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The Effect of Twins on Family Relationships

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Abstract. The results of the Bene Anthony Family Relations Test on 53 pairs of twins and 30 older siblings, as well as an analysis of personality inventories from their parents, are presented. It is shown that weight and birth order can affect not only personality and the way in which twins interact with each other, but can also affect family interaction. Particular attention has been given to the effect on and of the preceding sibling.

Key words: Twins, Weight, Birth order, Personality, Family interaction

INTRODUCTION

We have become aware that not only are twins' individual personalities shaped by the influences within the family, but that twins themselves contribute to the development of those influences by their interaction with their cotwin [14] and other family members [9].

The relationship between birthweight and maternal preference, notably for the heavier twin, has been demonstrated [8,12] and there would appear to be grounds for believing that early maternal preference may lead to persistent differences in personality and family interaction. However, there has been an equally strong case made for birth order as having the major influence, particularly in the field of education [12] and also as an important determinant of personality variables and relationships within the family.

The emphasis currently being placed on the influence of the family system on the individual [10], pioneered by Bowlby [2], highlights the need to understand the role that twins play within the family both as a pair and separately, and whether this differs in any way from that of single siblings. We also need to know to what extent birth order and birthweight influence the ground rules.

In this paper four aspects have been studied:

1) The parental view of the effect that twins have on family relationships;
2) The differential influence of weight and birth order on personality and temperament as observed by parents;
3) Parental views of the effect on the older sibling of having twins in the family;
4) Family relationships as seen through the eyes of the twins and their immediately preceding sibling.

MATERIALS AND METHODS

This research was begun in 1982 and families were recruited through headteachers of local schools in the Surrey area. The area was one that included both private and local authority housing and parents were not predominantly from any one class group.

A questionnaire was developed to obtain background information on parents and twins and highlight aspects of family interaction. The questionnaire contained a series of questions on physical resemblance, to confirm zygosity, and on the first two years of life. There was also a section on social aspects concerning twins and parents, and finally a temperament/personality checklist on both twins. Further questionnaires on older siblings included a sibling/twins proximity checklist as well as that on temperament/personality.

Questionnaires were filled in by parents on 78 pairs of twins, 49 older siblings and 26 sibling pairs with an age range of 3-19 years. Of these, 53 pairs of twins, 30 older siblings and 23 pairs of siblings with an age range of 5-18 years were tested on the Bene Anthony Family Relations Test (FRT). The twins were further compared with Tables on a "normal" sample of 96 children provided by Eva Bene in the FRT Manual.

The Bene Anthony Family Relations Test is "a simple objective device for the exploration of the child's emotional relations with his family" [1]. It has been specifically designed for clinical purposes and as a research tool in the field of family relationships. Testing more than one child in the family has added an extra dimension and also served to validate findings. Twins were tested immediately one after the other with no time to confer.

RESULTS

1. Family Patterns

Table 1a shows that the twins came predominantly from families who already had one or more children before their arrival and this has enabled a study of the effect of the twins on the preceding sibling.

Table 1 - Family patterns

(a) Family size

Number of children in family	1	2	3	4	5	6	7
Pairs of twins		8	41	18	9	1	1
Twins position in family	1st	2nd	3rd	4th	5th	6th	
Pairs of twins	21	35	13	6	1	1	

(b) Reaction by parents on hearing they are to have twins (% of number responding)

	By 16 weeks	By 24 weeks	By 28 weeks	At birth
When did they know	62.8	78.2	80.8	15.4

	Positive	Neutral	Negative
Reaction by mother	48.7	12.8	38.5
Reaction by father	46.5	21.1	32.4

Table 2 - Development (% of number responding)

(a) The Infant

Pregnancy	Full term	Premature
	47.4	52.6

Birthweight	Under 5 lbs	5-6 lbs	Under 7 lbs
	10.4	18.2	31.2

			MZ		DZ		Controls	
	All twins	Controls	Oldest	Youngest	Oldest	Youngest	Oldest	Youngest
Receiving medical treatment after birth	41.0	13.0	47.1	47.1	34.8	34.8	7.7	19.2
Breast fed	6.0	23.0	5.9	2.9	9.0	7.0	19.2	26.9
Bottle fed	72.7	31.8	82.4	82.4	63.0	63.0	26.9	34.6
Both	21.0	46.0	11.8	14.7	28.0	30.0	53.8	38.5

(b) The Toddler

		MZ	DZ	Controls
Spoke first words at	6 months – 1 year	20.0	38.0	48.0
	1 – 2 years	65.0	40.0	48.0
	2 years +	15.0	22.0	4.0

		MZ		DZss		DZos
	All twins	Boys	Girls	Boys	Girls	
Incidence of Ideoglossia	40.0	50.0	35.3	41.2	29.4	44.4

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Table 1b shows that the reactions to the impending double birth were very mixed. Twenty per cent of mothers did not know they were expecting twins until they had been pregnant more than 28 weeks, and the majority only found out when they were in labour. Many of the twins in the sample would have been born before the widespread use of ultrasound scanning. Table 2a shows that over half the twins did not reach full term and 41% needed some medical treatment following the birth. Only four pairs of twins were completely breast fed (6%) reflecting the difficulties of breast feeding small babies, especially two at a time. These factors may influence mother/infant bonding.

Generally, the twins learned to speak at the same time, most between one and two. Table 2b shows that 40% also had their own private language and this seemed to be less influenced by zygosity than by sex, the problem affecting more boys than girls. This is in line with previous research findings [11].

Table 3 - Within-pair relationship (% values)

	MZ	DZ	DZos	MZ		DZ		Controls twins	Only
				Girls	Boys	Girls	Boys		
Number of pairs	34	34	9	19	14	17	17	26	8
Inseparable	11.8	0	0	15.8	7.1	0	0	0	0
Closer than most brothers and sisters	52.9	54.5	66.7	47.4	64.3	62.5	47.1	38.5	75.0
Just like any two brothers and sisters	29.4	42.4	11.1	31.6	21.4	31.3	52.9	57.7	12.5
Tend to go their own way	2.9	0	22.2	0	7.1	0	0	3.8	0
Don't like each other's company very much	2.9	3.0	0	5.3	0	6.3	0	0	12.5

2. The Reaction of Parents to the Twin Couple

There were several items in the questionnaire designed to test the social implications of having twins in the family. One of these was, "Have the twins placed a strain on your marriage?" More mothers of MZ than of DZ twins ($P < 0.03$) replied in the affirmative, and when same-sex DZ (DZss) twins were divided by sex, more mothers of boys than of girls ($P < 0.03$) felt that they had placed a strain on their marriage. When MZ twins were divided by sex, boys were more likely than girls to provoke feelings of guilt in both parents ($P < 0.03$ for mothers and $P < 0.05$ for fathers) and to make mothers feel that they could not do enough for them ($P < 0.05$). With regard to the twins themselves, MZ twins were seen as more likely than DZss twins to act in concert ($P < 0.003$). Table 3 shows that MZ twins are also the only twins to show a percentage as "inseparable". Opposite-sex DZ (DZos) twins emerge as the least like any brother or sister, differing from DZss, but DZss

boys and girls differed in turn from each other on the same item. All three twin groups, plus "only twins", were compared with the control group on the above and similar items. Although only a small group, (8), "only twins" showed a strong similarity to the control pairs of siblings, the main difference being in their degree of closeness to each other. Clearly, the number of siblings is going to affect the type of social interaction in the family. Both MZ and DZss differed significantly on a similar number of items from the the control group, DZos twins being rather more similar.

3. The Differential Influence of Weight and Birth Order on Personality and Temperament as Observed by Parents

Parents were given a checklist of 49 personality/temperament items which could be allocated to either or both twins. The same list was provided for parents for the older brother or sister of the twins and for the pairs of siblings. There were found to be no significant differences according to birthweight and significant differences according to birth order were only found when the whole twin groups were examined (Table 4). The DZss twins appeared to be the most influenced by birth

Table 4 - Personality items showing birth order significance (P values)

Item	All twins		MZ twins		DZ twins		DZos	
	Oldest	Youngest	Oldest	Youngest	Oldest	Youngest	Oldest	Youngest
1. Tends to be the leader	0.05	–	–	–	0.05	–	–	–
3. Shy	–	–	–	–	–	–	0.05	–
4. Prefers to stay at home	0.05	–	–	–	–	–	–	–
5. Bossy	–	–	–	–	0.05	–	–	–
8. Tidy	–	–	–	0.05	–	–	–	–
20. Mummy's child	0.05	–	–	–	–	–	–	–
25. Laughs a lot	–	–	–	–	–	0.01	–	–
26. Independent	–	–	0.05	–	–	–	–	–
27. Sense of humour	–	–	–	–	–	0.05	–	–
29. Serious	–	–	–	0.05	–	–	–	–
47. Giggles	–	–	–	–	–	0.05	–	–
48. Likes music	–	0.01	–	–	–	0.05	–	–

order, and the finding that the younger twin laughs a lot and giggles is similar to that of the Louisville [13] and La Trobe [6] studies. In the case of MZ twins the differences were, less predictably, those of birth order. DZos twins appeared to be the least influenced by birth order and this would suggest that the sex of the twins may be an important variable. (For example, out of 10 pairs of twins, 5 girls vs only 1 boy were thought to be bossy). Lists of the "top twenty" personality items were then compiled, omitting those which fell below 50% of the sample, by twin

type, sex, birthweight and birth order, and each contrasting pair were compared. Those variables which appeared on only one of each pair of lists were noted. MZ twins differed by birthweight on only two items, by birth order on five, and DZ twins differed by birth order on eight items, by birthweight on seven, with two items "easily upset" and "chatterbox" differentiating both the youngest and the lightest. The DZos group was too small to be examined in this way. All three twin types were then cross-compared to see if personality was affected in a similar way for each twin type by sex, birthweight and birth order. It was found that birth order (Table 5) had a more similar effect on all twins than either birthweight or sex, that the lighter twin was more influenced by twin type than the heavier twin, and that the personalities of twin boys and girls were clearly influenced not only by their twinness, but also by their twin type.

Table 5 - Personality items showing difference between twin types by birthorder

Older twin			Younger twin		
Item	Twin types	P	Item	Twin types	P
			9. Likes to please	MZ DZos, DZ	0.05
14. Has a temper	MZ DZos, DZ	0.05			
15. Gets on well with other children	DZos MZ, DZ	0.01			
27. Sense of humour	MZ DZos, DZ	0.01	27. Sense of humour	MZ DZ, DZos	0.05
41. Outgoing	MZ DZ, DZos	0.05			
			44. Prefers outdoors	DZos MZ, DZ	0.05
49. Fussy about food	DZos DZ, MZ	0.01			

No significant differences were found between the pairs of controls for birth order, which would suggest that this is a more important variable for twins, but there may well be other items not included in the checklist which differentiate pairs of siblings. There were, however, differences in the importance of certain items, ie, there were nine items which did not appear on both "top twenty" lists, a similar number to that of the DZ older and younger twins.

4. Parental Views of the Effect on the Older Sibling of Having Twins in the Family

Separate questionnaires were filled in by the parents on the older siblings of pairs of siblings and the older siblings of twins. Of 49 older siblings of twins, 34 were the only children in the family before the birth of the twins. Both the larger and smaller group were compared with the 26 older siblings in the control group.

Table 6 - Personality items for older siblings of twins showing a significant difference when compared with control older siblings

	P
Older siblings of twins are more likely toget on with adults	0.05
Older siblings of twins are less likely to be good at games	0.05
Older siblings of twins are more likely to be independent	0.05
Older siblings of twins are less likely to want a cuddle	0.01
Older siblings of twins are less likely to bring their problems to their parents	0.05

Table 6 shows that those personality items which showed a significant difference between the two groups, also indicate a certain self-sufficiency on the part of the older sibling of twins. Finally, Table 7 contains items concerning the parents' social interaction with older siblings where there were significant differences between the two groups. These show that the older sibling of twins found it more difficult to cope with the new arrivals who, of necessity, required more attention than a single child, but that parents found it easier to relate to the single child than to the twins and were sympathetic towards him.

Table 7 - Items on parent-child interaction where the older sibling of twins scored significantly higher than the control group

	P
Was the older child difficult after the birth of the twins/younger child?	0.05
Do the twins/younger child receive more attention than the older child?	0.03
Do parents avoid making the older child jealous and treat him differently?	0.05
Is mother closer to the older child?	0.03
Is father closer to the older child?	0.03
Does the older child have a different bedtime from the twins/younger child?	0.05

5. Family Relationships as Seen Through the Eyes of the Twins and Their Immediately Preceding Sibling

The Bene Anthony Family Relations Test for children involves the child in posting a series of cards into boxes representing each member of their family. If the child does not wish to allocate a particular card to a member of the family there is also a box for "nobody". These cards have messages printed on them representing gradations of feeling that the child may have for members of his family and those he feels they may have towards himself.

When comparing twins with singletons, we are clearly not comparing like with like. By comparing twins both with sibling pairs and with a "normal" sample of

boys and girls from the FRT Manual, whom we shall call the "manual" group, it was possible to discover, using the Zubin Test [15], whether sibling pairs showed a greater proximity to the twin situation [7]. Identical twins showed little similarity to either the "manual" group or the control group, the fraternal twins showed a greater similarity to both groups but were marginally more similar to the "manual" group. The control group was no more similar to the "manual" group than the fraternal twins, indicating that family structure had a strong influence on family relationships. MZ and DZ twins were more similar to each other than any other two groups, indicating that the twin situation is an important factor in itself.

MZ and DZ girls differed less from the "manual" group than boys. Both sets of girls had more outgoing positives for mother than the "manual" group, though they had a higher score for Item 67, "Mother" is "too busy to have time for me". MZ and DZ boys differed on many items from the "manual" children, MZ boys were closer to father, in line with previous findings [3], seeing him as a more maternal figure, which appeared to affect their relationship with mother. DZ boys showed the opposite picture; a stronger attachment to mother and an uneasy relationship with father. Both sets of boys had significantly higher scores for Item 77, "This person does not love me enough", for the parent to whom they were closest, and for Item 32, "I hate this person in the family" for the other parent.

The FRT Manual includes a list of five items for fathers and twenty-one items for mothers on which the adolescent group aged 13 to 17 differed significantly from the group of younger children aged 7 to 12. The twins were divided into similar age groups and compared on the same items. Of the total group of twins, including DZos twins, the adolescents differed significantly from the children on only one of the items for fathers and eight of the items for mothers; the MZ adolescents and younger children differed significantly on no items for fathers and six of the items for mothers and the DZss adolescents and younger children differed significantly on one of the items for fathers and three of the items for mothers.

When the FRT Test results for each zygosity group were looked at by birth order and birthweight for both boys and girls, birthweight appeared to be the more important variable with lighter twins being closest to mother in the case of MZ boys and DZss and DZos boys and girls. MZ girls were influenced in the opposite direction with the heavier girls being closest to mother. Closeness to mother was generally accompanied by a higher negative strong score from father, heavier MZ girls being the exception which might suggest dominance. From research into mothers' attitudes to newborn infants the reverse of the above findings might have been expected [12], but in the case of the DZss twins the maternal overprotection score was heavily weighted in favour of the lighter twin which would indicate that mothers may have been compensating for a preference for the heavier twin. It would appear that they were succeeding as the percentage difference in overall scores for parents was small. In the case of DZos twins there was a bigger difference in the overall involvement with father than with mother, with the heavier twin having a cross-preference for father. The heavier twin also showed a higher maternal overprotection score, but it is difficult to draw conclusions when we are dealing with three variables instead of two and the number is small, but like the La Trobe

study [5] birth order differences were found to be minimal. In the case of MZ twins the overprotection score differences were slight, though in favour of MZ lighter boys, ie, in the same direction as DZ twins. DZos girls and boys had a similar profile to MZ girls, heaviest and lightest, though rather more exaggerated, DZos girls having the highest positive strong maternal score of all twin groups when looked at by sex. As girls tend to mature, both physically and socially, at a faster rate than boys, DZos girls are likely to take up the older sister position and this may mask birth order differences. Of the male groups, MZ boys had the highest outgoing positive score for father and DZos girls showed a similar pattern. Research by Cohen et al [4] into parental preferences show the childrens' view of their relationship with their parents to be generally realistic and supports the validity of the FRT test. The small group of only twins, all DZss, showed strong sibling rivalry, unexpected when 75% were rated by parents as being closer than most brothers and sisters, and a high involvement with both parents.

Birth order differences showed up on individual items when these were compared for significant differences, most importantly in the case of MZ boys where there were no significant differences according to birthweight. Nine out of the eleven items in question were under the incoming negative heading, showing that a small number of older MZ boys felt picked on by their parents, particularly by mother, the same items showing a zero score by the younger twin. For DZ boys there were a similar number of items showing a significant difference between the twins both by birthweight and birth order, which would indicate the importance of both variables. Older DZ boys had a significantly higher score for incoming positive items both for "father" and "mother", younger boys seemed to feel that they had a special place in their mother's affections, but craved her attention. The difference between heavier and lighter twins is not as clear, but the higher positive involvement with mother is shown by the lighter twins. A high score for numbers 43 and 44 reflects the lighter twins' feeling of overprotection. There were some similarities between the heavier and older twins. For MZ and DZ girls there were very few items showing a significant difference for either variable.

When there was one older sibling, birth order differences increased in importance suggesting that the older sibling may emphasise birth order, having to rely on it heavily for his own status. Though birthweight differences in MZ girls were still the most important variable, birth order differences were increased with the youngest twin, like the lightest, having a higher strong positive score for father than for mother. MZ twins with one younger sibling showed a cross-preference for father with quite a strong, positive score for the younger sibling, whilst DZ twins with one younger sibling showed the opposite picture. There was only a small group of MZ boys with one older sibling, but the oldest and heaviest had the closest relationship with mother which may account for the small difference between heaviest and lightest, whole group.

Whilst DZos girls were dissimilar from the other twin girls inasmuch as they had a very similar score for both older sibling and twin, both MZ and DZss girls had a larger outgoing strong negative score for the older sibling than boys. It would appear from Table 3, Twin Relationships, that female twins tend to have

a closer bond than male twins which could result in the exclusion of the older sibling. The zygosity of twins affected the older sibling's relationship with the family. Older siblings of MZ twins showed greater resentment towards the twins and less involvement with their parents than older siblings of DZ twins.

All twins preferred an older sister to an older brother and this may be a contributory factor to the older brothers' greater dislike of their younger twins when compared with older sisters. These findings are in line with the La Trobe study [5] which found that male siblings "felt less important than the twins and considered that parents fussed over the twins too much". Twins with one older and one younger sibling showed remarkable splitting between the siblings and a low involvement with both parents.

The older sibling of twins had a more difficult relationship with mother, but related better to father than the older sibling in the control group. Interestingly, all the FRT items that showed a significant difference between the two groups in their attitude towards their sibling(s), indicated that the older sibling of twins related better to the twins than the control group to their younger sibling. However, when there is only one other sibling, feelings may be polarised as in the case of "only" twins.

There was not a great deal of difference in the way that MZ and DZ girls felt about their twin, but the most interesting item of the six which showed significance was number 46 where 42% of MZ girls felt that their twin really understood them, compared with only 16% of DZ girls. MZ and DZ boys differed significantly from each other on only three items, number 47 being of particular interest, where 33% of MZ boys felt that their twin listened to what they had to say.

CONCLUSIONS

It has been shown that birth order and birthweight have some effect on twins and family relationships, particularly in the case of fraternal twins, but zygosity and sex also appear to be important in differentiating pairs of twins not only from other pairs of twins, but also from singletons, particularly in the case of twin boys.

The way in which the older sibling accomodates to younger twin brothers or sisters appears also to be partly dependent on the sex of the sibling as well as that of the twins. However, there are indications that the zygosity of the twins may be of equal importance in influencing the relationship of the sibling with the twins and other family members. The older sibling appears to differentiate the twins principally by birth order.

Our relationships within the family colour our approach to relationships outside the family and the results of the FRT Tests may offer an alternative explanation for classroom difficulties that teachers experience with twin boys which cannot altogether be accounted for by language problems alone. These results may also throw additional light on difficulties experienced by families who seek help from a Child Guidance Clinic or similar agency. Further research in this area may help profes-

sionals and parents alike to gain greater insight into the way in which the zygosity of twins influences their personal relationships and those of the older sibling.

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