

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

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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.

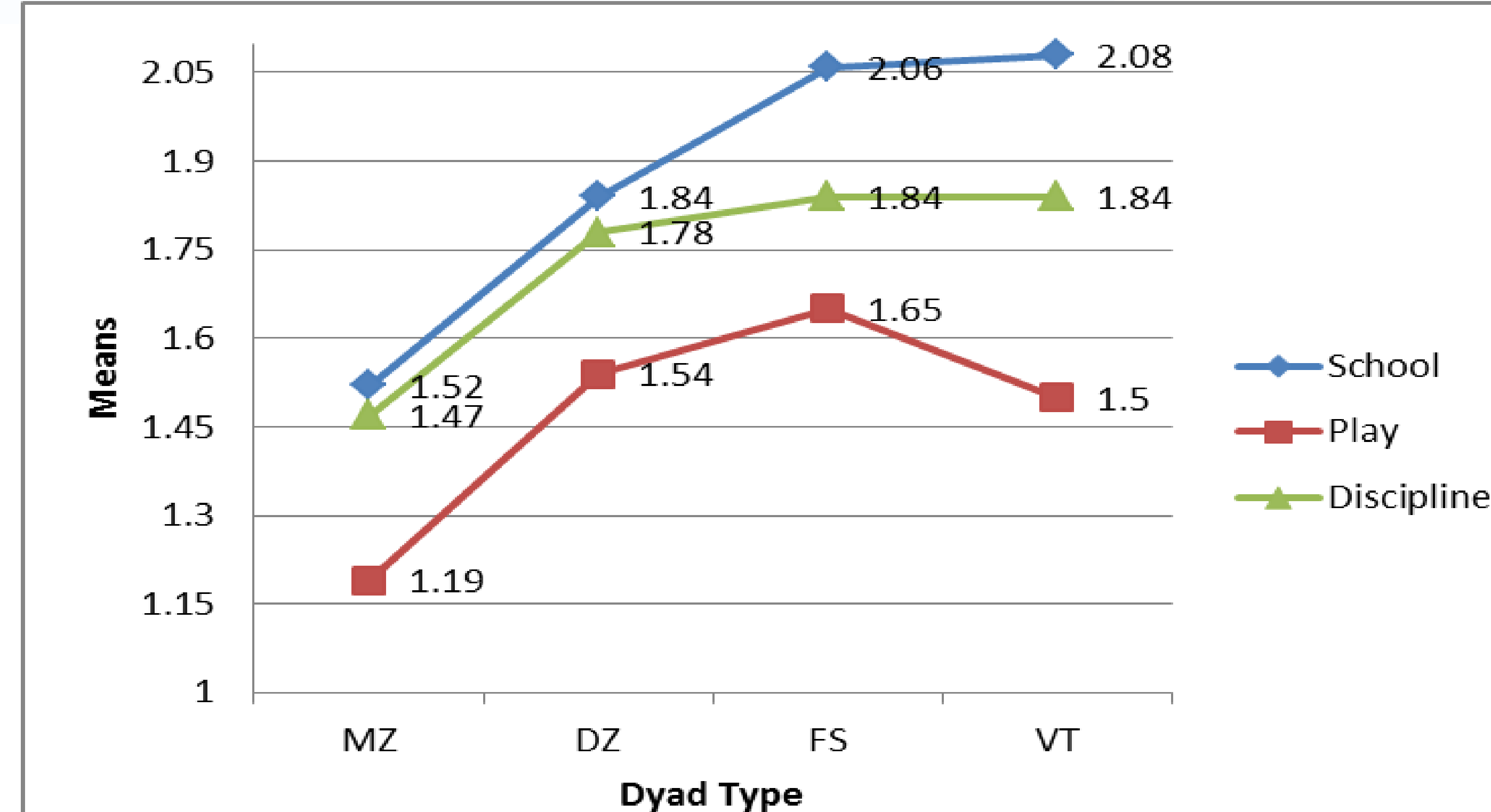
The questions assessing each dimension were as follows:

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