Parental Differential Treatment: A Twin-Sibling-Adoptee Study

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Introduction

- From a behavioral genetic perspective, similar experiences between siblings will vary by genetic likeness (i.e. Monozygotic, Dizygotic, Full Sibling, etc.).
- Kinship designs comparing dyad types allow us to disentangle genetic contributions and environmental contributions.
- One aspect of twins' non-shared environment is differential parental treatment, which is the degree of difference in parents' treatment of siblings.
- Previous research has found that parents of dizygotic (DZ) twins are more likely to treat them differently compared to parents of monozygotic (MZ) twins (Baker & Daniels, 1990; Lytton, 1977).
- These findings suggest that parents respond to genetic differences between siblings leading to varying differential treatment according to their genetic likeness.
- The purpose of the present study was to examine parental differential treatment (PDT) using a novel design that includes twins, siblings, and same-age adoptees using a genetic model.

Research Questions

Does parental differential treatment vary by dyad type? Will the mean differences show the following pattern:

- Genetic: MZ < DZ = FS < VT

Alternate hypothesis:

- Twin Effect: MZ = DZ < FS = VT
- Age Effect: MZ = DZ = VT < FS

Participants

Participants 252 dyads:

- 54 MZ twin pairs
- 86 DZ twin pairs (52 same-sex; 34 opposite-sex)
- 43 VT twin pairs (16 same-sex; 27 opposite-sex)
- 69 Full sibling pairs (36 same-sex; 33 opposite-sex)
- Aged 8-12 (M = 9.6, SD = 1.4).
- The families were predominantly middle class, with 63% of European ancestry.
- The children were interviewed about their family relationships by trained testers as part of a three-hour home interview.
- Pairs with children who experienced birth difficulties that may affect behavioral development were excluded.

Criteria for Virtual Twins:

- Both unrelated siblings must be reared together before 1 year of age.
- Must be enrolled in the same grade at the time of testing.
- May attend separate classrooms or separate schools.

Design

	MZ twins	DZ twins	Full Sibling pairs	VT pairs
Genetic Relatedness (Zygosity)	100%	50%	50%	0%
Hypothesized Closeness	High	Medium	Low	Low
Sex Composition	Same Only	Same & Opposite	Same & Opposite	Same & Opposite
Age Differences	0	0	*X* = 26.9 months	*X* = 3.7 months

Funding

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Measures

Parents completed a 3 item subscale assessing three different dimensions of parental differential treatment of the two siblings. The item correlations between the 3 dimensions range from .25 to .45.

The questions assessing each dimension were as follows:

1.In general do you treat sibling 1 and sibling 2 equally with respect to their **school** studies? I treat them:

2. In general do you treat sibling 1 and sibling 2 equally with respect to time and activities for **play**? I treat them:

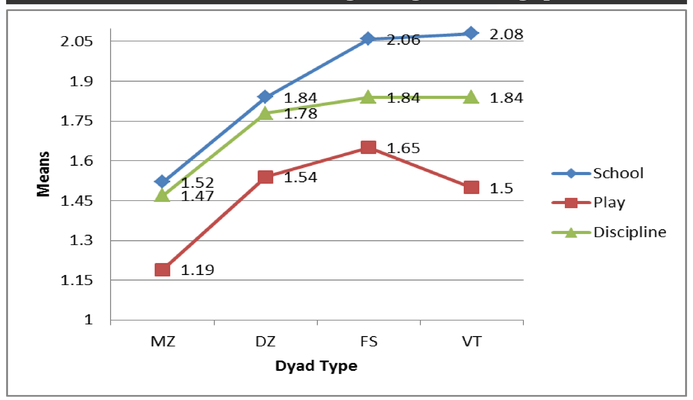
3. In general do you **discipline** sibling 1 and sibling 2 equally? I discipline them:

1 = Very Equally
2 = Somewhat the same
3 = Somewhat differently
4 = Very Unequally

Results

- A 4 (Dyad Type) X 3 (PDT Dimension) MANOVA was conducted to test the hypothesis.
- The results showed a significant effect for dyad type, F (9, 581) = 2.47, p<0.01.
- Follow up ANOVAs showed significant effects for the school and play dimensions.
- School: MZ = DZ; MZ < FS =VT
- Play: MZ = VT; MZ < DZ < FS
- Discipline: MZ = DZ = VT = FS

Mean PDT by Dyad Type



Conclusions

❑ **School:**

- MZ twins and DZ twins showed similar levels of PDT, less than that of the FS and VT dyads, suggesting a genetic and age interaction effect.
- This finding could also be explained by shared prenatal environment between MZ and DZ dyads.

❑ **Play:**

- MZ and VT dyads showed similar levels of PDT, which has been explained by VT parent's overcompensation (Gibson, 2009).
- A genetic effect was also found for PDT differences with MZ<DZ<FS.

❑ **Discipline:**

- The insignificant findings could be indicative of stable parenting styles of discipline.

❑ Future studies could examine the effect of shared prenatal environment on PDT in twins.

References

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