Specific suggestions are offered for mother-infant activities, sequenced according to developmental levels, which foster the physical and mental development of the infant and the socio-emotional relationship between mother and infant. The activities are intended for use by professionals, paraprofessionals, and mother-teacher aides who work with infants in Day Care and Home Bound programs. The program is based on the Uzqiris-Hunt Ordinal Scales of Infant Development and includes these activity categories: (1) Object Permanence, (2) Development of Means, (3) Imitation (Vocal and Gestural), (4) Operational Causality, (5) Object Relations in Space, and (6) Development of Schemas. A list is given of toys and other materials suitable for inclusion in a mother-infant game kit. (NH)
ACTIVITIES FOR INFANT STIMULATION*

OR MOTHER-INFANT GAMES

by

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*A Program of Infant Activities Suggested by the Usgiris-Hunt Original Scales of Infant Psychological Development.
Activities for Infant Stimulation

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Introduction

This series of Infant Stimulation Activities will hopefully serve as a base of support for those professionals, paraprofessionals, and mother-teacher aides who begin to work with infants in Day Care and Home Bound programs. Drs. Ina Uzgiris and J. MCV. Hunt have defined landmarks of infant development in their Ordinal Scales. It rests with the practitioner, however, to implement a program of infant stimulation based on what such researchers have learned about child development.

The teaching staff at the Mt. Carmel Parent and Child Center in southern Illinois found they were initially groping to know what to do with infants as they arrived in the Center or what they had to offer mothers and infants in their Home Bound program. Based on their uncertainty in working with infants, teacher satisfaction was low. Principles and landmarks of infant development needed to be translated into a program model which suggested specific activities arranged and sequenced to foster development. There was a readiness of staff to see the Uzgiris-Hunt Infant films when they were presented in conjunction with in-service training sessions. In spite of the fact that most of the teaching staff was comprised of mother-teacher aides, they related well to these movies, suggesting that their past experiences with infants had provided a degree of involvement and understanding. Discussions with the teaching staff accompanied by suggestions for implementing a program of infant stimulation based on the Ordinal Scales of Uzgiris and Hunt provided the foundation for the activities which are the substance of this paper. It is hoped that the activities presented will not be considered an end in themselves but only a beginning. Imaginative infant educators and mothers will find many ways to extend and adapt what is offered here.

*Adapted from Uzgiris-Hunt Ordinal Scales of Infant Development. The sequence of six films (1) Object Permanence: 40 minutes, (2) Development of Means: 34 minutes, (3) Imitation: 35 minutes, (4) Operational Causality: 21 minutes, (5) Object Relations in Space: 28 minutes, (6) Development of Schemas: 36 minutes, may be shown to illustrate and reinforce the Infant Stimulation Activities and are recommended for viewing in staff in-service training sessions. The films are available on loan for a rental fee through Dr. J. MCV. Hunt, Department of Psychology, University of Illinois, Champaign, Illinois 61820; or through Visual Aids Service, University of Illinois, 704 S. Sixth St., Champaign, Illinois 61820.
I. Object Permanence

In this sequence of activities, the infant progresses from eye-head movements in visual following to eye-hand and locomotion movements as he finds the interesting object which has been hidden or displaced. The interesting object might best be a squeaky rubber animal, rattle, wind-up toy, or anything about 5" to 8" in size which makes sounds to arouse the curiosity or interest of the infant. Encourage the infant to handle the object when he has the manual dexterity to do so as this will heighten his interest in each activity. These activities are within the normative range of infant development during the first year of life, especially if you have repeat practice sessions and present them as games. Their real import, however, rests in the positive interaction between mother and child and a subsequent relationship which encourages and rewards learning through the mother's praise and approval as her child experiences success.

The activities, sequenced according to developmental levels, are as follows:

1. With the infant in an infant seat or lying in a crib, attract his attention by shaking a colorful rattle approximately 10" to 12" from him within his view. When the infant fixes his eyes on the rattle, slowly move it in 180° arc. Can he follow the object with his eyes?

2. With the infant seated on a rug area of the floor, or in a baby tender or highchair, hand him an interesting object. After he has had ample time to examine it, take the object and partially hide it under a large handkerchief, washcloth, or scarf in front of the infant and within his reach. Does he see the partially-hidden object and can he pick it up?

3. As an extension of the previous activity, this time completely cover the object with the cloth, making sure that you have the infant's attention when you do so. Can he remove the cloth and pick up the object? (Remember to praise or smile if he's successful.)

4. With the infant in a sitting position on a rug area of the floor, draw his attention to an interesting object. While he is watching, cover the object with your hand and move your hand successively under three separate cloths that are next to each other and within the reach of the infant. Deposit the object under one of the cloths. Will the infant search for the object by picking up each of the cloths? Praise him if his interest is sustained and he finds the object.

5. Repeat the previous activity, using cardboard cartons (produce containers) or cans (2-3# coffee size) to hide the object. This will be more difficult because the infant will have to use both hands if he lifts them. Can he lift the containers and find the hidden object?
6. Play peek-a-boo with the infant by covering your face with your hands. Does the infant use his hands to remove your hands from your face?

7. On a floor area, interest the infant in a ball. Roll the ball out of his reach but within his view. Will he creep to get the ball?

8. As an extension of the previous activity, roll the ball out of reach and out of the infant's view, i.e., behind a chair. Will he creep and find the ball?

II. Development of Means

As the infant progresses from hand-watching behavior to grasping objects within his hand's view, and then becomes interested in objects not easily accessible to him, you can arrange means to help him achieve the desired goal. You can do this by playing games in which he has opportunities to practice skills which will help him to physically manipulate his environment. The activities presented increase in complexity. You will be aware of the psycho-motor development involved as the infant advances from one level to the next. The infant's interest in each activity is peaked by the novelty of the game as well as the success he meets. Needless to say, an enthusiastic, encouraging mother who rewards success as well as persistence with a smile or loving words will enhance her infant's development.

The activities, sequenced according to developmental levels, are as follows:

1. With the infant in an infant seat or lying in a crib, shake a colorful rattle about 10" to 12" in front of his face. If he looks at the rattle but shows no interest in grasping it, make sure that his eyes follow the rattle as you move it slowly toward the infant's hand. Will he grasp the rattle now?

2. With the infant in a baby tender or highchair, place a rubber suction toy (which makes sounds when hit) on the table area in front of him. Demonstrate how to activate the toy by hitting at it. Can the infant set the toy in motion by hitting at it?

3. Again, with the infant in baby tender or highchair, place a plastic bowl on table area in front of the infant. Then, attract the interest of the infant with some finger food he likes, i.e., animal cracker, section of orange. Place the finger food behind the dish. Encourage the infant to get the food. Will he reach over the bowl or around it in order to secure the food?

4. With the infant in an upright position, either seated on floor or in highchair, give him a block to hold in each hand. Then, present him with a really interesting object such as a friction car or wind-up toy. Encourage the infant to release one of the blocks in order to pick up the interesting object. Can he release one of the blocks with ease in order to pick up the interesting toy?
5. Engage the infant in building a block tower while he is seated on
the floor. Then, remove one of the blocks and place it out of reach.
Encourage the infant to get the block you've placed out of reach.
Will he crawl or move to regain that block?

6. While the infant is sitting on the floor, get his attention with
an interesting object. Then, tie the object to the end of a 2'
string or cord length. Give the infant the other end of the string
and encourage him to pull the object to him using the string. Demo-
strate if necessary. Don't forget to praise him if he's success-
ful.

7. As an extension of the previous activity, but with the infant seated
in highchair or baby tender, this time let the object drop toward
the floor over the side of chair. Give the infant the other end of
the string and encourage him to pull the object up, using a hand-
over-hand method.

8. With the infant seated at a large table area or on the floor, place
an interesting toy out of his reach. Then give him a plastic rake
or shovel from a sand toy set and encourage him to use this instru-
ment to bring the interesting object to him. Demonstrate if neces-
sary. Praise when successful.

9. With the infant in highchair, baby tender, or seated on floor, place
an assortment of pop beads in front of him. Mix one stringing type
bead in with the pop beads. As infant proceeds to push pop beads
together, watch to see what he does when he picks up the stringing
type bead. Does he see that it doesn't belong and put it aside?

III. Imitation (Vocal and Gestural)

In the close socio-emotional relationship between mother and infant,
there are countless opportunities for the mother to stimulate her infant's
imitative development. To play with, to talk to, and to encourage vocal
and gestural imitation in your infant is to enhance the development of a
socially-responsive child. In this series of activities the mother is encour-
aged to play imitative games with her infant in order to extend and elaborate
vocal sounds and precise motor coordination already present in her infant's
repertoire of behavior. As the mother carefully observes her infant, the
vocal sounds he makes, and the gradual coordinated movement of his hands,
she will find many opporuantities to try the activities offered in this
series.

The activities, sequenced according to developmental levels, are as
follows:

Vocal Imitation

1. Repeat vocal sounds made by the infant, i.e., "ah-ah, oo-oo, ah-
goo," making sure that you have eye contact with the infant so he
can see the form your mouth takes as you echo his sounds.
2. Introduce consonant sounds, i.e., "da-da, ma-ma, ba-ba," making sure that you have eye contact with the infant as you make the sounds. A good time for this kind of play is during diapering or after he has been fed -- not when he is tired or hungry.

3. When infant has a repertoire of vowel and consonant sounds, begin to associate sounds he can produce with the names of certain familiar objects or persons, i.e., pick up a ball and say "ball" -- he will probably imitate by saying "ba." Point to daddy and say "daddy" -- he will probably imitate by saying "da-da." He will initially imitate "mi" for milk, and "ca" for car, missing the final consonant sounds.

Gestural Imitation

1. Mother should start by encouraging the infant to imitate arm-hand actions he can see himself do, i.e., hand clapping or sitting highchair or baby tender table. If he fails to imitate another activity which you have demonstrated and you are sure he is well-developed enough to copy the actions, help him by putting your hands over his and take him through the motion he is to imitate. With this kind of help, he will become familiar with the experience of the activities and he will quickly learn to imitate the activity on his own.

2. As an extension of the previous activity calling for imitation of visible gestures, the mother should use materials in a specific way, i.e., she could put a clothespin into a can, a smaller can into a larger can, one block on top of another, or bang two blocks together. When the infant is new to these imitative games, help him by offering several demonstrations. If he is still unsuccessful but appears interested, help him further by putting your hands over his and take him through the experience of accomplishing the activity. Praise him when he is able to imitate any of the activities by himself.

3. Mother can encourage imitation of invisible gestures after the infant has become responsive to imitation of visible activities detailed in 1 and 2. The infant will delight in imitating opening his mouth, blinking his eyes, wrinkling his nose, smacking his lips, frowning, smiling, patting his cheek, if introduced when mother has his attention, i.e., during feeding or diapering time.

IV. Operational Causality

As in Series II (Development of Means), the infant progresses from hand-watching to grasping objects within his hand's view. If these objects have an interesting auditory or visual feedback, the infant will seek to maintain the input. In order to do this, the infant will have to act upon the object in such a way as to produce the desired response. All of the toys used in this series of activities are action-response toys, and they are sequenced according to the difficulty of the action the infant will have to approximate in order to achieve the desired response.
The activities, sequenced according to developmental levels, are as follows:

1. With the infant in a crib, attach a crib activator which has an apparatus that the infant will have to pull on in order to produce the sounds of ringing bells. Does he repeat the pulling action in order to maintain the ringing bells?

2. With the infant in a baby tender or highchair or seated on the floor, place a roly-poly toy (which makes sounds when hit) on the table or floor in front of him. Demonstrate how to make the sounds by hitting the toy. Will the infant hit at the toy in order to maintain the sounds?

3. With the infant in a sitting or crawling position on the floor, place a long-handled push toy (which makes sounds when pushed or pulled) next to him. Demonstrate pushing and pulling action of the toy in order to activate sounds. Will the infant shake, push, or pull the toy in order to maintain the sounds?

4. With the infant in a sitting position on the floor, place a musical top in front of him, and activate the top by pushing down on the lever. Will the infant try to push down on the lever to maintain the musical sounds or will he give it to you to repeat the motion? If he gives the top to you, place your hand on top of his and take him through the experience of pushing down on the lever. Continue to help him until he is successful in activating the top by himself.

5. With the infant in a sitting position on the floor, place a toy music box in front of him. After you have his attention demonstrate the turning motion of the handle necessary to produce the musical nursery rhyme. Will he grasp the handle and try to approximate the turning motion necessary to produce the nursery rhyme? If he tries but is unsuccessful as is noted in 4, place your hand over his and take him through the experience of turning the handle.

6. With the infant in baby tender or highchair, gain his attention and demonstrate "blowing" by placing a plastic straw in a small transparent glass of water. Encourage him to try until he is able to cause bubbles in the water by blowing through the straw. Then, demonstrate blowing soap bubbles using a small bubble pipe or ring with a handle. Can the infant transfer his learning of blowing and blow soap bubbles in the air? He will delight in the activity and will try to catch the bubbles if mother shows him how it's done.

7. As an extension of previous activity, demonstrate how you make sounds by blowing on a whistle. Will the infant profit from his learning experience in the previous activity and be able to blow the whistle in order to make the sound?
V. Object Relations in Space*

As in Series I (Object Permanence), the infant coordinates the skill of looking and listening so that things heard can be found and looked at. This series of activities progresses through the infant's development of alternate glancing, his ability to release objects and his subsequent understanding of the phenomenon of falling objects, and his understanding of the relationship between the container and the contained. Colorful swatches of fabric mounted on cardboard, small blocks, a rattle or squeaky toy, and a plastic or tin container are all that are needed to carry out this series of activities.

The activities, sequenced according to developmental levels, are as follows:

1. With the infant in an infant seat or lying in a crib, present two interesting targets about 10" to 12" from his eyes. They should be about 5" to 8" in size and about 6" from each other; they might be different swatches of colorful fabric (mounted on cardboard or masonite to provide support). Will the infant look at only one target or will he alternate his glances from one pattern to the next? Does he seem to prefer one of the target patterns?

2. With the infant in an infant seat or highchair, attract his attention with a rattle or squeaky toy. Drop the toy while infant is staring at it, first from one side of the infant and then from the other side. Will he search for the object by looking down on the side from which you dropped the object? Will he lean his body to the side from which the object has been dropped? Will he extend an arm in the direction of the object as in a searching grasp?

3. With infant in a baby tender or highchair, place some small blocks and a container in front of him. Will the infant spontaneously place the blocks in the container? If not, attract his attention and demonstrate by dropping blocks into container. Will he continue this procedure or will he reach in container and take blocks out? Or, will he turn container upside down to remove the blocks?

4. As an extension of previous activity, place a container of small blocks in front of infant. As he plays with blocks, will he accidently drop any on the floor? Does he look to see where the blocks fall? Will he become interested in the "playing game" of repeatedly dropping blocks to the floor so he can see where they fall?

*Some of the activities in this movie, i.e., (1) block-stacking to test equilibrium, (2) use of string to retrieve an object to test understanding of gravity, and (3) rolling ball out of sight of infant to test infant's understanding or representation of objects in space are purposely omitted in this series of activities as they have been presented previously in conjunction with movies on Object Permanence, Development of Means, and Imitation.
VI. Development of Schemas

As an infant explores and becomes curious, mothers can encourage his learning of skills by providing a variety of objects which he can act upon. Appealing to all five senses -- something to look at might also be something to touch, to hear, to smell, or to taste. According to the Ordinal Scales of Infant Development, the infant’s interest and ability to act upon objects seems to appear in the following order:

1. **Mouthing of objects.** Initially, something to hold becomes something to mouth. Providing the young infant with small plastic barbell-like rattles or rubber teethers will give him practice and satisfaction in mouthing activities.

2. **Visual attention towards objects.** The young infant begins to look intently at objects. Mobiles placed over the crib approximately 10” to 12” from infant’s view are important in the development of the visual attention skill. Attaching a cord or a length of heavy yarn across a standard size crib is desirable because the mother can regularly vary the objects she hangs 5” to 8” from the cord. Colored balloons (5” diameter) are particularly intriguing to the young infant.

3. **Simple motor skills.** Something to hold soon becomes something to bang, pat, or hit on a surface. This involves an up and down or vertical motion. Later the infant will wave or shake objects which involves horizontal motion. Kitchen utensils such as spoons, pans, and metal cups are extremely popular items for this kind of activity. Rattles, blocks, and key ring toys will likewise encourage such action.

4. **Interest in objects.** An infant begins to examine an object as he looks at and manipulates it at the same time. Cause and effect toys which can either be made or purchased will encourage the development of examining. Putting beans in a sealed empty oatmeal box and providing feeling experiences utilizing aluminum foil or balls of cotton can be carried out using home supplies. What the infant will do with these objects or a purchased toy such as a musical clown will probably involve some examining interest on his part.

5. **More complex motor skills.** As the infant becomes interested in objects for themselves and begins to examine them, he will develop new manipulative skills as he acts upon the object. He may tear a piece of paper or ball of cotton; he may crumple a piece of aluminum foil; he may pull and stretch a piece of elastic; he may slide a car along the floor. All of these motor skills can be modeled by the mother as she plays and interacts with her infant.

6. **"Letting go" of objects.** As the infant learns to release an object, he becomes aware of intentionally dropping or throwing objects. A foam rubber ball covered with washable fabric will help to provide much experience for the infant in "letting go" in dropping and throwing activities indoors.
7. **Skills based on social learning.** The infant begins to use objects with some understanding of their function. He may hug or kiss a small doll or stuffed animal; he may put a necklace around his neck; he may put a musical toy to his ear to listen more closely; he may build something with blocks; he may push a toy car on the floor. A mother can encourage this kind of play by modeling the appropriate behavior as she interacts with her infant.

8. **Social interaction.** As a mother interacts with her infant by modeling the kind of behavior appropriate to the use of certain objects, i.e., kissing the doll, the infant will begin to socially respond to his mother. One of the ways he does this is by periodically "showing" his mother the objects he is playing with. It is important that mothers recognize that the "showing" behavior needs to be noticed and encouraged in order to positively effect the socio-emotional development of her child.

9. **Recognition of objects expressed in naming.** In the infant's earliest use of language, he will begin to name objects which are familiar to him. The mother can encourage the "labeling" recognition of objects by offering names of objects as she plays and socially interacts with her infant.
Description of Materials

Mother-infant game kits should include the following:

1. Small 4" to 6" size rattle
2. Small 6" to 8" squeeky rubber toy
3. Rubber teether
4. Key ring toy
5. Rubber suction toy
6. Roly-poly clown toy
7. Musical top
8. Mattel turn-the-crank toy
9. Dozen 1-1/2" size blocks
10. Coffee can supply of Pop Beads (Fischer-Price)
11. Plastic rake or shovel from sand set
12. Long handled push-n'-pull toy (Fischer-Price)
13. Three dozen 5" diameter assorted colored balloons
14. Small 4" to 6" size wind-up toy
15. Small 4" to 5" friction car
16. Foam rubber ball covered with terrycloth
17. Bubble blowing set
18. Small 6" to 8" rubber doll
19. Small washable 8" size stuffed animal

Miscellaneous items to be included: cotton balls, 4" to 6" square pieces of aluminum foil, pint size plastic container, six clothespins (not clip type), fabric covered 5" diameter masonite discs, heavy cord or yarn (2' length), plastic straws, small whistle, 1" to 2" width elastic lengths

Available on loan:
1. Action-response crib gyms
2. Infant seats
3. Form boxes
4. Mattel See-n'-Say toys
5. Mobile units (made by covering aerofoam cushion forms and inserting action blocks and mirror)
6. Baby's First Books (Platt and Munk Co.)
7. Pounding toys