



# A Comparison of Twin and Non-Twin Siblings' Use of Relational Maintenance Behaviours and Associate Measures of Sibling Liking

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## ***abstract***

The present study examined (1) whether twin siblings used relational maintenance behaviours at a higher rate than non-twin siblings and (2) whether twins indicated that they liked their twin siblings more than non-twin siblings. 99 twins and 93 non-twins were recruited via social media and university mailing lists. Relational maintenance behaviours were measured using Canary and Stafford's (1992) Relational Maintenance Behaviour Scale and Liking was measured using Rubin's (1970) Liking Scale. Results indicated that (i) twin siblings used openness, assurances, and networks relational maintenance behaviours at a significantly higher rate than non-twin siblings; (ii) twin siblings indicated that they liked each other more than non-twin siblings. Further research should consider analysing opposite-sex siblings which may provide different perspectives and a richer analysis of sibling relationships.

## **Literature Overview**

**Introduction.** Sibling relationships are the longest relationships that many individuals will experience in their lifetime and, as such, have powerful positive and negative influences across the lifespan (Cicirelli, 1995; Ponzetti, & James, 1997). Positive outcomes, include pro-social behaviour (Whiteman, McHale,

& Crouter, 2007) empathy (Tucker, Updegraff, McHale, & Crouter, 1999) companionship, mutual aid, comfort and friendship (Goetting, 1986), emotional support (Lee, Mancini & Maxwell, 1990) and intimacy (Fowler, 2009). Moreover, it is posited that twin sibling relationships are closer and more intense than non-twin sibling relationships (Klein, 2003; Neyer, 2002; Penninkilampi-Kerola, Moilanen &

Kaprio, 2005; Segal, 1993). From a negative perspective, elevated sibling conflict in adolescence is associated with peer difficulties and antisocial behaviours (Bank, Burraston & Snyder, 2004)

**Sibling Relationships.** Despite the involuntary nature of the sibling relationship, individuals continue to maintain strong ties with their siblings throughout the lifespan even as the dynamics of the relationship change depending on life circumstance (Van Volkom, 2008). For example, siblings may be drawn closer by life event such as the birth of a child or death of a parent (Van Volkom, 2008).

Myers (2011) identified two overarching reasons for why adult siblings maintain their sibling relationships: circumstance (e.g. they are family, residential proximity) or choice (e.g. provision of support for each other, sharing of similar or common interests and experiences, friendship and love). Myers (2011) found that genetic ties were the primary reason adults maintained their sibling relationships.

**Twin Sibling Relationships.** The twin sibling relationship is distinctive in that twins are a constant companion for each other throughout the lifespan from birth (Neyer, 2002; Nozaki, Fujisawa, Ando & Hasegawa, 2012). The twin relationship is also more reciprocal and equitable in nature than the relationship between non-twin siblings due to age sim-

ilarity, genetic relatedness, and the amount of time twin siblings spend together growing up (Nozaki et al., 2012). Identical twin siblings share 100% of their genes, whereas non-identical twins share only 50%. Correlation in personality between identical twins was found to be twice as high as that of non-identical twins and non-twin siblings (Loehlin, 1989, Segal, 2013).

The concepts of ‘attachment’ (Bowlby, 1969, cited in Tancredy, & Fraley, 2006) and “inclusive fitness’ (Hamilton, 1964), have been employed when describing the relationship between twin siblings. From an attachment theory perspective, being a twin as opposed to not being a twin is associated with the extent to which a person uses his or her sibling as an attachment figure (Tancredy, & Fraley, 2006). Tancredy and Fraley’s (2006) study assessed the presence of attachment features and function in twin relationships and examined whether twins were more likely than non-twin siblings to use their siblings as attachment figures. They posited that both identical and fraternal twins are more likely to use one another as attachment figures than non-twin siblings because of unique developmental circumstances, for example, spending extended periods of time together, sharing common experiences and environments, and having one another available as sources of care and comfort during stressful times.

Indeed, from an evolutionary-based

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perspective, it is argued that siblings who share a greater proportion of genes (e.g., identical twins) are more likely than other siblings (e.g., fraternal twins and non-twin siblings) to be closer to one another (Hamilton, 1964; Neyer & Lang, 2003). Moreover, according to recent evolutionary psychological research, Lewis (2011) found that within families, individuals reported greater closeness and altruism toward siblings who more closely resembled them, suggesting that kin recognition influences sibling relationship quality. Fraley and Tancredy's (2012) research on sibling relationships found that both attachment and inclusive fitness perspectives were necessary for explaining the nature of sibling relationships. For example, Fraley and Tancredy's (2012) study found that twins were more likely to be attached (i.e., more likely to use one another as targets of proximity seeking, as a safe havens during times of stress, and as a secure base) than non-twins (attachment perspective), but that identical twins were more likely than non-identical twins to be attached to one another (inclusive fitness perspective), indicating that these two perspectives are not mutually exclusive in explaining the twin bond. As such, the type of sibling relationship to which an individual belongs may influence the use of relational maintenance behaviours (Mikkelson et al., 2011).

**Relational Maintenance Behaviours.** Relational maintenance behaviours are particular kinds of interac-

tions and ways of communicating that people use to preserve ongoing relationships, and without which relationships are prone to deterioration (Carney & Stafford, 1992). While the concept was originally applied to romantic relationships, Myers et al. (2001) used the concept to examine sibling relationships. The five approaches identified by Carney and Stafford (1992) are: positivity – interacting with a partner in a cheerful, optimistic and uncritical manner; openness – discussing the nature and desires for the relationship; assurances – indicating a desire to remain involved in and committed to the relationship; networks – common affiliations to which both parties belong; sharing tasks – both partners participating in and sharing responsibility for tasks unique to the relationship.

However, little research has examined the extent to which the use of relational maintenance behaviours differs amongst twin siblings and non-twin siblings. One study examined the differential use of relational maintenance behaviours amongst genetically related and genetically unrelated siblings (e.g. adopted and step-siblings) and found significant differences in the use of such behaviours between the sibling types (Mikkelson et al., 2011). Therefore, this study will attempt to address the gap in the literature by comparing a sample of twin siblings and non-twin siblings on their use of relationship maintenance behaviours.

**Liking and Sibling Relationships.**

Liking refers to the degree of favourable evaluation and respect directed toward another individual (Rubin, 1970). Additionally, Rubin (1973, cited in Canary, Stafford, & Semic, 2002) posited that liking was based on, amongst other things, perceived similarity. Tenney, Turkheimer and Oltmanns, (2009) found that greater personality similarity between pairs of peers was associated with mutual and increased liking. These authors suggested that people are drawn to others who exhibit the same pattern of personality traits because they automatically like whatever reminds them of themselves. Consistent with this assumption, the current study will seek to examine whether there is a significant difference in liking between twin siblings and non-twin siblings.

**The Present Study.** The present study tested two hypotheses: (1) that there will be a significant negative difference in the use of positivity, openness, assurances, networks, and sharing tasks relational maintenance behaviours between twin siblings and non-twin siblings; and (2) that twins will indicate that they like their twin siblings significantly more than non-twins like their siblings.

**Methodology**

**Design.** The study used a cross-sectional, between-groups design.

**Participants.** 99 twins (M age = 35.76

years, SD = 11.61 years) and 93 non-twins (M age = 37.59 years, SD = 9.71 years) took part. Of the twin group, 66 (66.7%) indicated that they were an identical twin, and 33 (33.3%) indicated that they were a non-identical twin. Gender distribution showed participants were 54 (28%) males and 138 (72%) females.

*Response rate.* The webpage hosting the measures was accessed 386 times and 195 individuals submitted responses. Three participant's responses were discarded as they did not indicate their sibling type. In total, 192 questionnaires were completed giving a response rate of 49.74%.

**Measures.** Participants completed a short questionnaire capturing demographic variables (i.e. participant and sibling sex, age, nationality, type of sibling relationship). Relational maintenance behaviours were measured by the Relational Maintenance Behaviour Scale (RMB) (Canary & Stafford, 1992). This is a 29-item scale which captures respondents' use of each of five relational maintenance behaviours: positivity, openness, assurances, networks, and sharing tasks. For the present study, the instructions indicated that participants should respond in respect of sibling relationships. The internal reliability was acceptable: Positivity ( $\alpha = .90$ ), Openness ( $\alpha = .92$ ), Assurance ( $\alpha = .82$ ), Networks ( $\alpha = .88$ ), Sharing Tasks ( $\alpha = .86$ ). Liking was measured by Rubin's (1970) Liking Scale.

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This is a 13-item scale that asks respondents to indicate their general feelings of liking towards a targeted partner. In this study participants were asked to indicate their general feelings of liking in relation to a same-sex sibling or same-sex twin. Cronbach's alpha was .95. Consistent with similar studies on sibling relationship (e.g. Fowler, 2009; Neyer, 2002; Neyer & Lang, 2003) and in an attempt to keep the population homogeneous, non-twin siblings and non-identical twin siblings were instructed to report on a same-sex sibling.

**Procedure.** Ethical approval was applied for and granted by Dublin City University Ethics Committee. The measures were hosted on the website *surveymonkey*. Links to the website were circulated on Facebook, college email, and other social media sites. A number of organisations specifically for twins circulated the link to their members to specifically access twin participants. Participants were instructed to respond in reference to one particular same-sex sibling, with the non-twin participants directed to respond in reference to a same-sex sibling not more than four years older or younger than themselves. All identical twin siblings were instructed to respond in reference to their identical twin sibling; all non-identical twin siblings were instructed to respond in reference to their relationships with their same-sex non-identical twin sibling; and all non-twin siblings were instructed to respond in reference to their relationship with their

same-sex non-twin sibling.

**Data analysis.** While the scores for some of the scales were not normally distributed (positivity, sharing tasks), parametric tests were used as they are robust in the face of violations of normality (Rasch & Guiard, 2004). Independent t-tests were used to examine differences between groups. With regard to maintenance behaviours, a Bonferroni correction was used because multiple comparisons were being made, resulting in the level for significance being set at  $p < .01$ .

## Results

**Descriptive Statistics.** The means and standard deviation of all measures for the twin and non-twin groups are outlined in Table 1 below:

Table 1: Mean (M) and standard deviation (SD) measurement scores for twin and non-twin groups.

<u>Measure</u>	<u>Twin group (n =</u>	<u>Non twin group (n</u>	<u>Difference and magnitude</u>
			<i>(two-tailed)</i>
<i>Relational maintenance behaviour</i>			
Sharing Tasks	6.07 (1.07)	5.95 (0.98)	.410
Positivity	5.46 (1.12)	5.35 (0.88)	.356
Assurances	5.23 (1.32)	4.54 (1.37)	.001*
Networks	5.27 (1.44)	4.48 (1.52)	.000*
Openness	4.48 (1.49)	3.38 (1.31)	.000*
Liking	5.55 (1.07)	4.69 (1.36)	.000*

**Hypothesis testing.** *Relational maintenance behaviours.* As can be seen from Table 1, the groups significantly differed on assurances, openness and network relational maintenance behaviours. This suggests that twin siblings use these behaviours more frequently than non-twin siblings. There was no significant difference between the two groups on the use of positivity and sharing tasks relational maintenance behaviours

*Liking.* Table 1 also indicates that a significant difference was found between twin siblings and non-twin siblings on liking. This would suggest that twin siblings tended to like each other more than non-twin siblings did.

## Discussion

The primary purpose of this study was to investigate whether there was a significant difference in the reported use of relational maintenance behaviours between twin siblings and non-twin sibling, with a further focus on measures of sibling liking. A key finding of the study was that twin siblings reported a significant difference in their use of openness, assurances, and networks relational maintenance behaviours compared to non-twin siblings. No significant difference in the use of positivity, and tasks were reported between the two groups. In addition, twin siblings tended to like each other more than non-twin siblings.

**Hypothesis One Discussion.** Hypothesis 1, which stated there would be significant differences in the use of openness,

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assurances, and networks relational maintenance behaviours between twin siblings and non-twin siblings was supported. This supports Mikkelson et al.'s (2011) assertion that these three behaviours were primarily concerned with discussing the nature of the sibling relationship (openness); messages that stress one's continuation of the relationship (assurances); and interacting with common friends and relatives (networks). Moreover, it is suggested that these behaviours are associated with an equitable relationship (Canary & Stafford, 1992) and, as twin siblings' are reported to have a more equitable relationships (Nozaki, Fujisawa, Ando, & Hasegawa, 2012), openness, assurances and networks behaviours would be expected to be used more frequently by twin siblings than non-twin sibling.

This study's findings also support the notion that a long history of shared interactions may influence twin siblings' communication strategies (Neyer, 2002, Nozaki et al., 2012). Furthermore, twins are more prone to use one another as attachment figures than non-twins because of shared life experiences (Bowlby, 1969; Tancredy & Fraley, 2006). Moreover, from an evolutionary-based perspective (Hamilton, 1964), it was posited that twin siblings (and in particular identical twin siblings who share a greater proportion of genes) are closer to one another, because through gene similarity, twins can increase their evolutionary success by promoting the re-

production and survival of their twin.

The hypothesis that there would be a significant difference between twin siblings and non-twin siblings in their use of positivity and sharing tasks relational maintenance behaviours was not supported. Although inconsistent with previous research (e.g. Mikkelson et al., 2011), what this study's findings suggest is that regardless of the type of sibling relationship (i.e. twin or non-twin), positivity (interaction with a sibling in a cheerful, optimistic and uncritical manner) and sharing tasks (performing one's responsibilities in the relationship) may be fundamental behaviours common to all siblings. Indeed, the results support the position that positivity behaviours are a form of social support (Madlock & Booth-Butterfield, 2011) and siblings frequently rely on each other for social support, especially in times of crisis (Goetting, 1986). In addition, Myers (2011) suggested that one reason adult siblings maintain their relationships was because of 'circumstance' (i.e. they are family) and further suggested that familial tasks behaviours are an example of family 'circumstances'. Therefore, positivity, and sharing tasks relational maintenance behaviours may not be influenced by the type of sibling bond or attachment style (Myers et al., 2001), but instead may be an essential element of all sibling relationships.

**Hypothesis Two Discussion.** The

hypothesis that there would be a significant difference between twin siblings and non-twin siblings on measures of liking was supported, with twins indicating higher levels of liking than non-twin siblings. This result is consistent Rubin's (1973, cited in Canary, Stafford, & Semic, 2002) suggestion that liking was based on, amongst other things, perceived similarity. Tenney, Turkheimer and Oltmanns, (2009) also posited that greater personality similarity was associated with mutual and increased liking between peers. As twin studies have demonstrated, the personality of identical twins is very similar (Segal, 2013), therefore, it is suggested here that 'implicit egotism' (i.e. an unconscious tendency to prefer things that resemble the self) (Pelham, Carvallo, & Jones, 2005) may offer one explanation for the higher liking scores amongst twin dyads compared to non-twin dyads. Similarly, people tend to like whatever reminds them of themselves (Tenney, Turkheimer and Oltmanns, 2009).

**Strengths, Limitations and Future Research.** As far as the authors are aware, no research to date has examined differences in the use of relational maintenance behaviours between twin and non-twin siblings. A strength of the present study was that it addressed this gap in the literature and extended the research on the differential use of relational maintenance behaviours between these dyads. In addition, the relatively large number of twin siblings recruited for this study was a positive feature which allowed for a valid comparison between twin siblings and

non-twin siblings. Furthermore, much of the literature reported in this study focused on sibling relationships in childhood, while this study examined sibling relationships in adulthood.

Certain limitations should be noted when interpreting the findings. In addition, this study only examined five relational maintenance behaviours and siblings may use other relational maintenance behaviours which are not contained within Carney and Stafford's scale. Therefore, observing twin relationships in action and comparing them with non-twin sibling relationships in domains such as non-verbal communication, touch and proximity would be a very worthwhile and valuable exercise (Tancredy & Fraley, 2006).

In addition, all siblings in this study reported on a same-sex sibling. This was in keeping with similar studies examining siblings' relationships ((e.g. Fowler, 2009; Neyer, 2002; Neyer & Lang, 2003). Further research could consider including analysis on opposite-sex siblings which may provide a different perspectives and a richer analysis of sibling relationships.

Another limitation of the current study was that it did not focus on the sibling relationship from the perspective of both members of the dyad. Similar to previous research on close relationships (e.g. Myers et al., 2001 Mikkelson et al., 2011; Tancredy, & Fraley, 2006), this study focused on how individuals related to other siblings in their lives. While this informa-

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tion is valuable, future research could garner more detailed analysis of the sibling relationship by focusing on the sibling dyad instead of individuals (Tancredy, & Fraley, 2006). Finally, this study was conducted at only one point in time; therefore changes in sibling relationships cannot be determined. Riggio's (2000) The Lifespan Sibling Relationship Scale offers a possible alternative measure, which assesses general attitudes towards sibling relationships across the span of adulthood. Pietilä et al. (2012) acknowledged that twin relationship patterns are fluid and can change over time. Therefore, it is possible that differences between twin siblings and non-twin siblings in their use of relational maintenance behaviours, and measure of liking may change as a function of developmental stage. Further research could use this measure and examine whether there is a difference in sibling relationship attitudes between twin siblings and non-twin siblings across the lifespan.

**Conclusion.** Using the relational maintenance behaviour scale to operationalise the concept of sibling 'bond' (Myers et al., 2001), the findings of this study supports the notion that generally twin siblings appear to be closer than non-twin siblings (Neyer, 2002; Tancredy & Fraley, 2006).

The results of the present study found significant differences between twin siblings and non-twin siblings in their use

of openness, assurances, and networks relational maintenance behaviours compared to non-twin siblings. However, no significant negative difference was found between the two groups in their use of positivity and sharing tasks relationship maintenance behaviours. Twin siblings also tended to like their siblings more than non-twin siblings. These findings contribute to the body of research conducted on the use of relational maintenance behaviours in sibling relationships and support the notion that the use of such behaviours varies among sibling relational types. These findings also suggest that 'implicit egotism' (Pelham, Carvallo, & Jones, 2005) may explain the higher liking scores amongst twin dyads compared to non-twin dyads.

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