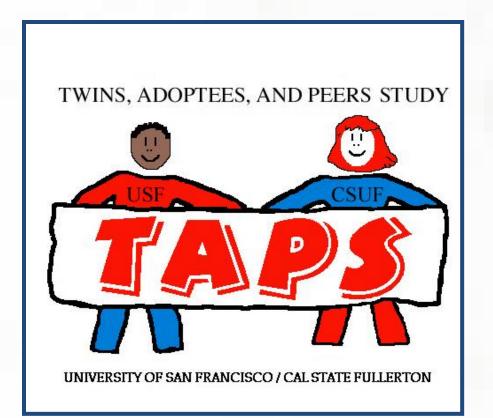# Loneliness in Middle Childhood: Social Connectedness & Genetic Relatedness

Taryn D. Larribas[1], Margaret S. Gross[1], Meenakshi Palaniappan[1], Helena R. Karnilowicz[1], Shannon E. McCarthy[1] & Nancy L. Segal[2]

[1]University of San Francisco, [2]California State University, Fullerton

## Introduction

- The social perspective model argues that loneliness is impacted by a number of factors, such as social reactions due to differences in self-confidence. Relationships with friends and peers show a high correlation with the internalization of behaviors and loneliness (Bornstein et al.). In addition, Mercer and DeRosier (2010) found that children tend to select others with similar levels of loneliness.

- The evolutionary approach argues that genetic similarity contributes to greater social similarity in order to promote reproduction and survival.

- Behavioral geneticists argue as a result of genetic similarity, monozygotic twins should experience the lowest levels of loneliness compared to other kinship dyads (Segal, 2000; Tancredy & Fraley, 2006).

- Research also suggests that age and sex differences contribute to varying levels of closeness, with boys higher than girls (e.g. Furman & Buhrmester, 1992; McGuire, et al. 1996; Mercer & DeRosier, 2010; Junttila & Vauras, 2009).

## Research Questions

Does loneliness differ by dyad type? Are differences linked to genetic relatedness?

- Social Perspective: MZ = FF, then DZ = FS < VT
- Genetic MZ < DZ = FS < VT

Is there a gender component to loneliness? Will the mean differences show the following pattern?

- M > F

## Participants

- Participants 300 dyads from the Twins, Adoptees, Peers, and Siblings (TAPS) study (McGuire et al., 2010):
  - 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 FS pairs (36 same- sex; 33 opposite-sex)
  - 48 FF pairs
  - Aged 7-13 (M= 10, SD = 1.5).
- The families were predominantly middle class, with 63% of European ancestry.
- 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.
- May attend different schools.

## Measures

The children completed multiple questionnaires as part of a three-hour home interview about their family relationships:

Loneliness: Assessed using 16 items from Asher et. al (1984), comprised of 4 domains: loneliness, social [in]adequacy, and subjunctive estimations of peer status.

- Measured on a 5 point Likert scale; the responses to these items were summed to create a total loneliness score ranging from 16 to 80.

## Design

| | MZ Twins | DZ Twins | VT pairs | Full Sibling pairs | Friend-Friend pairs |
|---|---|---|---|---|---|
| Genetic Relatedness (Zygosity) | 100% | 50% | 0% | 50% | 0% |
| Hypothesized Closeness | High | Medium | Low | Low | High |
| Sex Composition | Same Only | Same & Opposite | Same & Opposite | Same & Opposite | Same Only |
| Age Differences | 0 | 0 | X = 3.7 mos. | X = 26.9 mos. | X = 6.3 mos. |

## Conclusions

- Results of this study suggest that biological sex is more predictive of loneliness than genetic relatedness, which is contrary to evolution theories. However, the finding that boys have higher levels of loneliness than girls (1.95 versus 1.78) does support social perspective theories.

- Possible future directions should include the investigation of a possible twin effect to help explain the gender differences.

- Limitations to this design include: a small number of pairs per dyad group and the reliance on self-report data.

## Results

- In contrast to our hypothesis, MANOVAs showed that dyad type/ genetic relatedness was not significantly correlated with loneliness $F_{(4, 297)} = .681$, $p > .05$ .

- T-test analyses revealed that there was a significant main effect for gender $t(298) = 2.04$, $p < .05$, which supports social perspective theories.

- Exploratory analyses investigated the intricacies of this gender difference. When investigating the difference of boys versus girls in same-sex and opposite-sex pairs, no significant results were yielded.

### Table 1. Mean differences of loneliness between sexes

| | Males | Females |
|---|---|---|
| Loneliness | | |
| Child 1 | 1.95* | 1.78* |
| Child 2 | 1.87 | 1.83 |

Note. *$p<.05$

## Funding

## References

Bornstein, M. H., Hahn, C., & Haynes, O. (2010). Social competence, externalizing, and internalizing behavioral adjustment from early childhood through early adolescence: Developmental cascades. Development and Psychopathology, 22(4), 717-735. doi:10.1017/S0954579410000416

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. Child Development, 63,103–115.

Junttila, N., & Vauras, M. (2009). Loneliness among school-aged children and their parents. Scandinavian Journal of Psychology, 50(3), 211-219. doi:10.1111/j.1467-9450.2009.00715.x

McGuire, S., McHale, S.M., & Uddegraff, K. (1996). Children's perceptions of the sibling relationship in middle childhood: Connections within and between family relationships. Personal Relationship, 3, 229-239.

Mercer, S. H., & DeRosier, M. E. (2010). Selection and socialization of internalizing problems in middle childhood. Journal of Social and Clinical Psychology, 29(9), 1031-1056. Retrieved from EBSCOhost.

Segal, N.L. (2000). Entwined Lives: Twins and what they tell us about human behavior. N.Y.: Plume.

Tancredy, C.M. & Fraley, R.C. (2006). The nature of adult twin relationships: An attachment-theoretical perspective. Journal of Personality and Social Psychology, 90(1), 78-93.