minimum analytic unit with its own meaning. An action is no more dissociable until it maintains an independent meaning of what it is. This is what differentiates action from motion. Turning one's head, for example, is a motion and does not represent any meaning until it is incorporated into an action such as watching others play. Similarly, moving one's legs at a regular pace or stretching out one's hand does not serve as an action whereas walking or holding each other's hands does.

(4) Some actions are completed when more than two actors complement each other's action (e.g., shaking
hands and talking to each other). Two children throwing a ball to each other, for example, are actually engaged in two complementary constituents, throwing a ball and catching it. Yet throwing cannot exist and has no meaning without catching, and vice versa. Thus, the pair itself should be considered as an individual action.

(5) For similar reasons, a structured game, such as rope jumping, hide-and-seek, playing cards, and hopscotch, should be considered as a single action. It is true in each of these games that multiple actors must cooperate to construct the particular meaning of the game. A game comprises several component actions, such as holding a rope, swinging it, and jumping over the rope. Yet the role that each component should play in the game is predetermined by the rule of the game.

This role, or its meaning, does not vary because of the rule. Thus, the game itself, instead of each of its components, should be treated as an individual action.

3.3 The Action Inventory

The above criteria were applied to 129 cases of collected activities in order to identify all individual actions that the Vietnamese children showed in their neighborhoods. Again, the analysis was not a linear process. Instead, it employed a reciprocal and comparative method. The analysis resulted in a total of 86 individual actions. They together constituted the Vietnamese children's action inventory. They included such stationary actions as standing, squatting, sitting on something, and talking to each other, as well as motor kinetic actions such as running around, throwing something, pulling or pushing each other's body, and playing tag. The inventory also incorporated actions performed by a single child (e.g., watching, eating, and push-ups) and those always requiring partners' reactions (e.g., battling with water guns and holding hands). Various forms of structured games (e.g., hide-and-seek, rope jumping, and slapping cards) and constructive/imaginary actions (e.g., drawing on dirt, playing with a bug, and playing house) were also included in this inventory.

In all 129 cases of activities, these 86 actions were selectively and repetitively performed 604 times. This implied that, on average, the children selected 4.7 actions for each activity. In other words, it seems safe to say that an activity in Vietnam normally comprised four actions for each activity. In other words, it seems safe to imply that, on average, the children selected 4.7 actions for each activity. In other words, it seems safe to imply that, on average, the children selected 4.7 actions for each activity. In other words, it seems safe to imply that, on average, the children selected 4.7 actions for each activity.

Interestingly, the most frequently exhibited actions in Vietnam were sedentary and passive ones, which included standing, talking, giggling/laughing, watching others play, squatting/crouching, hanging around/hovering, and looking around (with unsteady eyes). This action inventory seemed unique to this group of children and could be compared with those of other sociocultural groups. It also seemed that the inventory never remained stagnant. Instead, it appeared to evolve. New actions were added, as old ones disappeared. Vocabularies could be enriched and repertoires varied. Thus, new types of activities could emerge constantly.

3.4 The Structure of Activity, Three Dimensions: Sequence, Dependence and Dominance

Data showed that activity varied based on what individual actions were selected for the activity. Additionally, data showed that activity also varied based on the relationships of the individual actions in the activity. Thus, it was true that two cases of activities shared exactly identical individual actions and still differed from each other because of the differences in the interrelationships of the actions.

These interrelationships of the 129 collected cases were analyzed. It was first found that, in each activity, individual actions were functionally dependent on one another to a certain degree and worked in a mutually supportive manner. The analysis showed that three dimensions could emerge to summarize the inter-action relationships. They were sequential aspect, dependence relationship, and dominance definition.

3.4.1 Sequence

The sequential structure was characterized by the temporal relationship of individual actions, a temporal order that the actions made during a short period of time while an activity went on. Data showed that this dimension could be an important factor that determined the nature of the activity. For example, toy play with its three constituent actions, playing with a toy, sitting, and talking, occurring at the same time, appeared fundamentally different from another toy play in which children first played with a toy then sat to talk at the same location.

The analysis indicated that there were three groups of activities on this dimension, those with 1) concurrent (simultaneous) actions (e.g., sitting on a bicycle, eating, playing on a gamer, reading a comic book, and looking around, all at the same time, Figs.4.), 2) consecutive (continuous) actions (e.g., thinking/planning, drawing lines, and playing on the lines, occurring one after another, Figs.3.), 3) combined actions (the above two temporal relationships combined within one activity in a rather complicated way in which a set of actions seen at the same time was followed by another set of simultaneous actions).

3.4.2 Dependence

Data showed that functional or social dependence between individual actions of an activity was an important dimension for defining the activity. For example, dependence relationship between squatting on the ground and drawing on the dirt was basically functional whereas that between rope jumping and watching the play was social. A certain degree of functional dependence appeared essential for an activity to emerge, but in many cases functional dependence seemed to work with social dependence. In a few other cases, social dependence appeared so powerful that they almost solely supported the activity while the influence of functional dependence seemed minimal (Fig.5., One sleeping beside his friends...
playing cards could have found a better place for taking a nap without the social tie). Another example was a group of teenagers gathering under a tree alongside the street (there seemed to be strong social dependences among the teenagers whose individual actions, however, appeared functionally much less related to one another, Fig.4.).

Dependence relationships among individual actions were detected in all activity cases collected although their strengths varied. Data thus could be analyzed in terms of how strong the dependence was. Furthermore, activity could be more clearly defined when this dependence relationship was analyzed together with the sequence dimension. For example, activities with temporally consecutive individual actions could be grouped either to those whose actions were strongly dependent on one another (e.g., one must draw lines first to play on them, Fig.3.) or to those whose actions showed relatively weak mutual dependence (e.g., a group of children stopped walking to pick up and play with a piece of foam, then soon threw it away and continued walking, Fig.1.).

3.4.3 Dominance

In many of the activity cases collected, it appeared that, of several individual actions of an activity, some were more important than others in defining the activity. These were the major and dominant actions in that they most powerfully characterized the activity. In this respect, data were divided into two groups. In some activities, a particular action was exceptionally dominant so that this action solely determined the essential meaning of the activity. This major action was relatively easy to identify, and the other actions were minor and subordinate. In other activities, the other hand, it was not as easy to determine which actions were dominant over others. An activity was composed solely of minor actions and characterized by them with no such major actions.

For example, all the activity cases involving children's walking showed that walking was always accompanied by varying types of play behavior (e.g., blowing a horn, playing on a portable gamer, eating snacks, and talking). When these plays appeared to determine the activity context (e.g., children often stopped walking to focus more on playing), the activity could not be defined as simple walking but should rather be defined as play. A similar activity, on the other hand, should be considered as simple walking when these plays appeared to be secondary minor actions. Each case having such a major action could be characterized more easily by this action, such that, when jumping rope was a dominant action of a play, this whole play could be defined as rope jumping. An activity with no such representative action had to be defined only after its individual actions were described separately and the other dimensions, sequence and dependence, more carefully analyzed. Therefore, it was helpful to analyze this dominance definition together with sequence and dependence relationships.

In some cases, a dominant action and its subordinates occurred successively while they kept a fairly strong functional dependence (e.g., playing hopscotch after drawing lines for it on the ground, Fig.3.), whereas in other cases they together occurred simultaneously (e.g., three girls jumping rope and a boy watching them). During the analysis using these three dimensions, it appeared that these dimensions were not correlated to one another. Individual actions occurred simultaneously either with or without a major action, and actions were strongly dependent on each other regardless of whether they were concurrent or consecutive.

3.5 Definition of Activity

These three structural dimensions provided what could be called a structural profile. This profile was a simple 3-dimensional representation of the interrelationships of an activity's individual actions (Fig.6.). It shows structural characteristics of the activity that included sequential, dependence, and dominance relationships. What made this structural profile important was its critical role in defining each activity. That is, activity varied not only with its individual actions but also with changes in any part of the structural profile. Similarly, a case of three girls holding a paper shuttlecock and playing with it occasionally could have been misread as playing shuttlecock. This case, however, was defined as a social gathering because playing shuttlecock could never be taken as a major action and the girls were more involved in talking and some other social interactions. Additionally, there were also strong indications that many cases involving ball play should not be mistakenly defined as ball play when the ball play was one of many simultaneous actions and not dominant over other actions.

The structural profile was applied to compare each activity with other similar activities as well as with apparently different ones. During this analysis, this profile analysis was again found useful for the interactivity comparison. It was also interestingly noted that, in this profile analysis, minor actions should not be underestimated. Two activities sharing a major action turned out to be different due to their minor actions. For example, a rope jumping activity with girls jumping rope, sitting alongside, watching the play, and singing along was different from a social gathering with some girls jumping rope while their friends nearby engaged in other minor actions such as talking and reading rather independently. All collected activities were analyzed in this manner and grouped accordingly. The grouping analysis resulted in 12 activity types (Table 1.)

Twenty-eight cases grouped under 'gathering' had aspects of rest and hovering but could be differentiated

![Fig.6. A Structural Profile](image-url)
from simple rest or hovering/hanging-out due to a set of individual actions that gave significant social meanings. These gathering activities were divided into three groups, gathering-rest, gathering-social, and gathering-play, based on differences in their goals, that is, 'gathering mainly for what.' For example, goal of social gathering that appeared more as rest without specific active individual actions was interpreted as 'gathering-rest.' Activities grouped as 'romping,' regardless of the number of children involved, were considered different from those of 'gathering-play' because of the individual actions that implied less emphasis on social interactions and more focus on playing. In general, it was much easier to read and categorize the activity when it had a major action.

Overall, this activity definition task could be performed with confidence as the analysis of individual actions and the structural profile was applied to it.

3.6 Locus of Activity

Categorization, as a procedure of data reduction, entails significant loss of qualitative information of raw data. This is particularly true when the categorization efforts are made with little scientific rigor. Categorization for location of activity represented such a case in this analysis. Using common sense terms such as street, playground, and park for representing physical settings of activity, the location analysis was found to be too general, arbitrary, confusing, and inappropriate. Given that the Vietnamese neighborhoods were unplanned and organic, porches, for example, were all of different designs, and streets also included small alleys near houses and neighborhood thoroughfares filled with traffic. This location analysis did not say much theoretically.

To alleviate this difficulty, the location was divided as specifically as possible. The result showed that locations of the collected cases could be defined in terms of 13 categories. They included spaces at the entrance (17.1 percent including front yard/porch, front step, and empty space at the entrance), neighborhood alleys (28.7 percent including alley near the entrance and other alley spaces), public sidewalk (25.6 percent including sidewalk in front of a house and sidewalk away from home), street (21.7 percent including street side in front of a house, street side near buildings, and on the street), and neighborhood vacant areas (7.0 percent including vacant area/courtyard, empty lot, and natural open area). The location analysis indicated that street spaces, including alleys, sidewalks, and streets, were favorite settings (75.9 percent) whereas the use of entry spaces and vacant areas were relatively marginal.

Chi-square analyses were performed to see whether activity differed with location. They resulted in no significant relationship between location and activity type (at the 0.05 level). In building entrance spaces, rest/sit, structured game with toys, and constructive play were most often observed. However, these activities were frequently witnessed in other locations as well. In addition, areas such as neighborhood alleys, sidewalks, and streets were filled with many different activities.

3.7 Environmental Resources

The observations indicated that attention should be paid to qualities of sociophysical environment, not location, in order to elucidate environmental influences more correctly. It was unmistakably noted in every activity case collected that children made use of all the different aspects of these environmental qualities.

They ranged from tree shade, hard ground, and garbage to friends, siblings, and toys. Environmental quality had to be a comprehensive multi-faceted notion that indicated all properties, objects, and aspects of sociophysical environment used for activity. In this analysis, a generic term, 'resources,' was coined to represent the environmental qualities since these qualities were found, capitalized, and incorporated as raw materials for activity. The analysis first focused on identifying every environmental resource considered important to all the individual actions and activities that had already been identified. A considerable number of environmental resources could be identified. The analysis then attempted to isolate and define them one after another and performed multi-directional comparisons. This process resulted in seven fundamental characters of resources.

3.8 Resources, Activity, and Individual Actions

The observations indicated that it was each individual action, not the activity itself that interacted with environmental resources. This implied that each action required and consumed its own set of critical resources. For example, three young children playing with a toy car sitting in front of a house were performing at least three individual actions simultaneously; sitting on the front step, talking to each other, and playing with the toy. These three actions together composed this activity. The main resources for this activity were related individually to each action, which included the sit-on-ability of the front step for sitting, friends (play colleagues) for talking, and the toy car for playing. In addition, these three actions shared a few other resources, such as some spatial qualities (proximity to home, security, size of spatial area, proximity to alley for sociability, ability to instantly move to other areas). Thus, it appeared that resources were of two types, individually used for each action and shared among the activity's individual actions. Regardless of which type was employed, it was apparent that each action interacted with environmental resources in its own specific and rather independent ways.

It was rewarding, conceptually, to find that there appeared to be patterns in the relationships between individual action and environmental resource. These patterns indicated that a particular action tended to relate to a particular group of resources regardless of what activity this action was affiliated with. Sitting for example, tended to require similar resources in different activities (e.g., something to sit on, other actions to watch, and friends to sit with). It was this unique set of resources that unmistakably differentiated this action from other actions. This analysis already presented individual actions and activity types in the preceding pages. It also listed critical resources of each individual action. At this stage,
the analysis attempted to identify the relationships between activities, individual actions, and resources (Table 1).

4. Discussion and Conclusions

The observations strongly suggest that activity is a manifestation of rather complex and dynamic interactions of small individual actions. Thus, the differences between activities can clearly be identified through investigating the process in which these small actions interact and construct a distinctive structural configuration. Again, ball play can incorporate such individual actions as drawing lines, lining up shoes (to make a goal post), running around, kicking or managing a ball, talking or shouting to each other, drinking, and watching the game, among many others.

A ball play is a particular combination of these actions and a particular structure of the relationships that the selected actions together produce.

An activity thus can be characterized by identifying what actions are involved. This study introduces five criteria for identifying an inventory of these individual actions that the Vietnamese children share in their neighborhoods. An activity can also be characterized by investigating how a set of actions, selected from the inventory, work together to evolve into the activity. This study presents three dimensions of this interactive structure, sequential relationship, dependence interaction, and dominance configuration.

This study also indicates that each individual action itself deserves to be considered as a legitimate unit of analysis. Every individual action is an observable phenomenon and itself a meaningful experience to children. Future analyses should deal with the dynamic transactions of need and resource. Resource is accordingly a two-pronged concept. Resources can be defined based on the child's needs, and they also can be defined in terms of what resources the child actually takes from the environment. The former can be called behavioral or needed resources whereas the latter are environmental or found resources. Need for certain actions help the child to envision what resources are related to the need. Ideas regarding what the needed resources are, where they can be found, and how they can be used are habitually or culturally determined and also related to personal variables. With these need-related ideas, they either find or create a condition in which the needed resources match environmental resources.

Needed resources are personal and subjective whereas found resources are observable and objective. Without these needed resources, environmental resources remain anonymous, unfound, and unused. Therefore, there should

Table 1. Activities Defined Using Individual Actions, Important actions, and Relationships with Resources

| Activities           | Important Individual Actions                  | F (%) | Important Spatial Qualities Resources | Situational Resources          | Important Social Resources          | Physical Resources                          | Brought-in Resources | Other Actions as Resources | Norms/ Rules as Resources |
|----------------------|------------------------------------------------|-------|---------------------------------------|--------------------------------|-------------------------------------|------------------------------------------|---------------------|-----------------------------|--------------------------|
| Walking/loitering    | Walking, Standing, Looking around, Hanging around | 9 (7) | Spatial connection                     | Minimally influenced          | Co-actors, Social objects           | Minimally influenced                      | Minimally influenced |                             |                          |
| Resting/relaxing     | Talking, Sitting, Looking around, Eating/drinking | 13 (10.1) | Privacy, Spatial and perceptual connections | Minimally influenced          | Co-actors, Social objects          | Environmental conditions, Functional properties | Somewhat influenced (things to eat/drink) | Minimal dependence among actions, Action resources not important | Minimally Influenced |
| Gathering -rest      | Looking around, Talking, Standing, Leaning, Hanging around, Eating/drinking | 7 (5.4) | Privacy, Spatial and perceptual connections | Somewhat influenced          | Co-actors, Social objects          | Environmental conditions               | Somewhat influenced (tools, toys) |                             |                          |
| Gathering -social    | Talking, Standing, Hanging around, Looking around | 8 (6.2) | Social territory, Social connections   | Somewhat influenced          | Co-actors, Social objects          | Somewhat Influenced (environmental conditions) | Somewhat Influenced (tools, toys, play materials) |                             |                          |
| Gathering -play      | Standing, Talking, Shouting/Laughing, Body play/Challenge, Sitting | 13 (10.1) | Spatial connection, Territory, Proper amount of area | Critically influenced | Co-actors | Somewhat Influenced (physical challenges) | Somewhat Influenced (tools, toys, play materials) |                             |                          |
| Simple romping/body challenging | Body play/challenge, Running around, Standing | 11 (8.5) | Proximity to home or family             | Somewhat influenced          | Co-actors | Somewhat Influenced (physical challenges) | Somewhat Influenced (tools) |                             |                          |
| Game without toys    | Run-and-tag, Hide-and-seek, Ten-jumps, Talking | 18 (14) | Extensive open area, Territory (behavioral, social, physical) | Critically influenced | Co-actors, Significant others | Functional properties, Physical challenges, Play materials | Somewhat Influenced (tools) | Major actions as resources for major actions or preparatory minor actions as resources for major actions | Critically Influenced |
| Game with toys       | Rope jumping, Playing cards, Playing paper, T-shirts, Talking | 16 (12.3) | Proper amount of space, Private enclosed area | Critically influenced | Co-actors, Significant others | Functional properties | Critically influenced (tools) |                             |                          |
| Ball game            | Soccer, Badminton, Shouting/Laughing, Watching, Standing | 8 (6.2) | Extensive open area, Territory (behavioral, social, physical) | Critically influenced | Co-actors, Significant others | Functional properties | Critically influenced (balls, tools) |                             |                          |
| Simple ball play     | Playing with balls, Running around, Playing | 9 (7) | Proper amount of space, Private enclosed area | Critically influenced | Co-actors, Significant others | Functional properties | Critically influenced (balls) |                             |                          |
| Toy play             | Playing with toys, Standing, Sitting, Talking | 9 (7) | Private enclosed area, Proximity to home | Somewhat influenced | Co-actors | Environmental conditions, Play materials | Critically influenced (tools) | Major actions as resources for minor actions | Somewhat Influenced |
| Constructive/imaginative play | Playing, Dirt play, Playing with Bugs, Playing with Challenging, Construction, Talking, Observing, Sitting | 8 (6.2) | Private enclosed area, Proximity to home or family | Minimally influenced | Co-actors | Environmental conditions, Functional properties, Play materials | Critically influenced (play materials, tools) |                             |                          |
be a correlation between behavioral and environmental resources in order for an action to take place. This correlation may entail adjustment and adaptation between behavioral and environmental resources. This is achieved with children’s efforts of compromise. On the other hand, action cannot emerge when behavioral or environmental resource is absent or when the compromise is not achieved. As either one changes, action also changes. Yet the correlation and the compromise have not been systematically examined in this analysis. This may well deserve the attention of future studies.

Consequently, future analyses can define both behavioral and environmental resources separately and examine their correspondence. They also may define behavioral resources first in terms of what children need and what activities are desirable, and then perform subsequent analyses that assess how the given environment responds. Another possible direction is to observe children’s activities first to identify how environmental resources are being exploited.

Whichever direction future analysis may take, the common typology of children’s neighborhood activity would not work. It is theoretically crucial to pursue an alternative way to define the activity.

Notes
1. Here lie some conceptual similarities and differences between environmental resource and Gibson’s “affordance” (Gibson, J., 1977, 1979). Affordance, according to Gibson, is a specific, invariant combination of properties that an environment or object offers for the survival of a particular species. It is perceived by the species as meaningful due to its functional values related to certain behavioral tasks (Gibson, E., 1982). Resource and affordance are in similar in that they maintain that an environment or object offers these instrumental values. They appear particularly so when Gibson denotes that “what we perceive when we look at objects are their affordances,” not their qualities themselves (color, texture, size, shape, elasticity, etc.) and “the meaning is observed before the quality is seen” (Gibson, J., 1979, p.134). On the other hand, resource and affordance are different in that resource is not an inherent invariant property. It does not belong to an environment. Nor is it, by any means, unchangeable. Instead, it varies with human need. Without need, resource is never perceived as such (Siperstein & Leffert, 1999). In this respect, environmental resource is more similar to valence (Lewin, 1951; the value of something is assumed to change as the need of the observer changes) than to affordance (Gibson, 1979; the object offers what it does because it is what it is, an invariant combination of variables).

2. The characters of environmental resources.
   (1) Spatial qualities as resources: 1) a certain amount of space (size of spatial area), 2) privacy (selection of private location or spatially well-defined space), 3) territoriality (physical definition of territory, behavioral territory, and social territory), 4) proximity to home (security or psychological stability, functional proximity, and social support), 5) connection to other spaces or other social groups (perceptual connection, social connection, behavioral connection/linked play, and spatial extension/linked spaces), and 6) an extensive open area (openness).
   (2) People as resources: 1) as co-actors (playmates), 2) as significant others (spectators, supervisors, and children nearby ready to join the actions), and 3) as social objects (people and their events as something to watch).
   (3) Physical elements as resources: 1) as potential play materials (garbage, abandoned objects, flower, dirt, sand, stones, water, and computer game machines), 2) as physical challenges (sloped planes, retaining walls, fences, motorcycles, and a pile of coconut bugs), 3) as environmental conditions (shade and wind), and 4) functional properties (ground surfaces, walls, water in ditches, front steps, and other sit-on-able objects).
   (4) Brought-in objects as resources: A variety of materials (straws, leaves, and bugs) and tools (balls, card decks, chalks, slippers, short sticks, bicycles, movable chairs, and plastic bowls).
   (5) Other actions as resources: 1) a major action serving as a resource for its minor actions when these actions occurred simultaneously (e.g., rope jumping for watching and social gathering for group members’ subordinate actions) and 2) a major action serving as a resource for its major action when the actions occurred in a sequential structure (e.g., drawing lines on the ground as a preparatory phase for playing hopscotch).
   (6) Situational opportunities as resources: 1) spatial opportunities (selecting a space where they could avoid interruptions of passers-by and vehicles), 2) temporal opportunities (selecting the time of day when the interruptions were least influential), and 3) social opportunities (selecting the space and time to avoid adults’ or other groups’ control over and social intrusion into the activities that they intended to participate in).
   (7) Shared norms as resources: Rules and roles of games (e.g., rules of run-and-tag, hopscotch, and other structured games).

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