

# Familial and Contextual Variables and the Nature of Sibling Relationships in Emerging Adulthood

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**ABSTRACT.** The current study is an examination of the familial and contextual variables correlated with sibling relationships and a quantitative and qualitative description of sibling support in emerging adulthood. Participants were 247 college students in a northeastern rural state university and 58 non-college students ( $M = 22.41$ ,  $SD = 3.25$ ). Participants were given surveys regarding their family constellation, economic and religious status, and sibling relationships. Additionally, participants responded to an open-ended question about their sibling relationship.

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Age, gender, size of sibship, work status, financial situation, and religiosity were found to influence sibling relationships. The most positive sibling relationships were reported by older participants, participants with older siblings, participants with siblings who were apart from them by more than two years in age, females, participants with a female as their most important sibling, participants with smaller sibships, participants under no economic stress, and participants who were not working. Additionally, nonreligious participants scored lower on sibling support and warmth than other participants. In terms of the descriptive nature of sibling relationships, participants reported relying on their siblings for immediate help and for care if they were ill. Finally, the most salient theme emerging from the qualitative component of the survey was that geographic and age differences accounted for some variability in these relationships. The current findings highlight the importance of examining contextual variables in the broader interest in sibling relationships and the significance of siblings as providers of social support during emerging adulthood. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

**KEYWORDS.** Sibling relationships, emerging adulthood, family variables, contextual variables

## INTRODUCTION

The most long-lasting and enduring relationship an individual develops during the life-span is the sibling relationship (Cicirelli, 1980a, 1982). However, in comparison with research on other members of the social network, there is relatively little work devoted to this intricate relationship (Dunn, 2000). Furthermore, the little work found on siblings has primarily investigated these relationships in childhood, adolescence and older adulthood. As Cicirelli (1995) acknowledges, "the greatest gap in knowledge about the course of sibling relationships across the lifespan is in young adulthood" (p. 218). When considering this gap in the literature, in the context of recent studies suggesting that siblings play a significant role in the lives of individuals throughout the entire lifespan (Avioli, 1989; Cicirelli, 1980b, 1995), it is evident that studies examining all aspects of sibling relationships in young adulthood should be undertaken.

More specifically, recent theoretical contributions by Arnett (2000) suggest that the developmental phase of emerging adulthood, defined as the years following secondary-school, should be viewed independently from adolescence or adulthood due to the dynamic and unpredictable quality of this age period. The autonomy, exploration and changing roles of the post secondary-school years entail many unique characteristics and hence must be viewed as a distinct developmental stage. Consequently, empirical investigations on sibling relations should follow these recent advances and focus on this distinct stage of development.

### ***Sibling Relationships of Emerging Adults***

The predominant focus in the literature on sibling relationships in emerging adulthood has been in two areas. The first focus is on the factors relating to sibling relationship quality such as birth order, sex, family size, and age difference between the siblings (Dolgin & Lindsay, 1999; Lee, 1990; Newman, 1991; Pulakos, 1987, 1990). In a study on disclosure between college students and their siblings, Dolgin and Lindsay (1999) reported that later-born siblings were found to disclose more to their siblings than earlier-born siblings. Newman (1991) reported that siblings from smaller families communicate more than siblings from larger families. Additionally, the sibling relationships of females have been found to be more intimate than the sibling relationships of males (Dolgin & Lindsay, 1999; Pulakos, 1987).

Several recent studies have expanded on existing research by examining the relationship between contextual variables and sibling relationship quality. The emphasis on examining the sibling relationship within other contextual variables is driven by an ecological theoretical model, proposing that an individual's relationships should not be examined independently from other simultaneously operating contextual variables (Bronfenbrenner, 1994). Some contextual factors that have been shown to relate to sibling relationships in emerging adults are parental marital hostility and parental divorce (Milevsky, 2004; Panish & Sticker, 2001; Riggio, 2001). Additionally, previous work has examined the moderating role of sibling relationships in the association between parenting behaviors and adolescent adjustment under conditions of economic hardship (Conger, Conger, & Elder, 1994). Furthermore, religion has been examined in the context of family quality of life and sibling relationships for families of children with disabilities (Poston & Turnbull, 2004). However, the relationship between economic condition,

religiosity, and sibling relationships in emerging adulthood has yet to be examined in the literature.

The second focus of research on the sibling relationships of emerging adults is on the various characteristics of the relationship, such as the functions and descriptions associated with sibling relationships (Dolgin & Lindsay, 1999; Riggio, 2000; Stewart, Kozak, Tingley, Goddard, Blake, & Cassel, 2001; Stocker, Lanthier, & Furman, 1997), the quantitative aspects of sibling relationships such as frequency of contact (White & Riedmann, 1992), and the importance of sibling relationships compared to other close relationships (Cicirelli, 1980a; Floyd, 1995; Pulakos, 1989). Emerging adult sibling relationships have been described as supportive, longing, competitive, apathetic, and hostile (Stewart et al., 2001). Stocker et al., (1997) identified three factors underlying the sibling relationships of young adults: warmth, conflict and rivalry. White and Riedmann (1992) reported that within their sample of 7,730 adults approximately 50% replied that they see or talk to their sibling at least once a month. Cicirelli (1980a) reported that college women turn to their mothers or siblings for emotional support, to their mothers for advice, and to their mothers and fathers for protection. In a study measuring overall closeness, Adams (1968) found that young and middle-aged adults were closer to either parent than to their siblings. When comparing the warmth of sibling relationships vs. friendships the findings are mixed. Pulakos (1989) reported that young adults feel closer to their friends, whereas Floyd (1995) failed to find any differences in closeness between friends and siblings. However, more specific aspects of the sibling relationship in emerging adulthood, such as the type of support perceived from siblings and descriptive accounts of the nature and quality of this relationship, has not received much attention in previous investigations.

In sum, previous studies have examined the familial constellation variables relating to sibling relationships and described the general nature of the relationship. However, the limited work on the characteristics influencing sibling relationships in emerging adulthood have used primarily small samples of college students and have examined a limited number of variables influencing the relationship. Additionally, studies assessing the descriptive nature of sibling relationships failed to investigate more specific aspects of the relationship, such as types of support provided by sibling. Finally, these studies have not examined the nature of this relationship using more qualitative methods of assessment.

### ***The Current Study***

The first goal of the present study was to assess the variables correlated with general sibling relationships, and the relationship with a specific sibling, in a large sample of student and non-student emerging adults. The outcomes of interest in the present study were both general sibling relationships and the relationship with a specific sibling. Previous studies have examined the variables contributing to either general sibling relationships or the relationship developed with a specific chosen sibling, two distinct outcomes which may not necessarily correlate. By considering both outcomes simultaneously the present study attempts to clarify the association between the two constructs.

In line with previous studies, several familial variables were examined such as age, gender, gender of sibling, and number of siblings. However, based on the ecological theoretical model, several contextual variables were examined as well, such as work status, financial situation, and religiosity. Little work has been done examining these variables in the context of sibling relationships. It is hypothesized that variations in sibling relationships may be a function of differences in familial, economic and religious contextual variables. This prediction is based on previous research documenting the relationship between familial variables and sibling relationships (Dolgin & Lindsay, 1999; Lee, 1990; Newman, 1991; Pulakos, 1987, 1990). However, since financial and religious variables, as they relate to sibling relationships, have not received much attention in the literature, predictions would be necessarily speculative.

The second intent of the current study was to provide a description of the sibling relationships of emerging adults using both quantitative and qualitative accounts. Although previous studies have identified several factors underlying the sibling relationships of young adults (Stewart *et al.*, 2001; Stocker *et al.*, 1997) the current study assessed more specific types of support perceived from siblings. Additionally, the current study used descriptive methods to provide a more qualitative look at the nature of sibling relationships in emerging adulthood.

## ***METHOD***

### ***Sample***

Data were collected using two procedures, the first of which involved the recruitment of 247 participants from undergraduate and graduate

psychology and education classes in a northeastern rural state university. Secondly, 58 non-college students were recruited through a snowball sampling technique in which researchers asked people they knew to fill out the survey, who, in turn, asked people they knew, thus creating a snowball effect. Thus, the participants in the total sample were 305 emerging adults (116 men and 189 women) between the ages of 19 and 33 ( $M = 22.41$ ,  $SD = 3.25$ ). The ethnicity of the sample consisted of 269 European-Americans, 10 African-Americans, 5 Hispanic-Americans, 3 Asian-Americans and 1 with no ethnicity data.

### ***Procedures***

The college sample participants were administered questionnaires in small groups and received extra credit for taking part in the study. The non-college sample participants received the questionnaire directly from the researchers and returned the completed questionnaire in a sealed envelope. Informed consent was obtained from all participants in the study.

### ***Measures***

Measures included indices of general sibling closeness, communication, and support in addition to measures of specific sibling relations. Sibling constellation, demographic, economic, and religiosity questions were included as well. Furthermore, participants were asked to respond to an open-ended item. The following specific measures were analyzed in the current study.

*General sibling closeness.* Overall sibling closeness was measured by asking the participants to indicate, in reference to each of their siblings, "How close do you feel to this sibling? (1) Extremely close, (2) close, (3) somewhat close, (4) not close, or (5) not at all close?" The total sibling closeness score was obtained by averaging the scores of all siblings.

*General sibling communication.* Overall sibling communication was measured by asking the participants to indicate, in reference to each of their siblings, "How often do you communicate with this sibling in person, by phone, or e-mail? (1) Every day, (2) once a week, (3) once a month, (4) a few times a year, or (5) once a year or less?" The total sibling communication score was obtained by averaging the scores of all siblings.

*General sibling support.* Overall sibling support was assessed using the support questions from the Adolescent version of the Convoy Mapping Procedure (Levitt, Guacci-Franco, & Levitt, 1993). Specifically, participants were asked to indicate to what extent do they agree or disagree with the following statements regarding their siblings: "I confide in him/her about things that are important to me," "they reassure me when something bothers me or I am not sure about something," "they would make sure I am cared for if I were ill," "they like to be with me and do enjoyable things with me," "they would give me immediate help if I needed it," and "they make me feel special or good about myself." The scale of sibling support was obtained by averaging the scores of all six support functions. Alpha reliability for the current sample was .92 for the scale.

*Specific sibling relationships.* The warmth and conflict sub-scales of the short version Adult Sibling Relationship Questionnaire (ASRQ) (Lanthier & Stocker, 1992) was used to assess specific sibling relationships. Participants were asked to respond to the 35 items on the scale based on their relationship with their closest or most important sibling. A sample item for the warmth sub-scale is "how much do you know about this sibling?" and a sample item for the conflict sub-scale is "how much do you put this sibling down?" Participants were asked to respond on a 5-point scale with higher scores indicating higher levels of warmth or conflict. Alpha reliabilities for the current sample were .95 for the warmth sub-scale and .91 for the conflict sub-scale.

*Sibling constellation and demographics.* Sibling constellation and demographics were assessed by asking participants to report on the age and gender of each of their siblings in addition to reporting about their own age and gender.

*Economic status.* Economic condition was assessed by asking participants to indicate, "How often do you or your family have problems paying for things that you or your family really needs, like food, clothing, or rent? (1) Never, (2) Very Little, (3) Sometimes, (4) Often, or (5) Almost Always?" An additional question asked if the participant was currently working for pay.

*Religiosity.* Intrinsic and extrinsic religiosity was assessed using items similar to those employed by Wright, Frost and Wisecarver (1993). The item used to assess extrinsic religiosity was "How often do you take part in religious activities, such as attending services, Sunday school, or youth group activities? Do you take part (1) weekly, (2) at least once a month, (3) sometimes, (4) once or twice a year, or (5) never?" Intrinsic religiosity was assessed using the item "How important is religion to

you? Is it (1) extremely important, (2) very important, (3) somewhat important, (4) a little important, or (5) not at all important to you?" Individuals who scored above the median on the extrinsic statement and above the median on the intrinsic statement were labeled as "indiscriminately religious." Individuals who scored above the median on the intrinsic statement but scored below the median on the extrinsic statement were classified as "pure intrinsic." Those who scored above the median on the extrinsic statement but below the median on the intrinsic statement were labeled as "pure extrinsic." And those scoring below the median on both items were classified as "indiscriminately nonreligious."

*Qualitative item.* At the end of the survey participants responded to an open-ended question asking, "in a few words describe the relationship you have with your siblings." The responses were examined using a variation of thematic analysis. Several trained research assistants categorized the responses blindly. More specifically, each response was reviewed individually and categorized based on the general concept of the response. Once the initial categorization of all responses was established, a second research assistant completed an additional categorization. Responses that were categorized differently by the two assistants were settled in committee.

## RESULTS

### *Familial Variables and Sibling Relationships*

*Age.* Regression analyses were used to determine the contribution of age in predicting general sibling closeness, communication, and support in addition to specific sibling warmth and conflict. Age of participant was found to be a significant predictor of specific sibling conflict,  $F(1,304) = 12.23$ ,  $p < .01$ , accounting for 4% of the variance. Thus, older participants were less likely to report conflict within their sibling relationship. Additionally, hierarchical regression analyses were used to determine the mediating effects of sibling age on the relationship between participant's age and sibling conflict. For the analyses, the participant's age was entered into block 1 of the regression, followed by the sibling's age in block 2. The results of the regression analyses are presented in Table 1. Mediating effects were determined, using the method detailed by Baron and Kenny (1986), by assessing the contribution of participant's age after sibling's age was entered into the equation. If after the sibling's age is entered into the regression participant's age is no

TABLE 1. Path Analysis of Participant's Age, Sibling's Age and Sibling Conflict

Stages/Predictors	Criteria	
	Beta	$r^2$
<b>Stage 1 Analysis</b>		
Participant's Age	-.20*	.04
<b>Stage 2 Analysis</b>		
Participant's Age	-.10	.06
Sibling's Age	-.18*	.06

\*  $p < .01$

longer found to be significantly related to sibling conflict, a mediating effect can be assumed. Sibling's age was found to mediate the relationship between the participant's age and sibling conflict ( $t = -1.59$ ,  $p = .11$ ).

Furthermore, sibling's age was found to be a significant predictor of sibling warmth,  $F(1,303) = 4.81$ ,  $p < .05$ , accounting for 2% of the variance. Participants with older siblings reported more warmth in their sibling relationship than participants with younger siblings. There were also variations in sibling conflict as a function of age difference between siblings,  $F(1,303) = 4.82$ ,  $p < .05$ . Participants reported more conflict with siblings who were apart from them by two years or less in age ( $M = 2.18$ ,  $SD = .65$ ) than with siblings who were apart from them by more than two years in age ( $M = 2.00$ ,  $SD = .68$ ).

**Gender.** Participant's gender was found to relate to specific sibling warmth only  $F(1,304) = 8.86$ ,  $p < .01$  with females ( $M = 3.43$ ,  $SD = .85$ ) reporting more warmth in their specific sibling relationship than males ( $M = 3.15$ ,  $SD = .69$ ). Additionally, sibling's gender was found to relate to specific sibling warmth,  $F(1,303) = 12.01$ ,  $p < .01$ . Participants with a female sibling as their most important sibling ( $M = 3.48$ ,  $SD = .81$ ) reported more warmth in their relationship than participants with a male sibling as their most important sibling ( $M = 3.17$ ,  $SD = .75$ ). No interactions were found between participant's gender and sibling gender.

**Size of sibship.** Regression analyses were used to examine the relationship between number of siblings and overall sibling closeness, communication and support. Size of sibship was found to be a significant predictor of sibling closeness,  $F(1,304) = 20.38$ ,  $p < .01$ , communica-

tion,  $F(1,304) = 41.71$ ,  $p < .01$ , and support,  $F(1,304) = 5.09$ ,  $p < .05$ . Participants with larger sibships scored lower on sibling closeness, communication and support than participants with smaller sibships.

### ***Contextual Variables and Sibling Relationships***

The relationship between economic variables and sibling relations were examined using a regression analysis with economic condition as the predictor variable and all sibling relationship variables as outcome variables. Economic condition was found to be a significant predictor of overall sibling communication,  $F(1,304) = 4.30$ ,  $p < .05$ , and specific sibling conflict,  $F(1,304) = 4.42$ ,  $p < .05$ . Participants with more problems paying for things that they really needed reported less communication between siblings and more specific sibling conflict than those with less problems paying for things that they really needed. Additionally, a multivariate analysis of variance (MANOVA) was carried out with sibling closeness, communication, support, warmth and conflict as the dependent variables and work status as the independent variable. The main effect of work status was significant for total sibling closeness,  $F(1,301) = 10.81$ ,  $p < .01$  and specific sibling warmth,  $F(1,301) = 4.11$ ,  $p < .05$ . The means and standard deviations of the sibling relationship measures for work status are reported in Table 2. Those who worked outside the home scored significantly lower on sibling closeness and specific sibling warmth than those who were not employed.

An additional contextual variable that was assessed was religiosity. Differences in sibling relationships between the four religious orienta-

TABLE 2. Means and Standard Deviations of Sibling Relationship Measures for Work Status

Work Status	Sibling Relationship Measures									
	Total Sibling Closeness		Total Sibling Communic.		Total Sibling Support		Specific Sibling Warmth		Specific Sibling Conflict	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Working	3.70**	(.89)	3.85	(.83)	3.88	(.85)	3.26*	(.84)	2.03	(.68)
Not Working	4.05**	(.74)	3.84	(.69)	4.05	(.82)	3.47*	(.68)	2.11	(.69)

\*\*  $p < .01$

\*  $p < .05$

tion categories were assessed using a multivariate analysis of variance (MANOVA) with sibling closeness, communication, support, warmth and conflict as the dependent variables and religious orientation category as the independent variable. The main effects of religious category were significant for sibling support,  $F(3,304) = 5.15$ ,  $p < .01$  and specific sibling warmth,  $F(3,304) = 2.93$ ,  $p < .05$ . The means and standard deviations of the sibling relationship measures for each of the four religious categories are reported in Table 3. The MANOVAs were followed with LSD post hoc comparisons yielding a significant difference, at the .05 significance level, between the "indiscriminately nonreligious" group and all three other categories, with the "indiscriminately nonreligious" group scoring significantly lower on sibling support than all other categories. Additionally, the post hoc comparisons yielded significant differences between the "indiscriminately nonreligious" group and the "indiscriminately religious" and the "pure intrinsic" groups, with the "indiscriminately nonreligious" group scoring significantly lower on sibling warmth than the "indiscriminately religious" and the "pure intrinsic" groups.

### *Specific Support Functions*

Overall sibling support was high with close to 60% of the respondents agreeing or strongly agreeing with the support questions. More

TABLE 3. Means and Standard Deviations of Sibling Relationship Measures for Religious Orientation Category

Relig. Orien.	Sibling Relationship Measures									
	Total Sibling Closeness		Total Sibling Communic.		Total Sibling Support		Specific Sibling Warmth		Specific Sibling Conflict	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Relig.	3.91	(.81)	3.93	(.76)	4.08 <sup>a</sup>	(.74)	3.42 <sup>d</sup>	(.81)	1.98	(.62)
Intrinsic	3.85	(.94)	3.66	(.76)	4.23 <sup>b</sup>	(.83)	3.56 <sup>e</sup>	(.77)	2.07	(.70)
Extrin.	3.90	(.79)	4.01	(.75)	4.06 <sup>c</sup>	(.75)	3.39	(.66)	2.16	(.72)
Non Relig.	3.68	(.90)	3.75	(.82)	3.73 <sup>abc</sup>	(.90)	3.18 <sup>de</sup>	(.83)	2.06	(.69)

a and b denote a significant difference from each other at  $p < .01$

c, d and e denote a significant difference from each other at  $p < .05$

specifically, within the individual items on the support measure, the most important sibling support function reported was "they would give me immediate help if I needed it," with over 50% strongly agreeing with this statement. The second most important sibling support function reported was "they would make sure I am cared for if I were ill," with about 45% strongly agreeing with this statement. The least important sibling support function reported was "I confide in him/her about things that are important to me," with less than 18% strongly agreeing with this statement. There was one gender difference in the support function of "they reassure me when something bothers me or I am not sure about something,"  $F(1,304) = 3.81, p = .05$ . Females ( $M = 3.78, SD = 1.06$ ) reported that their sibling would reassure them when something bothers them more than males did ( $M = 3.54, SD = 1.01$ ). No age differences were found in sibling support.

### ***Qualitative Analysis***

In addition to the quantitative data, qualitative results also were obtained, the majority of which contained four reoccurring concepts: general positive statements, general negative statements, effects due to geographical distances, and effects due to age differences.

An overwhelming number of responses contained positive comments about sibling relationships. These responses range from minimally to extremely positive. One 21-year-old male participant admitted to arguing with his brother but also wrote, "However, there is a sense of mutual love between us." A 19-year-old participant thought that her relationship with her brother was improving over time and noted, "My brother and I are very close. The older we got, the closer we got. We can confide in each other and always will be there for each other." On the extreme end of the positive spectrum, a 20-year-old female participant stated, "I love my brother dearly. He is my other half. He completes me. Without my brother I don't know what I would do. I love him more than the world. He is like my right hand and I am his."

Though not as great as the positive statements, a large number of responses included a negative attitude towards sibling relationships, ranging from minimally to extremely negative. A 26-year-old woman stated, "We don't have much in common and our personalities are very different, almost opposites to each other." A 21-year-old male participant wrote, "I don't like my siblings—they don't like me. If we had a choice we'd never see each other again.

But a family is a group of people you're stuck with for life whether you like it or not." In an extremely negative response, a 24-year-old participant wrote, "My youngest sibling is a blithering idiot and craves attention from my brother and I but she's too annoying cause she's so dumb."

A significant number of responses included themes that geographical distance affected sibling relationships. Most of these participants claimed that the geographical distance had a negative effect upon the relationship. A 33-year-old participant stated, "I live an hour and a half from them and it's hard to keep a close relationship." One 23-year-old female participant was extremely close to her sister before she moved to a different state writing, "I feel like a big part of me is missing. Before we used to finish each other's thoughts and cuddle and share secrets and tell each other everything." This participant also thought that her sister has changed and that she misses the way her sister used to be. She stated, "It almost feel like I don't even have a sister." In contrast, some participants believed that the distance had positive effects upon their relationships. A 30-year-old female participant wrote, "We are closer now that we don't live together. We are such opposites that living together was difficult. Spending less time with each other has helped us because we can't bicker with one another so easily."

Age difference was another important factor relating to sibling relationships. Approximately half of the participants believed that the differences had negative consequences on sibling relationships while the other half believed that the differences improved the relationship. Many of the negative responses were similar to that of a participant who stated, "I do not feel all together close because of the age difference." A 22-year-old woman wrote, "I think that one of our main problems is the seven year age gap. He doesn't understand my interests and I don't understand his." However, a 20-year-old female described herself as a positive role model and wrote, "...since I am older, my sister has seen my experiences, so she learns from my actions." One 20-year-old female participant described herself as feeling like a mother figure and stated, "She is only three so I feel close cause I have seen/watched her grow since she was born."

## ***DISCUSSION***

The goals of the current study were (a) to assess the familial variables related to sibling relationships, (b) to assess the economic and religious

variables related to sibling relationships, (c) to examine the specific support functions of siblings, and (d) to provide a qualitative account of sibling relationships in emerging adulthood.

### ***Familial Variables and Sibling Relationships***

Overall, the results of the current study are consistent with previous findings on the influence of family constellation on sibling relationship quality (Dolgin & Lindsay, 1999; Lee, 1990; Newman, 1991; Pulakos, 1987, 1990). Older participants were less likely to report conflict within their sibling relationship. Additionally, participants with older siblings reported more warmth in their sibling relationship than participants with younger siblings. Of particular interest is that sibling's age was found to mediate the relationship between the participant's age and sibling conflict. In other words, when looking at conflict within a specific sibling dyad, it is the age of the older sibling that relates to the level of conflict between the dyad. It is possible that the maturity level of older siblings may contribute to their ability to navigate through difficulties in the sibling relationship contributing to the reported lower levels of conflict within the sibling dyad.

Age difference between siblings also was a factor contributing to sibling conflict. Participants reported more conflict with siblings who were similar to them in age (within two years) than with siblings who were much older or younger than them (two years or more). Previous studies reported contradictory findings in the association between age spacing and sibling closeness (Furman & Buhrmester, 1985, 1992). However, these inconsistent findings may be due to developmental differences in sibling relationships. Similarity in age between siblings may contribute to conflict specifically during the late adolescent and emerging adult years due to the salience of sibling deidentification processes prevalent during this time (McHale, Updegraff, Helms-Erikson, & Crouter, 2001).

In accordance with several previous studies on gender and sibling relationships (Dolgin & Lindsay, 1999; Pulakos, 1987) females reported more warmth in their specific sibling relationship than males. Additionally, when participants listed their 'most important sibling,' those who listed female siblings reported more warmth in their relationship than participants who listed a male sibling.

Although previous findings on the association between family size and sibling relationships have been inconclusive and often contradictory (Cicirelli, 1980a; Newman, 1991), the current study found that par-

ticipants with larger sibships scored lower on sibling closeness, communication and support than participants with smaller sibships. As with other inconsistencies in research on sibling relationships, developmental changes in these relationships may account for some of the ambiguous findings on family size and sibling relations.

### ***Contextual Variables and Sibling Relationships***

In addition to the relationship between familial variables and sibling relationships, the current study assessed the correlation between several contextual variables and sibling relations as well. Economic condition was found to relate to communication between siblings and sibling conflict. Additionally, work status was related to sibling closeness and specific sibling warmth. Previous studies have documented the negative impact of economic stress on several socioemotional outcomes, including marital and parental relationships (McLoyd, 1989).

An additional contextual variable that was found to relate to sibling relationships was religiosity. Participants categorized as "indiscriminately religious" and "pure intrinsic" were found to have the most supportive general sibling relationship and the most warm specific sibling relationship. Although studies on psychology and religion have employed a diverse spectrum of religious measures, Gartner, Larson, and Allen, (1991) have argued that the concept of intrinsic and extrinsic religiosity suggested by Allport and Ross (1967) may eliminate several apparent inconsistencies in the scientific study of religion. In explaining the difference between an intrinsic religion and an extrinsic religion, Paloutzian (1996) illustrated that intrinsic motivated faith is one that is internalized. In contrast, the extrinsically motivated person is one who is involved in religion for external reasons.

Although not directly related, economic stress and religiosity may influence an individual's behavior and character which in turn may influence their interpersonal relationships. This mediational model illustrates the importance of adopting an ecological theoretical perspective, with its emphasis on the dependence of individual relationships on other simultaneously operating contextual variables (Bronfenbrenner, 1994), when examining sibling relationships.

In general, it is evident that the interconnections between relational, familial, and contextual variables and the outcomes associated with these interactions is a complex one that appears to be dependent upon many variables and may function differently based on developmental stage. These findings illustrate the significance of examining specific

relationships in the context of the entire ecological network system. The dynamic nature of social relationships, and the importance of assessing these integrated processes, has been the focus of several recent theoretical and empirical investigations (Levitt et al., 1993; Levitt, Guacci-Franco, & Levitt, 1994; Magnusson & Stattin, 1998). As Magnusson (1998) acknowledged, "the developmental processes of an individual cannot be understood by studying single variables in isolation from other, simultaneously operating variables" (p. 38).

### ***Specific Support Functions and Qualitative Analysis***

In contrast with the detached sibling relationships of children and adolescence reported in several previous studies (Garcia, Shaw, Winslow, & Yaggi, 2000), the current emerging adult sample reported receiving a significant amount of support from their siblings. Participants reported relying on their siblings for immediate help and for care in cases of sickness. Additionally, from the qualitative responses obtained, an overwhelming number of responses contained positive comments about sibling relationships. However, although a significant number of responses described the positive aspects of their sibling relationships, several responses included negative attitudes towards sibling relationships. Finally, some variability in sibling closeness reported was based on geographic distance and age difference. Based on recent theoretical and empirical work on the emerging adult population (Arnett, 2000), it is evident that the autonomy, exploration, and disruption to the social network during the post secondary-school years entail many unique characteristics which may influence the distinctive variability of sibling relationships during this transitory stage.

There are some limitations to the present study. First, in order to describe the true nature of sibling relationships it would be more accurate to study both partners of the sibling dyad. Relying on the responses of only one member of the dyad limits our understanding of the interdependence of the sibling relationship (Riggio, 2001). Additionally, although the present study used a relatively large sample of participants, the present results may not generalize beyond the homogeneous sample included in the study. Furthermore, since the non-college student sample was not equivalent in size to the college student sample analyses were not conducted examining the possible differences between the two groups in sibling relationship dynamics. Future studies should assess differences in sibling relations between college and non-college student samples. Finally, previous studies have reported ethnic differences in

sibling relationships (Avioli, 1989; Hays & Mindel, 1973). Future work should use a sample drawn from a more urban, multiethnic community to assess the generality of the importance of sibling support.

In sum, the current findings highlight the variability of sibling relationships and the significance of siblings as providers of social support during emerging adulthood. The current findings hold applied implications for clinicians by highlighting the importance of considering the role of siblings when working with clients who have atypical support networks. Several studies detail the significance of siblings in psychotherapy particularly in family therapy (Cicirelli, 1991; Kahn & Bank, 1981).

Finally, there is some indication that incongruous views expressed in the literature on sibling relationships may be associated with developmental changes in these relationships across the lifespan (McGuire, Manke, Eftekhari, & Dunn, 2000; Vandell, Minnett, & Santrock, 1987). These developmental issues must be addressed in future studies assessing the nature of sibling relationships.

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