

Enhancing infants' motivation to move

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Infants differ in their level of activity and their motivation to move.

- Temperament is one factor that influences the infant's general level of activity: highly sensitive/cautious infants are often less willing to engage with tasks that are novel or appear to be difficult.
- Infants whose early experience has been difficult may also be very cautious, even fearful confronted with new situations and tasks.
- Pre-term infants also tend to be less active than their full term peers.

The motivation to move is enhanced by the experience of success in achieving goals, which in turn enhances the sense of self-efficacy.

Providing many and varied opportunities to engage in activities that are adapted to allow the infant to succeed builds their sense of self-efficacy and willingness take on new challenges.

A play gym with a few toys suspended in easy reach allows the infant to use their hands to explore a toy. Because the toy is suspended it does not get lost when the infant lets it go, allowing for repeated experience of reaching-grasping-exploration.



Placing a small step in a doorway allows the infant to step up and down using the doorjamb for support each time they move through to doorway.

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Standing in a triangle of boxes allows the infant to stand and play without fear of falling. The boxes provide support if the infant loses balance and allows them to regain their balance independent.



Autonomy and a sense of control enhances motor learning

Motor learning at all ages and levels of expertise is enhanced when the learner has a sense that they have some control of the situation when practicing a task.

Interestingly learning is enhanced even when the learner is given a choice between some aspect of the task, even when this does not have a real bearing on the task. For instance, a choice between different colored but otherwise identical balls in a putting task improves the accuracy of the putting trials.

Providing infants with choices between, or within, tasks to be practiced also increases an infant's willingness to engage with an activity.

- Let the infant choose between 2 or 3 balls when engaging in a catching and throwing game
- Follow the infant's lead when playing imitation game

Adapt the task to allow the infant to succeed

Success breeds success. Successful achievement of a goal leads to response from the brain's reward center: a burst of dopamine from the basal ganglia is responsible for the good feeling that is associated with success.

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The pleasure associated with mastering a task is linked to the effort required to achieve the success.

A just-right challenge requires some mental and physical effort as well as persistence to master the task.

Analysis of the task demands allows the therapist or parent to adapt the task or change the environment to allow the infant to complete the task successfully.

When practicing stepping up, starting with a low step allows the infant to succeed. Providing a surface for hand support also makes the task easier and allows the infant to succeed.

Allow time for exploration and trial-and-error learning

Infants often need time to figure out how to do something. If the challenge is just-right and the infant is motivated they will persist and try out different ways to reach the goal.

Respect the infant's wishes and needs

There are times when an infant is just not interested in an activity introduced by an activity partner. The infant may simply refuse to engage with the task, or may engage with the task in a way that is different from the intention of the activity partner.

When this happens it is important to allow the infant the chance to follow their own path and explore a different activity. This may lead to surprising and exciting new discoveries for the infant.

Provide external encouragement that reflects the infant's success

Infants engaged in a self-initiated goal directed activity are usually very aware of whether they have succeeded or not.

Often they will share their pleasure with an activity partner.

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If the infant succeeds verbal and gestural responses from activity partners provide an additional reward signal and opportunity for shared delight. These external rewards enhance the internal reward from the dopamine system.

However, it is important not to "reward" attempts that are not successful. As infants are usually very aware of the outcome of their efforts and whether the activity partner's responses align with their experience.

Set up the environment to encourage repetition

Infants can often be motivated by the presence of interesting toys. They will make an effort to reach beyond easy reaching distance to get the toy. Problem is that once the infant has the toy, they want to play with it and are unhappy when it is removed from their hands.

Small pieces of food that can be quickly chewed and swallowed can be used to tempt infants repeatedly. Parents will know whether this is a safe option for their child.

Another way to encourage repeated reaching is to set up an activity that naturally involves repeated action: knocking a plastic bottle of a feeding chair table, knocking over a tower of plastic tubs, posting a set of blocks through a hole in the lid of a tub, picking up and throwing a ball.

References

Gottlieb, J., Oudeyer, P.-Y., Lopes, M., & Baranes, A. (2013). Information seeking, curiosity and attention: computational and neural mechanisms. *Trends in Cognitive Sciences*, 17(11), 585–593. <http://doi.org/10.1016/j.tics.2013.09.001>