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## Support Between Siblings and Between Friends: Two Worlds Apart?

*This research examines whether siblings and friends resemble each other in supportive behavior. Using a Dutch national sample of 6,289 individuals containing 12,578 relationships with siblings and friends, we investigated the relative importance of gender composition, geographical proximity, relationship quality, and contact frequency for support exchange with siblings and friends. Results show that, controlling for other influences, siblings exchange more practical and less emotional support. High relationship quality and contact frequency are positively related to exchange of emotional support with siblings more than with friends, as is—unexpectedly—living further away. Fewer differences exist in practical support exchange. In conclusion, siblings and friends are similar with regard to practical support but different when it comes to emotional support.*

The best compliment one can give to friends is to say that they are like a brother or sister to you. This is also true the other way around: “My brother (or my sister) is really my best friend.” Some friendships may be almost as long lasting as the sibling relationship, and some siblings may be as close as best friends. In this study, we address the extent to which siblings and

friends resemble each other in supportive behavior and how this can be explained.

Siblings resemble friends in certain respects (Walker, Allen, & Connidis, 2005): They are age peers and have an egalitarian and horizontal relationship that is characterized by an emphasis on sociability (Connidis, 2001). Siblings are different from friends in that they are family. Family relationships are characterized by normative expectations more strongly than friendships and less strongly by reciprocity (Allan, 1989). Both friendships and sibling relationships come in a wide variety (Hartup & Stevens, 1997; Stewart et al., 2001). Sibling relationships can be dormant, obligatory, close, or anything in between. Friendships may be limited to sociability without intimacy or exchange of favors or may be very close with friends keeping each other informed about private matters (Allan, 1989).

So far, a direct comparison between siblings and friends has rarely been made (see for an exception, Sherman, Lansford, & Volling, 2006). Given that the two relationships have so much in common, such a comparison may add to our knowledge about the functioning of the relationship between siblings. We examine whether sibling relationships are as strongly influenced by the same relational and individual characteristics as friendships are.

When comparing siblings to friends, it is insightful to look at supportive behavior because studying support gives us information about the content of relationships. Taking a utilitarian perspective, we examine what contributes to giving and receiving support among siblings and friends and see whether these characteristics are equally important for the two relationships.

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## BACKGROUND

The literature suggests that support exchange in sibling relationships differs from that in friendships. More emotional support seems to be exchanged in friendships than in sibling relationships, whereas results for practical support are inconclusive (Campbell, Connidis, & Davies, 1999; McGlone, Park, & Roberts, 1999). Some studies suggest that differences in practical support exchange are very small (e.g., McGlone et al.); others suggest that men are more likely to turn to a friend and women to a sibling living nearby (Campbell et al.).

The amount of support exchanged between siblings may differ from that between friends, but the mechanisms underlying support exchange may be similar. Following Wellman and Wortley (1990), we identify several mechanisms that affect support: inclination to support, similarity and dissimilarity, access, and strength. We investigate gender (inclination to support) and gender composition of the dyad (similarity and dissimilarity), relationship quality (strength), and geographical proximity and contact (access). Before elaborating on these mechanisms, we first explain why we do not expect them to be equally important for siblings and for friends. Kinship networks tend to be denser than friendship networks (Wellman & Wortley, 1989), creating a context in which responsibilities toward family members develop (Finch & Mason, 1993); responsibility is further strengthened by societal norms (Himes & Reidy, 2000; Stein et al., 1998). On one hand, family relationships are continued even if there is a degree of animosity and conflict (Allan, 1996). Friendship, on the other hand, can be seen as an independent dyadic relationship that tends to be based strongly on reciprocity (Buunk & Prins, 1998) and usually needs an active input to survive (Allan, 1989). We therefore expect sibling relationships to be less strongly influenced than friendships by these mechanisms.

### *Gender Composition of the Dyad*

Women are often raised to fulfill the role of nurturers (McGoldrick, 1991). As a result, they can be expected to have a stronger inclination to provide support. Indeed, they are found to be greater support givers than men (Blieszner & Adams, 1992; Weaver, Coleman, & Ganong, 2003) especially to women and especially when emotional

support is concerned (Liebler & Sandefur, 2002). Hence, female dyads are expected to be most supportive at least emotionally (Weaver et al.). This effect is expected to be stronger for friends than for siblings (Hypothesis 1).

### *Geographical Proximity*

People are more likely to provide practical support to those living nearby because the restriction of physical distance inhibits support (Magdol & Bessel, 2003). For emotional support, the importance of geographical proximity is contradictory. Dykstra (1990) found that geographical proximity is important for emotional support, but Magdol and Bessel demonstrated the opposite. It can be expected that living at a greater distance puts more strain on a relationship with a friend than with a sibling (Bedford, 1995), resulting in the hypothesis that the positive effect of geographical proximity on the exchange of practical and emotional support is stronger for friends than for siblings (Hypothesis 2).

### *Quality of the Relationship*

People who like each other are assumed to have more rewarding interactions (Homans, 1974) because they have more knowledge of each other's needs and preferences. Indeed, support is exchanged more in relationships that are of a higher quality (Miner & Uhlenberg, 1997; Riggio, 2000; Wellman & Wortley, 1990). It also works the other way around as the relationship is probably evaluated on the basis of supportive interactions. We expect that family members provide support even when the relationship with a particular family member is less positive, leading to the expectation that the positive effect of the quality of the relationship on the exchange of practical and emotional support is stronger for friends than it is for siblings (Hypothesis 3).

### *Contact*

Frequent contact encourages the exchange of support because it enhances mutual awareness of needs and resources, cultivates shared values, and makes the delivery of aid easier (Wellman & Wortley, 1990). Contact is necessary to sustain friendships. Friendships are to a large extent grounded in sociability and shared activities and may not even comprise the exchange of small services (Allan, 1989). Family relationships

continue even in the absence of contact (Allan, 1996), but contact is important for support exchange (White & Riedmann, 1992). Siblings can thus be expected to feature more strongly as support givers when there is more contact, leading to the hypothesis that the positive effect of frequency of contact on the exchange of practical and emotional support is weaker for friends than it is for siblings (Hypothesis 4).

Other influences on support should be noted. Previous research indicates that more support is exchanged among younger and higher educated individuals (Eriksen & Gerstel, 2002; White, 2001). Living with a partner and the presence of children inhibit support to siblings (Cicirelli, Coward, & Dwyer, 1992) and to friends (Himes & Reidy, 2000). The same is true for the number of siblings: In larger sibling groups, support for a specific sibling is lower (Eriksen & Gerstel); this can be expected for the number of friends too.

This study uses data from the Netherlands. Western European countries as well as the United States are comparable in that they all are modern, industrialized, and urbanized societies with the nuclear family as the predominant family type. The Netherlands is a small but densely populated country with a low mobility rate, where people generally live at shorter distances from each other compared to the United States. In general, Americans have a greater number of friendships that are more casual and can be more easily terminated compared to friendships in Europe (Höllinger & Haller, 1990).

#### METHOD

Data from the Netherlands Kinship Panel Study (Dykstra et al., 2005) were used. The Netherlands Kinship Panel Study is a large-scale data set from a representative sample of the Dutch population on the subject of family solidarity, gathered in 2002–2004 from 8,161 individuals between ages 18 and 80 who were interviewed face-to-face in their home using a structured questionnaire. The response rate was 45%. Using population data from Statistics Netherlands, the sample was compared with the Dutch population (Dykstra et al., 2005) and showed that women were over-represented, especially in the 35–54 age group. Young men were somewhat underrepresented (ages 18–30). There was also an overrepresentation of people with children at home and an underrepresentation of children still living with their parents.

Respondents reported on different family relationships, including the sibling relationship. They gave demographic information on all siblings and answered additional questions about a maximum of two randomly selected siblings aged 15 years or older. For our study, one of these two randomly selected siblings was chosen to compare to a friend.

Selecting a random sibling rather than asking the respondent to choose a sibling has two main advantages. First, when there is the possibility to choose a sibling, the respondent is more likely to choose the one who is most favored, resulting in an unrealistically positive picture. Second, our method improves the comparability of large and small families because respondents with just one brother or sister would have no choice. This difference is eliminated when a sibling is chosen randomly.

The respondents were also asked to give the names of “friends, acquaintances, colleagues, neighbors, or other people you meet through a club or association, or otherwise with whom you are in touch regularly and who are important to you.” A maximum of five names could be entered. Because the question was phrased in a broad sense, these nonfamily contacts could be acquaintances or intimate friends. We assume, however, that the names mentioned were those of people who are most important to the respondent; therefore, they are given the label of *friend*. Of the available friends, one was picked randomly.

Respondents who had access to at least one friend as well as at least one sibling were included. Of all 8,161 respondents, 92% ( $n = 7,524$ ) had at least one full biological sibling, sharing both parents, aged 15 years or older, and 88% ( $n = 7,182$ ) reported at least one friend. Of all respondents, 1.3% ( $n = 103$ ) had neither friends nor living siblings aged 15 years or older and were removed; these respondents were more often male, older, and less educated. Respondents coresiding with the sibling were also removed ( $n = 139$ ) because not all questions related to support exchange were asked of this group. These respondents were mostly young adults still living in the parental home. After deleting respondents with only biological siblings and no friends, or with only friends and no biological siblings, the data set contained 6,300 respondents. Eleven respondents were deleted because they had many missing values or unreliable values (such as an age difference of 78 years with a sibling); the final data set

contained 6,289 respondents. This selection of respondents is somewhat more likely to be younger, female, and more highly educated than the rest. Of these respondents, no individual characteristics were missing, but reports on the relationships were sometimes incomplete. Missing values on reports on relationships are not missing at random. Respondents who did not know all the information on their sibling or friend were significantly older and more likely to be male. Missing values were imputed by single imputation using expectation minimization (EM) (Acocck, 2005). The final data set contained 6,289 respondents in relation to a sibling and a friend, yielding a total of 12,578 relationships.

### Practical and Emotional Support

We distinguish between practical support (i.e., behaviors that provide assistance) and emotional support (i.e., behaviors that communicate that an individual is cared for and loved) (Pierce, Sarason, Sarason, Joseph, & Henderson, 1996). Giving as well as receiving was included in the analyses. Practical support was measured with two questions: In the last three months, did you give help to/receive help from [name of sibling or friend] with (a) housework, such as preparing meals, cleaning, grocery-shopping, doing laundry? (b) practical matters, such as chores in and around the house, lending things, transportation, moving things? Response categories were 0 = *not at all*, 1 = *once or twice*, and 2 = *several times*.

We combined these responses and created a dummy variable, coded 1 if *any* of the two types of *help* was *given* or *received*, which is in line with other work on support exchange (e.g., Eriksen & Gerstel, 2002; Magdol & Bessel, 2003; Miner & Uhlenberg, 1997; Wellman & Wortley, 1990). Relationships that have provided one type of practical support are thus treated the same as those that have provided two types of support. This dichotomous coding addresses the basic question of support versus nonsupport and avoids assumptions about the number of types of support being an interval-level variable. For receiving practical support,  $\alpha$  was .49 for siblings and .45 for friends; for providing support,  $\alpha$  was .60 and .57. Although we recognize that the  $\alpha$  values are relatively low, it is justifiable to use this measure of practical support because the variables are constructed of only two items with only two response categories.

Table 1 shows that more respondents reported providing than receiving practical support and more often to friends than to siblings. Percentages vary from 18% for support received from siblings to 27% for support provided to friends.

Two questions were formulated for emotional support: (a) Have you shown an interest in the personal life of [name of sibling or friend] in the last three months? (b) Did you give counsel or advice to [name of sibling or friend] in the last three months? The same questions were also asked for receiving these types of support. Response categories were the same as for practical

Table 1. *Percent of Respondents Providing or Receiving Support at Least Once During Last 3 Months and Independent Variables for Relationships With Siblings and Friends (N = 6,289)*

	% Sibling	% Friend
Practical support <sup>a</sup> received	18.0	23.9
Practical support provided	21.2	27.3
Emotional support <sup>b</sup> received	76.4	92.4
Emotional support provided	77.8	89.5
Gender composition		
Male-male	20.4	31.0
Female-female	29.0	48.7
Male-female	19.5	9.0
Female-male	31.1	11.3
Geographical distance (km)		
0 – 2	14.0	39.2
3 – 19	32.3	37.3
20 – 79	38.7	15.7
>80	25.0	7.8
Living abroad	7.2	1.8
Relationship quality		
Not great	10.7	0.3
Adequate	17.3	5.4
Good	46.7	59.3
Very good	25.2	35.0
Face-to-face contact		
None	7.8	0.6
Once or a few times a year	42.0	22.4
Once a month or once a week	44.5	55.2
A few times a week or daily	5.7	21.8
Other contact (phone, e-mail, letter)		
None	10.5	9.8
Once or a few times a year	37.1	29.0
Once a month or once a week	46.0	50.2
A few times a week or daily	6.4	10.9

<sup>a</sup>Help with housework or odd jobs. <sup>b</sup>Interest or advice.

support. The variables for emotional support were constructed by adding and then dichotomizing these variables. For receiving support,  $\alpha$  values were .56 (siblings) and .38 (friends); for providing support, .58 and .45, again relatively low. Table 1 shows that the percentages of respondents giving or receiving emotional support vary from 76% (support received from a sibling) to 92% (support given to a friend).

### Independent Variables

Gender of the respondent, the sibling, and the friend as reported by the respondent was used. Dummy variables were created representing the different gender combinations. Same-gender dyads are more common among friends than among siblings. Approximately 20% of the friendship dyads are of mixed gender, whereas for siblings this was approximately 50% (Table 1).

Geographical proximity was measured as a straight line in kilometers. In the multivariate analysis, the natural logarithm of distance in kilometers was used because it is likely that the effect of distance will diminish over larger distances. Table 1 shows that friends tend to live closer to each other than siblings. More siblings (7.2%) live abroad than friends (1.8%). These siblings were given the maximum distance (300 km), and a dummy variable was included to check for differential effects for this group (0 = *sibling lives within the Netherlands*, 1 = *sibling lives abroad*).

Respondents were asked how they judged the quality of the relationship with the other. Response categories were 1 = *not great*, 2 = *adequate*, 3 = *good*, and 4 = *very good*. Overall, friendships were rated more positively than sibling relationships (Table 1). Frequency of contact was measured by asking about face-to-face contact and other contact (by phone, letter, or e-mail) in the past 12 months. Response categories varied from 1 = *never* to 7 = *daily*. The scores on face-to-face and other contact were added creating one variable with a range of 2 – 14. Contact is more frequent with friends than with siblings (Table 1).

### Control Variables

Six control variables that are known to influence the exchange of practical or emotional support were added to the model (see Table 2 for descriptive statistics): age of the respondent in years;

Table 2. Respondents' Demographic Variables: Descriptive Statistics (N = 6,289)

Variables	<i>M</i>	<i>SD</i>	Range
Age	46	14.42	18 – 79
Education <sup>a</sup>	6.08	2.29	1 – 10
Partner status <sup>b</sup>	0.67	0.47	0 – 1
Children <sup>c</sup>	0.69	0.46	0 – 1
Number of living siblings	2.98	2.14	1 – 16
All five friends mentioned <sup>d</sup>	0.42	0.49	0 – 1

<sup>a</sup>1 = *did not complete elementary school* to 10 = *postgraduate*. <sup>b</sup>0 = *not living with a partner*, 1 = *living with a partner*. <sup>c</sup>0 = *childless*, 1 = *with children*. <sup>d</sup>0 = *fewer than five friends mentioned*, 1 = *five friends mentioned*.

educational level of the respondent, varying from 1 = *did not complete elementary school* to 10 = *postgraduate*; living together with a partner (0 = *unpartnered*, 1 = *partnered*); the presence of children (0 = *childless*, 1 = *with children*); number of siblings, included as a continuous variable; and number of friends, included as a dummy variable, where 0 = *fewer than five friends mentioned* and 1 = *five friends mentioned*.

### Analysis

The data set includes individual respondents (6,289) and their relationships with siblings and friends (12,578). An analysis of the relationships would be based on 12,578 cases; yet, we only have information from 6,289 individuals. This phenomenon is referred to as the “miraculous multiplication of the number of units” (Snijders & Bosker, 1999, p. 15) and increases the risk of overstating some of the effects. Further, analyzing at the level of the relationships means that we would analyze observations that are not independent from each other. When the assumption of independence of the observations is violated, estimates of the standard errors will be too small, which results in spuriously significant effects (Hox, 2002).

Because we have to take the individuals who reported on the relationships into account, we regard the data set as *nested*, where two relationships are nested in each respondent. The multilevel model (MLM) is a useful tool for such nested data because it takes the nonindependent nature of the data into account (Sayer & Klute, 2005; Snijders & Bosker, 1999). The basic idea behind MLM is that the dependent variable, support, can be explained by

characteristics related to the individual as well as to the relationships. The MLM models respondents and relationships within respondents by estimating regression equations for both the individuals and the relationships simultaneously. MLMs therefore take account of the nested structure of the data set (6,289 individuals and 12,578 relationships).

Given that the dependent variables are dichotomous, we estimated multilevel logistic regression models. Logistic regression models the odds of "success" (Agresti & Finlay, 1997) (providing or receiving support vs. not providing or receiving support) and takes account of the nonnormal distribution of the dependent variable and its restricted range (Snijders & Bosker, 1999). Coefficients can be interpreted by taking the antilog ( $e^{\beta}$ ) to determine how strongly the odds of support increase or decrease when the independent variable increases by 1. Explained variance was calculated using an extension of the McKelvey and Zavoina measure (Snijders & Bosker).

To test our hypotheses, interaction terms were computed between gender composition, geographical proximity, the quality of the relationship, and contact frequency, and a dummy indicating whether the relationship was with a sibling or with a friend. This resulted in six interactions with type of relationship (sibling or friend): three interaction variables for gender (Male-Male  $\times$  Sibling, Female-Female  $\times$  Sibling, and Male-Female  $\times$  Sibling), one for distance (Distance  $\times$  Sibling), one for relationship quality (Quality  $\times$  Sibling), and one for contact frequency (Contact  $\times$  Sibling). For instance, a negative coefficient for the main effect of distance indicates that the further away siblings and friends live, the less likely it is that support will be given or received. A positive interaction effect of distance with type of relationship indicates that this negative effect is less strong for siblings than for friends.

A total of eight logistic MLMs were estimated. Results of the analyses on practical support are presented in Table 3 and on emotional support in Table 4. Two models were estimated for all four dependent variables: one model with the main effects (A models) and one in which the interaction terms are added (B models). Improvement of model fit was assessed using the  $-2\log$ -likelihood measure.

Two additional analyses were run, one to see to what extent respondents with at least one sibling as well as one friend differed from those who had only one or the other and one to see whether less

availability of one relationship makes people more likely to turn to the other (Sherman et al., 2006). The first analysis was done using Mann-Whitney tests (comparing distributions of ordinal variables for two independent samples). In the second analysis, the two relationships were analyzed separately using ordinal regression analysis, while including characteristics of both relationships, to test to what extent they influence each other.

## RESULTS

Table 3 presents the results for practical support exchange. The dummy for whether the response relates to the sibling relationship or to the relationship with a friend showed that, controlling for the other variables, people were more likely to exchange practical support with a sibling than with a friend (Models 1A and 2A). Further, when Models A and B are compared, main effects hardly change; therefore, we focus on the B models.

With regard to the gender combination of the dyad, the first hypothesis, the nonsignificant interactions in Models 1B and 2B indicate that the pattern of practical support exchange between men and women was similar for siblings and friends, with the exception of the female-female dyad in the model on practical support received (1B); contrary to our hypothesis, a same-gender dyad was especially important for sisters, increasing practical support received.

The main effects show that compared to women receiving support from men, the reference group, support was less likely to be received in all other gender combinations. Effects were more negative when support was received from women than from men ( $-0.732$  and  $-0.498$  compared to 0 and  $-0.251$  in Model 1A). The odds ratios show that women were approximately half as likely to receive practical support from women (0.481) than from men (reference group). Model 2B shows that women were less likely to provide support than men regardless of whether this was to a female or a male sibling or friend (the female-female coefficient did not differ significantly from the female-male coefficient). The odds ratio of 1.942 for the male-female dyad indicated that men were almost twice as likely to provide practical support to women as the other way around (the reference group). These results indicate that men were more likely to provide practical support and women were more likely to receive it.

Table 3. Multilevel Logistic Regression Results Predicting Practical Support to Siblings and Friends (N = 6,289)

Predictor	Practical Support Received						Practical Support Provided					
	Model 1A			Model 1B			Model 2A			Model 2B		
	B	SE	e <sup>B</sup>	B	SE	e <sup>B</sup>	B	SE	e <sup>B</sup>	B	SE	e <sup>B</sup>
Gender composition <sup>a</sup>												
Male-male	-0.251*	0.099	0.778	-0.338*	0.138	0.713	0.607***	0.103	1.834	0.525***	0.147	1.691
Female-female	-0.732***	0.087	0.481	-0.957***	0.132	0.384	0.016	0.09	1.016	-0.106	0.139	0.900
Male-female	-0.498***	0.114	0.608	-0.586**	0.182	0.556	0.729***	0.113	2.073	0.664***	0.184	1.942
Distance <sup>b</sup>	-0.070***	0.005	0.932	-0.067***	0.005	0.936	-0.053***	0.005	0.948	-0.048***	0.005	0.953
Relationship quality	0.703***	0.056	2.019	0.690***	0.078	1.993	0.583***	0.053	1.791	0.558***	0.076	1.747
Contact frequency	0.452***	0.020	1.571	0.392***	0.023	1.480	0.505***	0.021	1.657	0.420***	0.023	1.522
Male-Male × Sibling				0.027	0.186	1.028				0.113	0.190	1.120
Female-Female × Sibling				0.454*	0.178	1.575				0.216	0.185	1.241
Male-Female × Sibling				0.140	0.221	1.150				0.134	0.219	1.143
Distance × Sibling				-0.022	0.015	0.979				-0.026	0.015	0.974
Quality × Sibling				-0.031	0.101	0.969				-0.048	0.097	0.953
Contact × Sibling				0.140***	0.036	1.150				0.215***	0.036	1.239
Sibling <sup>c</sup>	0.250***	0.065	1.284	-1.014*	0.408	0.363	0.355***	0.064	1.426	-1.391**	0.407	0.249
Age	-0.030***	0.003	0.971	-0.029***	0.003	0.971	-0.037***	0.003	0.964	-0.036***	0.003	0.964
Education	0.030	0.016	1.030	0.030	0.017	1.030	0.012	0.017	1.012	0.013	0.017	1.013
Partner <sup>d</sup>	-0.685***	0.081	0.504	-0.698***	0.081	0.498	-0.487***	0.081	0.615	-0.505***	0.082	0.604
Children <sup>e</sup>	-0.047	0.089	0.954	-0.040	0.089	0.691	-0.066	0.090	0.937	-0.057	0.091	0.944
Size of sibling group	-0.033	0.018	0.967	-0.030	0.018	0.970	0.002	0.017	1.002	0.007	0.017	1.007
Five friends <sup>f</sup>	0.153*	0.071	1.165	0.144*	0.071	1.155	0.136	0.072	1.146	0.127	0.072	1.135
The other lives abroad <sup>g</sup>	-0.478*	0.199	0.620	-0.380	0.203	0.684	-0.591**	0.195	0.554	-0.454*	0.200	0.635
Constant	-5.840***	0.318		-5.146***	0.384		-6.165***	0.320		-5.283***	0.386	
Variance Level 2	2.103	0.079		2.120	0.079		2.528	0.077		2.539	0.078	
df	14			20			14			20		
-2log-likelihood	10,402			10,369			11,253			11,204		
Pseudo-R <sup>2</sup>	.34			.35			.32			.35		
% support = 1	20.9			20.9			24.3			24.3		

Note: e<sup>B</sup> = exponentiated B.

<sup>a</sup>Reference category is female-male. <sup>b</sup>Natural logarithm of distance in km. <sup>c</sup>0 = friend, 1 = sibling. <sup>d</sup>0 = not living with a partner, 1 = living with a partner. <sup>e</sup>0 = childless, 1 = with children. <sup>f</sup>0 = fewer than five friends mentioned. <sup>g</sup>0 = the other lives in the Netherlands, 1 = the other lives abroad.

\*p < .05. \*\*p < .01. \*\*\*p < .001.



Table 4. Multilevel Logistic Regression Results Predicting Receiving From and Providing Emotional Support to Siblings and Friends (N = 6,289)

Predictor	Emotional Support Received			Emotional Support Provided						
	Model 3A			Model 4A			Model 4B			
	B	SE	e <sup>b</sup>	B	SE	e <sup>b</sup>	B	SE	e <sup>b</sup>	
Gender composition <sup>a</sup>										
Male-male	-0.523***	0.132	0.593	-0.526*	0.223	0.591	-0.877***	0.143	0.416	0.224
Female-female	0.485***	0.125	1.625	0.737**	0.227	2.090	0.442**	0.131	1.555	0.223
Male-female	-0.076	0.146	0.927	-0.181	0.292	0.834	-0.660***	0.155	0.517	0.282
Distance <sup>b</sup>	0.027***	0.008	1.028	0.020*	0.008	1.020	0.015	0.007	1.015	0.008
Relationship quality	1.823***	0.093	6.213	1.521***	0.136	4.576	1.713***	0.087	5.548	0.127
Contact frequency	0.633***	0.033	1.883	0.400***	0.041	1.491	0.573***	0.032	1.773	0.038
Male-Male × Sibling				0.081	0.261	1.084				0.263
Female-Female × Sibling				-0.437	0.275	0.646				-0.447
Male-Female × Sibling				0.150	0.324	1.162				0.315
Distance × Sibling				0.056**	0.021	1.058				0.087***
Quality × Sibling				0.290*	0.144	1.336				0.329*
Contact × Sibling				0.454***	0.057	1.574				0.388***
Sibling <sup>c</sup>				-0.490***	0.097	0.612				-3.575***
Age				-0.014***	0.004	0.986				-0.018***
Education				0.225***	0.023	1.252				0.329***
Partner <sup>d</sup>				-0.119	0.118	0.888				-0.096
Children <sup>e</sup>				-0.259	0.135	0.787				-0.477**
Size of sibling group				-0.071**	0.022	0.931				-0.065**
Five friends <sup>f</sup>				0.129	0.100	1.137				0.165
The other lives abroad <sup>g</sup>				-0.256	0.195	0.774				-0.094
Constant				-6.943***	0.430					-6.474***
Variance Level 2				3.656	0.121					5.462
df				14	20					14
-2log-likelihood				6731	6646					7530
Pseudo-R <sup>2</sup>				.53	.53					.45
% support = 1				84.4	84.4					83.6

Note: e<sup>b</sup> = exponentiated B.

<sup>a</sup>Reference category is female-male. <sup>b</sup>Natural logarithm of distance in kilometers. <sup>c</sup>0 = friend, 1 = sibling. <sup>d</sup>0 = not living with a partner, 1 = living with a partner. <sup>e</sup>0 = childless, 1 = with children. <sup>f</sup>0 = fewer than five friends mentioned, 1 = five friends mentioned. <sup>g</sup>0 = the other lives in the Netherlands, 1 = the other lives abroad.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

All models in Table 3 (1A, 1B, 2A, and 2B) support the expectation that geographical distance has a negative effect on the exchange of practical support. The odds ratio of 0.953 in Model 2B showed that for each kilometer that siblings and friends live further apart, the likelihood of support being provided diminishes by 4.7%. The nonsignificant interaction terms in Models 1B and 2B further show that these effects were equally strong for siblings and friends. Hypothesis 2 on practical support was not supported.

All four models showed that both siblings and friends with a more positive relationship exchanged more practical support. The odds ratio of 2.019 in Model 1A showed that an increase in relationship quality of 1 (on a scale of 1–4) doubled the likelihood that practical support will be received. The odds ratio of 1.791 of Model 2A indicated that the likelihood that practical support will be provided increased by 79%. When the differential influence of the quality of the relationship on support by siblings and by friends was examined, we found no significant differences. Relationship quality was not more strongly related to support exchange with friends than with siblings. The third hypothesis on practical support was not supported.

Not surprisingly, frequency of contact was positively related to the exchange of practical support. We also found differences in this effect for siblings and friends (Models 1B and 2B). As expected, frequency was more strongly related to practical support for sibling contact than for friends: A similar amount of contact had more effect on practical support exchange among siblings than among friends. This supported our fourth hypothesis for practical support.

Further, as was expected, support exchange decreased with age and with the presence of a partner. Respondents who mentioned the maximum of five friends were more likely to receive practical support from a random friend or sibling but not more likely to provide it. Finally, moving to another country made providing practical support less likely.

Models 1A and 2A fitted well, explaining 34% of the variance in practical support received and 32% of the variance in support provided. The models improved slightly, but significantly, after the inclusion of the interaction variables (35% for both).

Table 4 presents the results for emotional support exchange. Overall, even though the strength of the effects differs somewhat, coefficients

remain relatively stable over Models A and B. We therefore discuss the B models.

With regard to our hypothesis on gender, the nonsignificant interaction effects indicated that there were no differences between the effect of gender for support between siblings and that between friends (Models 3B and 4B). The main effects show that femaleness of the dyad was important for the exchange of emotional support. The male dyad differed negatively and the female dyad positively from mixed-gender dyads. Hence, although we found an effect of femaleness of the dyad, this effect was equally strong for siblings as for friends. Our first hypothesis for emotional support was not confirmed.

In line with the second hypothesis, the significant interaction for geographical distance with the dummy for sibling indicated that siblings seemed to overcome distance more easily to exchange emotional support than friends. On top of the main effect, the odds ratio of 1.058 for the interaction of distance with the dummy for sibling indicated that for every kilometer siblings lived further apart, an additional increase in the odds of almost 6% was found, implying that over the same distance, siblings have a higher likelihood to give and to receive emotional support than friends, all else being equal. Contrary to our expectation was the positive sign for the main effect: The further siblings and friends lived apart, the more likely emotional support was received. No main effect was found for giving emotional support.

The third hypothesis stated that relationship quality would be more important for supportive behavior in friendships than in sibling relationships, but the positive interaction effect showed the opposite: Relationship quality was more strongly related to emotional support exchange with siblings than with friends (Models 3B and 4B).

In line with our fourth hypothesis, we found that the effect of contact frequency on emotional support was more positive for siblings, as shown by the significant interaction effect. Siblings and friends who had more frequent contact were more emotionally supportive, and this relationship was stronger for siblings than for friends.

Most of the control variables were relevant. Being younger and more highly educated increased the likelihood of emotional support exchange. Having children decreased the likelihood that support was provided but had no effect on receiving emotional support. Finally, having more

siblings decreased the likelihood of emotional support exchange with a random sibling.

The explained variance was high for emotional support (in the A models, 53% for receiving and 45% for providing emotional support). According to the  $-2\log$ -likelihood, the models with interaction variables showed a better fit.

Comparison between giving and receiving support over all eight models showed that both were generally governed by the same mechanisms, with two exceptions. For practical support, there were gender differences between giving and received, and for emotional support, distance was positively related to support received but not to support provided even though distance is a relational characteristic for which giving or receiving should be comparable. Instead, people reported receiving more support from those living far away but not providing more emotional support to them.

To strengthen our results, we performed some additional analyses. First, we examined to what extent respondents with both friends and siblings were different from others. Mann-Whitney tests revealed that respondents with only siblings and no friends received less practical and emotional support than those who had friends as well. It appears that those with only siblings were a selective group of more socially isolated people. In the absence of siblings, the few significant results that were found indicated that, in certain domains, there was increased support exchange with friends. In this sense, a close friend can be like a brother or sister.

Second, we investigated whether the relationship with a friend and with a sibling influenced one another. Ordinal regression models showed that more support was received if the relationship with the other was less available in terms of geographical distance and relationship quality. This effect was found for both siblings (emotional support) and friends (practical and emotional support).

### CONCLUSIONS

By comparing the importance of mechanisms for support exchange between siblings and friends, we examined to what extent these two relationships are similar. Overall, our study suggests that siblings are more similar to than different from friends. On the whole, siblings have to make a stronger effort for a supportive relationship, especially when emotional support is concerned.

Our study suggests that siblings do not function as a dormant source of support, ready to be activated when there is a need for it. The sibling relationship needs maintenance, just as friendship does, by regular interaction and a positive relationship.

Several characteristics influence the exchange of support for siblings and friends in the same way. The gender composition of the dyad is equally important for support exchange among both siblings and friends. Although it matters whether practical or emotional support is exchanged with a man or a woman, where men give more practical and women more emotional support, it does not matter whether this man or woman is a sibling or a friend. Differences between siblings and friends are mainly found for emotional support. High relationship quality and contact frequency increase exchange of emotional support with siblings more than with friends, as does—unexpectedly—living further away.

One finding that deserves more attention is that a greater distance increases rather than diminishes received emotional support. This result can be explained by a moderating effect of the amount of contact in the relationship. When siblings or friends live further away, contact is more likely to be interpreted as of showing interest or giving advice. Because contact frequency is lower, when people speak to each other, it will probably entail asking about the other's personal life, whereas those who live nearby may more often have contact that is instrumental, such as making appointments to get together or meeting at social events, which are not generally associated with emotional support.

This study has several limitations. With regard to the dependent variables, practical and emotional support exchange, the relatively low  $\alpha$  values for the two scales need to be mentioned. A second limitation is that respondents may report differently on support exchanged with siblings than with friends. People may have a stronger inclination to overstate exchange with their siblings rather than with their friends because of societal norms on family support.

Further, some relevant influences on support, such as need, could not be included because of limitations of the data set though people in need of support are not equally likely to ask a sibling or a friend (McGlone et al., 1999). Also, we were unable to include feelings of obligation because they were only available in family relationships and not with regard to friends. Finally, the focus

of this study was on supportive behavior but not whether it was experienced positively or negatively. Literature on ambivalence shows that supportive behavior can go together with positive as well as negative feelings toward the other (Curran, 2002; Willson, Shuey, & Elder, 2003). Giving to and receiving support from friends and siblings may be experienced very differently, leading to more ambivalence in one relationship than in the other.

This study contributes to the literature on social support by investigating differential effects of restrictions and opportunities for support exchange with siblings and with friends. It has enabled us to demonstrate that although both relationships are influenced by restrictions and opportunities to provide support, not all restrictions and opportunities matter equally for both siblings and friends, especially when emotional support is concerned. The current study shows that siblings can be like friends and that the content of the relationship encompasses significant amounts of practical as well as emotional support. Still, siblings cannot compete with friends when emotional support is concerned. Contact frequency is especially important for brothers and sisters to improve support exchange.

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