ED 361 080   PS 021 588

AUTHOR   Jennings, Kay Donahue
TITLE   Developmental Changes in Toddlers' Social Orientation
                and Affect during Mastery Play.
PUB DATE   Mar 93
NOTE   14p.; Paper presented at the Biennial Meeting of the
                Society for Research in Child Development (60th, New
                Orleans, LA, March 25-28, 1993).
PUB TYPE   Reports - Research/Technical (143) --
                Speeches/Conference Papers (150)

EDRS PRICE   MF01/PC01 Plus Postage.
DESCRIPTORS   Attention Span; *Cognitive Ability; *Cognitive
                Development; *Mastery Learning; *Play; Preschool
                Education; *Toddlers
IDENTIFIERS   *Internalization; *Mastery Motivation; Mastery
                Task

ABSTRACT
        This study explored how toddlers' increasing social
sophistication and increasing ability to coordinate attention between
the social and object realm are reflected in toddlers' mastery play.
A total of 57 toddlers (24 boys and 33 girls from a wide range of
socio-economic backgrounds) between the ages of 15 and 35 months
participated in 7 mastery tasks initially presented by an adult
examiner. The study examined developmental changes in three areas:
(1) regulation of attention to tasks and people; (2) regulation of
affect during mastery play; and (3) internalization of mastery
standards. It was found that younger toddlers, as expected, required
more adult prompts to maintain their task focus, but were able to
coordinate their attention to objects and persons about as well as
older toddlers. Younger toddlers also had more difficulty regulating
negative affect to frustrations inherent in mastery tasks, although
responses to failure were generally similar across age groups.
Evidence of internalization of culturally defined standards for
mastery, such as pride in task completion, was found for even the
youngest toddlers. The results suggest greater sophistication in
young toddlers' mastery play than was previously thought. (MDM)

Developmental Changes in Toddlers' Social Orientation and Affect during Mastery Play [1]

Kay Donahue Jennings

University of Pittsburgh

In mastery play the primary focus of the child is on achieving a goal with an object. The choice of goal and the evaluation of performance, however, have important social components. This study explored how toddlers' increasing social sophistication and increasing ability to coordinate attention between the social and object realm is reflected in toddlers' mastery play. Important issues for the toddler are the development of autonomy and feelings of competence.

This study examined developmental changes in three areas: 1) regulation of attention to tasks and people, 2) regulation of affect during mastery play, and 3) internalization of mastery standards.

Methods

Subjects. The mastery play of 57 toddlers between the ages of 15 and 35 months was observed. They were recruited from nursery schools and daycare centers. The 24 boys and 33 girls came from a wide range of SES backgrounds; 9 toddlers were black while the remainder were white.

Procedure. The toddler was seated at a table while a parent sat behind them reading a magazine. After a brief warmup, the examiner gave the toddler 7 mastery tasks, one at a time, including a pegboard, curiosity box, and cause-effect toy. These mastery toys varied in the level of cognitive sophistication required (Jennings, in press). The examiner demonstrated each toy and then gave the toddler 3 minutes to play. If the toddler lost interest and started to get off his/her chair, the examiner attempted to reengage the toddler. At the end of the session the toddler was given a 4-minute free play period with all the toys.

The toddler's response to failure was examined during a pegboard task which consisted of 16 pegs of two different thicknesses. To ensure a failure experience for each toddler, some of the pegs were too thick to fit in the holes.

Toddlers' resistance to unwanted help was observed during a stacking clown task. The examiner and toddler worked together to make a clown by stacking rings on a post. The examiner placed 2 of the rings on the post but allowed the toddler to place most rings. The examiner then took the clown's hat and said, "Now I will put the hat on and then he is finished " Resisting help at the final step, rather than an intermediate step, was thought to reflect increased investment in being the one to produce the final outcome (Geppert & Kuster, 1983).

Results

2

3

To analyze the data, the toddlers were divided into three age groups (15-21, 22-28, and 29-35 months) with 19 infants in each group; one-way analyses of variance were conducted.

Developmental changes in toddlers' ability to regulate their attention to tasks and people. I first looked at developmental changes in toddlers' ability to regulate their attention to tasks and people. Younger toddlers were expected to require more adult prompts to maintain their attention on tsks. Also younger toddlers were expected to show less coordination of attention between the social and object realm.

SLIDE OF TABLE 1 HERE

The number of prompts from adults did decrease with age as expected, suggesting that younger toddlers were less able to maintain attention on task goals by themselves.

Contrary to expectations, however, there was little evidence of increasing ability to coordinate attention to the social and object world with age. The frequency of toddlers' social bids remained constant across age groups, occurring in about 30% to 40% of time units. Even for the younger group of toddlers, these social bids were usually task-focused (70% to 80% of social bids). Thus, even young toddlers demonstrated an ability to coordinate their attention to the social and object worlds. There was a trend, however, for the number of task-directed social bids to increase with age ($p < .10$) perhaps reflecting older toddlers' greater ability to maintain attention on task goals.

Developmental changes in toddlers' ability to regulate their affect during mastery play. Next I examined developmental changes in toddlers' ability to regulate their affect during mastery play. Younger toddlers were expected to show more negative affect during the mastery tasks and less ability to cope with failure experiences which are an integral part of mastery play. However, a temporary increase in negative affect and frustration with failure was expected in the middle toddler period as children become more aware of standards, begin to internalize them, and become more aware of the possibility of failure (Kagan, 1981).

SLIDE OF TABLE 2 HERE

Negative affect was found to decrease with age although it should be noted that negative affect was quite infrequent occurring in only 2% of time units even for the younger toddlers. An increase in negative affect during the middle toddlerhood period was not found. The increase in positive affect with age was not significant.

As you may remember, reactions to failure were assessed during a pegboard task with 2 sizes of holes and pegs as well as several pegs that were slightly too big for any holes. Failure was initially defined as any attempt to put a peg in a wrong-sized hole. However, many toddlers used a trial and error strategy in which they rapidly tried pegs in different holes until they found one that fit. In observing the toddlers it seemed highly unlikely that these episodes were experienced as

4

failures. To ensure that the toddler was experiencing a failure, a failure was redefined as making 2 distinct failed attempts or persisting in an attempt to place a peg for at least 2 seconds. While this definition ensures that the toddler is experiencing failure in a mastery attempt, this definition also requires some persistence in mastery attempts before the episode is coded as a failure experience. Based on prior research (Geppert & Kuster, 1983; Stipek, Recchia, & McClintic, 1992), little or no mastery attempts were expected after an initial failure for the younger toddlers. Surprisingly, such episodes occurred equally frequently at all ages. The repeated mastery attempts of older toddlers, however, were more likely to involve the over-size pegs in which success was impossible. Developmental differences were found in the eventual outcome of these mastery bouts. Not surprisingly, success was a more common outcome for the younger toddlers (because it was most possible for the younger toddlers). Nonadaptive coping (including giving up and rejecting the entire toy) tended to be greatest in the middle age range (22-28 months) ($p < .10$). The adaptive outcome of asking an adult for help significantly increased with age.

Developmental changes in internalization of mastery standards. Finally, I looked for evidence of developmental changes in internalization of mastery standards as indicated by demonstrations of pride, reactions to successful completions of tasks, resistance to unwanted help, and statements of autonomy. I expected older toddlers to exhibit more of each of these behaviors.

5

8

SLIDE OF TABLE 3 HERE

Older toddlers were much more likely to show pride. Pride was defined as smiling _and_ pausing in play activity (for at least 1 second) _while_ glancing at the activity (all three elements had to be present). Older toddlers exhibited pride an average of almost 5 times during the session. More surprising was the fact that the younger toddlers also displayed pride (an average of almost one time in the session). Demonstrations of pride were not confined to a few precocious toddlers in the younger group; half of the toddlers in the younger group displayed at least one pride during the session (compared to 90% of toddlers in the older group). Furthermore, the displays of pride in the younger toddlers had much the same characteristics as those of older toddlers suggesting that the pride displays had the same meaning across ages. Most pride displays in all age groups were accompanied by a glance at an adult; there was a trend for accompanying verbalizations to increase with age. At all ages displays of pride occurred overwhelmingly at completion of a task or at partial completion of a task (i.e., completing one step in the task for example successfully placing one peg). For the older toddlers, these displays of pride were much more likely to occur at completion in part because the number of task completions increased with age from over 1 to over 6).

Older toddlers completed tasks much more frequently probably an indication of their greater outcome orientation (Bullock & Lutkenhaus, 1988). Responses to completing a task suggested that

even the younger toddlers expected that adults would be interested in their completion. Younger toddlers were just as likely as older toddlers to verbalize or show the task to an adult upon completion or to glance at an adult.

Several behaviors demonstrated increasing investment in autonomy in older toddlers. Older toddlers more frequently resisted help on the final step that completed a task (but not an intermediate step). Thus, they appeared more invested in being the one to produce the final outcome. In addition, over all tasks statements of autonomy increased with age.

Discussion

These findings outline developmental changes in toddlers' social orientation and affect during mastery play. They also suggest that younger toddlers were more sophisticated in these areas than had been thought.

First, in the area of regulating attention to tasks and people, younger toddlers required more adult prompts to maintain their task focus as expected but were able to coordinate their attention to objects and persons about as well as older toddlers. The only suggestion of increased ability to coordinate attention was the trend for the number of task-directed bids to increase with age.

Second, younger toddlers had more difficulty regulating negative affect to frustrations inherent in mastery tasks (although negative affect was quite infrequent). Responses to failure, however, were generally similar across age groups.

8

Repeated mastery attempts following an initial failure occurred equally frequently at all ages. This was surprising because in other research with different tasks, younger toddlers have been observed to immediately shift their mastery play goals in order to avoid failure (Geppert & Kuster, 1983; Stipek et al., 1992). Thus, our results indicate that when presented with a task with simple visually-obvious subgoals (putting pegs in holes) even young toddlers are able to persist in their mastery attempts following failure and its inevitable feelings of frustration.

Finally, evidence of internalization of culturally defined standards for mastery was found even in the youngest group. Although less frequent, pride was displayed by half of the children in the youngest group even though pride has been thought to emerge after age 2 or 3 years (Heckhausen, 1987; Lewis, Sullivan, Stanger, & Weiss, 1989). These displays of pride occurred at completion or partial completion of a task suggesting that the display of pride was contingent upon meeting an internalized mastery standard. Responses to completing a task also suggested that even the youngest group knew that adults would be interested in their completion. Measures of investment in autonomy increased with age although these may to some extent reflect increased cognitive sophistication (since they depended upon verbalizations and recognizing task outcomes). The greater frequency of pride displays and task completions, as well as the greater evidence of investment in autonomy suggests that mastery

8

9

standards may be more salient and perhaps more thoroughly internalized by older toddlers.

In summary, these findings suggest greater sophistication in young toddlers' mastery play than was previously thought. Although younger toddlers required more prompts to maintain their task focus, they showed considerable sophistication in their ability to coordinate their attention to objects and to people. Younger toddlers also showed more ability to regulate their affect during mastery play than was expected. Especially noteworthy was their ability to persist in mastery attempts following an initial failure. Internalization of mastery standards also appeared to begin earlier than previously thought.

10

References

Bullock, M., & Lutkenhaus, P. (1988). The development of
volitional behavior in the toddler years. Child
Development, 59, 664-674.

Geppert, U., & Kuster, U. (1983). The emergence of 'wanting to
do it oneself': A precursor of achievement motivation.
International Journal of Behavioral Development, 6, 355-369.

Heckhausen, H. (1987). Emotional components of action: Their
ontogeny as reflected in achievement behavior. In D.
Gorlitz & J. F. Wohlwill (Eds.), Curiosity, imagination, and
play: On the development of spontaneous cognitive and
motivational processes. Hillsdale, NJ: Erlbaum.

Jennings, K.D. (in press). Mastery motivation and the formation
of self-concept from infancy through early childhood. In D.
Messer (Ed.), Mastery motivation in early childhood.
London: Routledge.

Kagan, J. (1981). The second year: The emergence of self-
awareness. Cambridge, Mass.: Harvard University Press.

Lewis, M., Sullivan, S.W., Stanger, C., & Weiss, M. (1989).
Self development and self-conscious emotions. Child
Development, 60. 146-156.

Stipek, D., Recchia, S., & McClintic, S. (1992). Self-evaluation
in young children. Monographs of the Society for Research
in Child Development, 57 (1, Serial No. 226).

10

Table 1

DEVELOPMENTAL CHANGES IN REGULATING ATTENTION TO TASKS AND PEOPLE

	15-21 month mean	22-28 month mean	29-35 month mean	F
Adult prompts:				
Number of adult prompts	20.4	19.6	10.3	14.5*
Toddlers' social bids:				
Total social bids (% time units)	31.6	40.3	42.0	1.8
Task-directed bids (% time units)	23.1	28.1	35.1	2.3a
Percent directed to mother (vs. E)	47.6	28.3	23.0	6.0*

* $p < .05$, ᵃ $p < .10$.

11

Table 2

DEVELOPMENTAL CHANGES IN REGULATING AFFECT DURING MASTERY PLAY

	15-21 month mean	22-28 month mean	29-35 month mean	F
Affect:				
Negative affect (% of time)	2.0	1.4	.1	3.7*
Positive affect (% of time)	19.4	24.82	29.5	1.7
Response to failure:				
Continued mastery attempts after initial failure (# occurrences)	2.8	2.2	2.6	.6
Possibility of success for these attempts (% of attempts)	39.8	17.2	3.3	5.5*
Outcome of mastery attempts following failure:				
Success (%)	28.9	2.6	3.3	5.4*
Non-cope (Give up/refuse)	11.1	26.4	1.3	2.6[a]
Ask for help/ show peg (%)	9.3	13.5	40.3	3.4*
Try a new peg or hole (%)	50.8	57.6	55.0	.1

* $p < .05$, [a] $p < .10$.

12

Table 3

EVIDENCE OF DEVELOPMENTAL CHANGES IN INTERNALIZATION OF STANDARDS

	15-21 month mean	22-28 month mean	29-35 month mean	F
Pride				
Pride (# of occurrences)	.8	2.6	4.7	13.2*
-with a social glance (%)	77.8	70.9	63.5	.5
-with a social bid (%)	31.5	40.7	62.6	2.9ª
When pride occurred:				
-at completion (%)	8.1	26.8	58.6	16.1*
-at completion or partial completion (%)	94.4	98.3	97.1	.3
Pride displays (% of chn)	47.4	79.0	89.5	5.1*
Response to completion				
Number of completions	1.6	4.7	6.6	38.6*
Glance at adult (%)	43.2	47.7	55.3	.6
Show to adult (%)	12.5	6.8	10.6	.4
Verbalize to adult (%)	18.8	24.8	37.6	1.4
Investment in autonomy				
Resistance to unwanted help (clown task):				
At intermediate step	1.2	1.9	1.3	2.3
At final step	2.4	3.1	3.7	5.0*
Statements of autonomy (#)	.2	.4	1.4	4.2*

* $p < .05$, ª $p < .10$.