

National Organization of Mothers Of Twins Clubs, Inc.	SUBJECT: RESEARCHER: DATE:	READING PROFICIENCY National Organization of Mothers of Twins Clubs, Inc. December 2001 - July 2002
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PURPOSE: The purpose of this survey was to investigate differences and similarities in reading proficiency of multiple birth children.

METHOD: A survey consisting of 24 questions was printed in the January/February 2002 **NOMOTC's Notebook** and distributed in a National Mailing. The survey was to be completed by a parent whose multiples were reading.

BACKGROUND INFORMATION

1. A total of 295 surveys were tabulated with 96.3% (284) for twins and 3.4% (10) for triplets. One survey was submitted for the two surviving members of a set of quintuplets.
2. Twenty-five percent of the surveys were for monozygotic (MZ) or identical multiples, 70% for dizygotic (DZ) or fraternal multiples, and 4% unknown. One set of triplets was a combination of MZ and DZ, and the other triplets were all DZ. Identical multiples have been designated as MZ and fraternal multiples as DZ in this report.
3. The sets of multiples were divided into 38% all boys, 32% all girls, and 30% boy/girl combinations. Only one set of triplets was all boys with the remaining 90% of triplets being in boy/girl combinations. Twin pairs of known zygosity were divided into: 15% (41) MZ boys; 13% (34) MZ girls; 23% (63) DZ boys; 20% (53) DZ girls; 29% (78) boy/girl.
4. While half (149) of the survey's respondents identified their multiples as premature, 24 of the respondents did not specify gestational age at birth. Also, 15% of the multiples identified as premature had a gestational age of 37 weeks or more. As gestational age of less than 37 weeks defines preterm birth in multiples, only 35% of the multiples were considered as definitely premature in comparing results. The surviving quintuplets and 2% of the twins had a gestational age of 26-28 weeks. In addition, 11% of twins and 30% of triplets were born from 29 to 33 weeks, and 20% of twins and 60% of triplets were born between 34 to 36 weeks.
5. Current ages of multiples were: 6% for five years and younger; 25% for 6-7 years; 30% for 8-9 years; 16% for 10-12 years; 12% for 13-17 years; 5% for 18-21 years; 6% for 22-48 years.
6. Of the multiples surveyed, 32% did not have other siblings; 34% had only older siblings; 23% had only younger siblings; 10% had both younger and older siblings.
7. Educational levels of the parents were: high school to some college - 32% of fathers and 28% of mothers; college/technical school graduate - 35% of fathers and 45% of mothers; some post-graduate to doctoral or professional degree - 32% of fathers and 28% of mothers.
8. Parents reported their employment situation as: 33% both full time; 26% both employed but only one full time; 2% both part time; 36% only one parent employed full time and other not working outside the home; 3% both unemployed or retired. For multiples age five and younger, 63% had parents where one worked full time and the other did not work outside the home, and 26% had parents where both worked but only one full time.

RESULTS

1. Fifteen percent of the parents reported that at least one of their multiples had been diagnosed with a learning disability. Four percent had two multiples (11 twin pairs and 2/3 of a set of triplets) diagnosed with a learning disability, and 11% had only one multiple (from 32 twin pairs) who had been diagnosed with a learning disability. Of the surveys where two co-multiples had a learning disability, 75% were for all boy co-twins and 50% of those were MZ twins. Only 9% of the twin sets with only one co-twin diagnosed with a learning disability were MZ. The other sets were 34% boy/girl, 38% DZ boys, 13% DZ girls and 3%

unknown girls. Of the 56 multiples with a learning disability, 34% were reading below grade level with 57% reading at or above grade level and 9% not known. Where only one twin had a learning disability, 63% of those twins started reading at the same age as their co-twins, but only 34% were reading at the same grade level as their co-twins.

2. Eighty-two percent of the parents reported that they read to their multiples before the multiples were a year old. Ten percent started reading to their multiples when the multiples were one year old with other parents starting later. Fifty-five percent of the parents read to their multiples daily with an additional 28% reporting that they read more than once a day. Fifteen percent of parents read to their multiples weekly. Seventy-eight percent of the parents also used wordless picture books.
3. Seventy-five percent of the parents had put books in the crib or stroller, and ALL of the parents had books available on shelves or in baskets for their multiples. Ninety-two percent reported that their multiples had their own books. Ninety-eight percent of the parents reported reading novels, newspapers, etc., where their multiples could see the parents reading.
4. Twenty-five percent of the multiples shared or did share the same classroom while 48% did not. Twenty-six percent sometimes shared the same classroom and sometimes were in separate classrooms. One percent were not yet in school.
5. All multiples in a set were described as being at the same reading level/proficiency in 40% of the responses. Fifty-six of the parents reported that their multiples were at different levels of reading proficiency. Four percent of the parents did not know or could not recall whether their multiples were at the same reading level. For MZ co-twins, 63% were at the same reading level and 32% at different levels of proficiency. Thirty-eight percent of the MZ co-twins reading at different levels were both reading above grade level. For DZ co-multiples, 33% were reported as reading at the same level of proficiency and 64% at different levels.
6. Forty-five percent of multiples read more than once a day, and 38% were described as reading daily. Eleven percent of multiples read several times a week, and 3% rarely read. Reading time was described as purely voluntary for 21% of multiples and only for homework for 9%. For 68% of multiples, reading time was both voluntary and part for homework. Sixty-four percent of parents reported that one multiple read more than the other(s).
7. Forty-one percent of multiples started reading at age five; 32% at age four; 21% at age six; 2% at age seven; 4% before four years old. In three sets of multiples, one multiple was identified as not reading yet for various reasons.

<u>Age Twins Started Reading</u>	<u>MZ Boys</u>	<u>MZ Girls</u>	<u>DZ Boys</u>	<u>DZ Girls</u>	<u>Boy/Girl</u>
4 years	27%	28%	25%	40%	31%
5 years	39%	32%	40%	38%	42%
6 years	22%	22%	25%	20%	22%
7 years and older	7%	0%	3%	0%	2%
Before 4 years	2%	9%	4%	1%	3%

Above percentages are for the individual multiples in twin pairs of known zygosity as some twins had started reading at a different age than their co-twin. Of the triplets, 57% started reading at age five and 37% at age four with one triplet starting at age seven and one not yet reading.

8. In the 6-7 year old age group: 41% of twins had started reading at age 5; 28% at age 4; 24% at age 6. In the 8-9 year old age group: 48% of twins had started reading at age 5; 27% at age 4; 20% at age 6. In the 10-12 year old age group: 39% of twins had started reading at age 5; 31% at age 4; 24% at age 6.
9. Fifty-five percent of multiples were identified as reading above grade level; 30% at grade level; 8% below grade level. Seven percent of parents either did not know or did not recall their multiples' current reading level. Results for individual multiples in twin pairs of known zygosity were as follows:

<u>Current reading level</u>	<u>MZ Boys</u>	<u>MZ Girls</u>	<u>DZ Boys</u>	<u>DZ Girls</u>	<u>Boy/Girl</u>
Above grade level	54%	62%	49%	60%	51%
At grade level	27%	18%	34%	28%	33%
Below grade level	10%	9%	9%	4%	9%

Of the triplets, 50% were reading above grade level; 37% at grade level; 3% below. Thirty-five percent of the multiples who had started reading at age six were also identified as reading above grade level.

10. Of the 295 sets of multiples, 39% had all multiples reading above grade level; 13% had all multiples reading at grade level; 2% (7 sets) had all multiples reading below grade level. Where all multiples in a set were reading above grade level, 22% shared the same classroom; 38% sometimes shared the same classroom; 40% did not share the same classroom. For MZ twins, 53% had both co-twins reading above grade level; 16% had both reading at grade level; 5% had both reading below grade level. MZ twins accounted for 57% (4 of 7) of the sets of co-twins both reading below grade level.
11. The five sets of multiples born at the end of the second trimester (26-28 weeks) were reading above grade level (except for one twin reading at grade level) and had all started reading by age five. For premature twins born in the third trimester, the ages given for starting reading were:

<u>Age started reading</u>	<u>Birth at 29-33 weeks</u>	<u>Birth at 34-36 weeks</u>
4 years and earlier	26%	27%
5 years	26%	45%
6 years	39%	22%
7 years and older	5%	4%

Current reading levels given for premature twins born in the third trimester were:

<u>Current reading level reported by the parents</u>	<u>Birth at 29-33 weeks</u>	<u>Birth at 34-36 weeks</u>
Both co-twins reading above grade level	39%	46%
Both co-twins reading at grade level	10%	9%
Co-twins reading at different levels	31%	39%
(Only one co-twin reading below grade level)	(10%)	(14%)
Both co-twins reading below grade level	3%	2%
Reading levels unknown	16%	4%

Ninety-percent of the triplets were premature with 41% starting reading at age four; 52% at age five; 4% at age seven; 4% (one 5 year old) not reading yet. For all the multiples born at gestational age of 26-36 weeks, only 16 individuals (8%) were identified as reading below grade level.

CONCLUSIONS

1. Most parents expressed satisfaction with both their multiples' progress in reading and the parents' efforts to encourage reading. Fifty-five percent of the multiples were described as reading above grade level with 39% of parents reporting that all their multiples were reading above grade level.
2. Girls in same-sex twin pairs were slightly more likely to start reading earlier and to be reading above grade level than boys in same-sex twin pairs. Some of the multiples who were reading above grade level did not start reading until age six, and a few parents commented on how the multiple who had started reading later had caught up with the co-multiple.
3. More than half of the multiples who had been diagnosed with a learning disability were reported to be reading at or above grade level. More than twice as many parents reported that only one of their multiples had a learning disability compared to parents with two multiples diagnosed with a learning disability. Where a learning disability was reported for only one multiple, that multiple was more likely to have started reading the same age as the co-multiple than to be reading at the same grade level.
4. MZ co-twins seemed more likely than DZ co-twins to be reading at about the same level of proficiency. The observations of the parents appear to reinforce the idea that both reading proficiency and learning disabilities have genetic factors.
5. The main difference observed between the multiples born prematurely (before 37 weeks gestational age) and the full term multiples was that overall the premature multiples started reading later. However, many premature multiples were reading before age five. The current reading levels reported for the premature multiples were similar to those for all the multiples in the study.

6. Parents who reported that all their multiples were reading above grade level were more likely to have their multiples sharing or sometimes sharing the same classroom. Only 40% of these multiples did not share a classroom compared to 48% of all multiples in the survey who did not share a classroom. Also, 38% of these multiples sometimes shared a classroom compared to only 26% of all multiples in the survey doing so. This might be related to the value of flexibility in school placement as multiples progress through the grades. That sharing a classroom (at least some of the time) could provide a positive learning environment might be due to co-multiples motivating each other to achieve or just to not having to deal with the stresses of separation while trying to learn basic skills like reading.

References:

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