Sliding as play: Individual differences in toddlers learning to slide

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Sliding: a common play activity for children
Learning to slide involves cognition-problem solving skills; coordination, balance, and related gross motor skills to master the ability to slide.
Previous studies

Karen Adolph: child adaptations to different angles of slope

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Definition of a slide episode & Components of slide episode

1. Approach (5)
2. Climb (6)
3. Transition from step to slope (9)
Components of slide episode

3. Slope (13)
4. Land (7)

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Non-conventional v. conventional
Examples of non-conventional moves

**Climb:** Going up steps on knees

**Transition:** Stand: Child upright on slide

  Lean: Child in prone position over slide

  Straddle: Child sits sideways across platform of slide

**Slope:** H-back: Descending head first on back

  Side-slide: Descend on slide in lying position

  Sit-shuffle: Descend with uneven movements in sit position

**Other:** Creep down slide
Research questions

• What is the average age of mastery of sliding?
• What are the most difficult components of the sliding episode?
• Are there individual differences in learning to slide?
• How much maternal physical assistance is given and when and is it related to age of mastery?
Method

• There were 10 subjects, 8 boys and 2 girls.

• The data was extracted from a previous longitudinal study of the 11 subjects who were videotaped every two weeks for 20 min in lab playroom from the age of 52 weeks up until the age of 104 weeks.

• Videotapes were viewed to determine the occurrence of each slide episode from age 52 wks until skill mastered.

• Sliding episodes were coded using 42 mutually exclusive codes to analyze approach, climb, transition, slope, and land.
Results: Sliding episodes

639 sliding episodes were analyzed

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<thead>
<tr>
<th>Incomplete master</th>
<th>Complete master</th>
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<tr>
<td>303</td>
<td>306</td>
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<td>15</td>
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Slide episodes with Slope

Ascend

Percent of episodes

Subjects

S3  S4  S5  S6  S8  S9  S10  S12  S14  S16

Ascend slope
Order of acquisition of component skills

1. Slope

2. Climb

3. Transition

4. Land
Results

- Maternal physical assistance was significantly associated with infant age but not significantly associated with age of mastery.

- High neg correlation between proportion of Maternal physical assistance and prop. of Completed slide episodes in 6 subjects for climb, slope and land (n=10, r=-.941, p<0.01) and for transition (n=10, r=-.666, p<0.05).

- Mothers provided significantly more assistance with climb than slope.

- Mothers provided significantly more assistance with transition than slope and land.
Conventional and Nonconventional Moves

Subjects

S3  S4  S5  S6  S8  S9  S10 S12 S14 S16

Percent of slide components

Nonconventional
Conventional
Maternal Assistance and Unconventional Moves

Subjects: S3, S5, S8, S10, S14

Maternal Assistance and Nonconventional Moves

Percent of components

Subjects
Maternal physical assistance

- 4 children had patterns of two or three combinations of moves for transition
- 2 of these had NO maternal physical assistance with transition

Examples:
- squat+sit
- lean+squat+straddle
- straddle+partial sit+assisted transition
Discussion & Conclusions

• Providing physical assistance to the child increases the number of experiences of a complete slide episode with 4 components. However it is unlikely to significantly increase the age the child acquires this skill.

• Additional data is needed to examine if the lack of maternal physical assistance results in more novel strategies during the learning period.

• Knowing that landing is the most difficult and then transition may help in suggesting what support to give children with this popular play activity. Mothers may help more with climb and transition because they view these as more dangerous and difficult than landing.