

# Sibling Dynamics, Marital Satisfaction, and Wellness in Married Turkish Adults

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## Abstract

Research on sibling dynamics and their outcomes in married adults is limited. The primary objective of this study was to assess how relationships with same and different-sex siblings explain the state of wellness and marital satisfaction in adulthood. Furthermore, the study aimed to evaluate the effects of early childhood sibling relationships on adult well-being and to assess the meditative role of adult sibling relationship characteristics on this effect. A total of 344 married adults participated in the study, 237 of whom (68.9%) were women. The Adult Sibling Relationship-Short Form (ASRQ-SF), Lifespan Sibling Relationship Scale (LSRS), Couple Satisfaction Index (CSI), and Wellness Scale for Emerging Adults (WSEA) indices were used to assess study variables. Results indicated that intimacy between different-sex siblings (brother-sister) predicted marital satisfaction. Furthermore, conflict between same-sex siblings (sister-sister) and intimacy between different-sex siblings (sister-brother, brother-sister) predicted wellness. Additionally, recalled childhood sibling relationship characteristics had significant effects on wellness and that sibling relationship characteristics in adulthood partially mediated this relationship. These results are considered within the framework of sibling relationship development within Turkish culture.

## Keywords

sibling relationship characteristics, sibling dyads, gender differences, marital satisfaction, well-being

## Introduction

Sibling relationships as a family subsystem have a complex structure. Although interactions between the child/parent and spouse subsystems are widely studied in family systems literature, there is less discussion of sibling relationship dynamics. Furthermore, most of the literature on the relationship between siblings focuses on childhood and adolescence (Buhmester & Furman, 1990; Campione-Barr & Killoren, 2019; Feinberg et al., 2012; Updegraff et al., 2002) with limited work on sibling dynamics in adulthood (Cicirelli, 1991; Gilligan et al., 2017; Stocker et al., 2020). The greatest deficiency in sibling relationship research is on these dynamics in emerging adulthood (Finan et al., 2018; Milevsky, 2019; Milevsky et al., 2005; Portner & Riggs, 2016). The importance of assessing sibling dynamics is underscored by studies that demonstrate that the characteristics of warmth, conflict, and rivalry between siblings impact individual well-being (Cicirelli, 1991; Milevsky 2018, 2019; Stocker et al., 2020). Furthermore, studies suggest a number of differences between the sexes in sibling relationships (Gilligan et al., 2015). Variations in sibling dynamics can also be seen across development. For example, studies have found modifications in the relations between siblings in adulthood post-marriage (Connidis, 1992; Connidis & Campbell, 1995). Therefore, the first aim of this study was to evaluate how warmth and conflict between same-sex and opposite-sex siblings affect an

individual's wellness and marital satisfaction. The second aim of the study was to examine the relationship between the characteristics of recalled childhood sibling relationships, the characteristics of sibling relationships in adulthood, and well-being.

## Lifespan Sibling Relationships and Gender

The Family System Theory (Minuchin, 1985) and the Life Course Theory (Elder, 1998) provide a well-organized approach for understanding sibling relationships and positive mental health. Within the family, the sibling subsystem is a part of the family that consists of members of the same generation. From the view of family system perspective, all family relations interact with each other, and these interactions are based on reciprocity between family members. Furthermore,

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an alteration in the system affects the development of all family members (Minuchin, 1985; Whitchurch & Constantine, 1993). Hence, family systems theory assists in conceptualizing how the sibling subsystem relates to other subsystems (e.g., marital, parent-child relations). Additionally, the Life Course Theory (Elder, 1998) suggests a perspective on how normative transitions may have an influence on sibling relationships. This theory focuses on individual and family development across multiple dimensions of time, including age period, cohort, and generational position within families (Gilligan et al., 2018). For instance, studies focus on the variations in sibling relations in married adults (Connidis, 1992).

Although the longest lasting form of a relationship an individual can develop is with a sibling, little is understood about how sibling relationships progress into adulthood (Gilligan et al., 2017; Stocker et al., 2020; Whiteman et al., 2011). Sibling relationships in adulthood are examined by three dimensions: warmth, conflict, and rivalry (Stocker et al., 1997). In adulthood, sibling relationships are more positive and supportive compared to sibling relationships in childhood and adolescence. In addition, sibling conflict and parental favoritism are higher in childhood and adolescence than in adulthood (Gilligan et al., 2020).

More specifically, variations are found in the characteristics and nature of the relationship between siblings as a function of developmental period (Scharf et al., 2005). Overall, sibling relationships in childhood are positive with siblings having extensive knowledge about each other's views (Dunn, 2002). Older siblings, in particular, play a role in supporting their younger siblings' cognitive growth and their capacity to consider others' feelings (Brody, 2004). When children transition into adolescence, relationships between siblings become more negative and there is more equality (Furman & Buhrmester, 1992) as teens are now more focused on friendships (Updegraff et al., 2002). However, siblings continue to play a role in an adolescent's life as studies suggest that adolescents with positive fraternal relationships have stronger friendships and elevated self-esteem (Yeh & Lempers, 2004). During the adolescent to adulthood transition, sibling conflict decreases and intimacy increases (Cicirelli, 1995; Jensen et al., 2018). Sibling relationships in young and middle adulthood are interconnected with childhood feelings and beliefs, and these past childhood interactions (have an effect on present sibling relationship quality and attitudes (Riggio, 2000; Tonti, 1988). Yet, there are variations in how adults manage sibling relationships considering that unlike in childhood adult siblings can decide how often they interact with each other or how frequently they meet (Conger & Little, 2010; Scharf et al., 2005). Furthermore, adult siblings are also in more frequent contact with their brothers and sisters (Gilligan et al., 2020). Additionally, even though they are physically more distant, adult siblings feel emotionally closer and offer support and mutual assistance between siblings (Scharf et al., 2005; White & Riedmann, 1992).

Gender-related differences are, nevertheless, a significant factor affecting the nature of adult sibling relationships (Spitze & Trent, 2006). Studies show complex results

depending on gender constellation characteristics between siblings. Findings assert that same-sex sibling dyads (female-female and male-male) are likely to report closer and warmer relationships with one another than opposite-sex sibling dyads (female-male) (Campione-Barr & Smetana, 2010; Furman & Buhrmester, 1985; Walecka-Matyja, 2014). In general, sisters appear to be closer and more intimate with each other (Cicirelli, 1982; Gilligan et al., 2015), and sisters provide more emotional support to each other than brothers (Van Volkom, 2006).

Studies indicate that sibling closeness and warmth in adulthood is associated with psychological well-being (Milevsky, 2018, 2019; Waldinger et al., 2007). Besides, sibling support in adulthood has been related to increased well-being (Cicirelli, 1991). Furthermore, some studies have highlighted the important role played by adult sibling relationships in positive well-being (Gilligan et al., 2017; Stocker et al., 2020). A recent study revealed that tension in sibling relationships was linked with depressive symptoms in middle-aged adults (Gilligan et al., 2017). In addition, conflict between siblings and parental favoritism were found to be positively related to depression, anxiety, hostility, and loneliness, whereas sibling closeness was negatively related to loneliness (Stocker et al., 2020). Cicirelli (1989) found that adult brothers' and sisters' perception of closeness to sisters was associated with fewer depressive symptoms. Studies have also shown that sibling relationship is a significant source of strength in adulthood and it provides major support against the hardship of life itself and stressful conditions (Frederick & Goddard, 2008; Greif & Woolley, 2015; Ozbay & Aydoğan, 2020). Conversely, it has been found that sibling discord in adulthood negatively affects the family and individual well-being (Schulman, 1999; Paul, 1997). A limited number of studies examine sibling rivalry based on parental favoritism of adult children (Gilligan et al., 2013; Suitor et al., 2009). Favoritism might decrease toward adulthood in sibling relationships with age. Particularly during adulthood, there are relations between siblings toward harmony and less conflict, while favoritism seems to be more related to experiences in childhood (Suitor et al., 2009). This study evaluates the sibling relations of married adults in terms of warmth and conflict characteristics. Particularly, one of the main focuses of this study is to examine how sibling intimacy and conflict in adulthood explains the well-being of individuals based on gender.

### *Sibling Relationship Characteristics and Marital Satisfaction*

Like other intimate relations, sibling relations change across the life course. The tie between siblings is one of the strongest kin relationships throughout life (Bedford & Avioli, 2012). The relationships between siblings transcend family life events such as marriage, childbirth, divorce, widowhood, family health issues, and parental death (Connidis, 1992; Moyer, 1992). Furthermore, the sibling relationship endures physical

separation as adults begin their own families necessitating a redefinition and renegotiation of the sibling connection (Jensen et al., 2018). Relationships with siblings may be kept in the background in adulthood for reasons such as marriage, raising children, and work. In adulthood, individuals develop new family bonds (e.g., with their partner), and these bonds take priority over other family bonds (e.g., parents and siblings) (Carr & Springer, 2010). For example, Jensen et al. (2018) found that after marriage and parenthood siblings devote less time to each other, in comparison to before, as they focus more on their partner or children. Similarly, White and Riedmann (1992) reported that individuals who were married and had children were less in contact with their siblings than those who were married and childless. Limited work in the field has suggested a link between sibling and marital dynamics (Connidis & Campbell, 1995; Sun et al., 2019). Siblings may transfer patterns of behavior and expectations developed in their bilateral connection to their spousal relationship. For example, married adults were found to replicate patterns of sibling closeness and control exhibited during adolescence in their marital relationship (Sun et al., 2019). Similarly, Doughty et al. (2015b) examined romantic intimacy and inter-sibling relationships and found that sister conflict had a negative effect on marital intimacy. Furthermore, controlling behaviors of mixed-sex siblings was associated with power-building behaviors in the marital relationship. Hence, as individuals share a common family history with their siblings, even once they are married and leave home, these relationships can continue to impact other relationships in the future. This study focuses on comprehending how relationships based on warmth and conflict between siblings explains marital satisfaction of married individuals.

The first hypothesis of this study, based on the theoretical and empirical foundation, is that sibling relationships in adulthood in terms of warmth and conflict will relate to individuals' wellness and marital satisfaction. Specifically, as warmth between siblings in adulthood increases, well-being will increase as well. Furthermore, well-being will decrease with conflictual sibling relationships. The second hypothesis of this study is that warmth between siblings will be positively related to marital satisfaction, and conflicts between siblings will negatively impact the marital relationship.

### *Sibling Relationships and Consequences in the Turkish Cultural Context*

A growing literature highlights the unique and distinct role played by siblings across cultures. Furthermore, the influence of cultural transference in domestic relationships becomes especially distinct in understanding the behaviors that people display in marriage. For example, although the extended family plays a secondary role in favor of the nuclear family in Turkish culture, extended family influences continue to be seen in emotional interfamily exchanges (Kagitcibasi, 2002). For individuals living in Turkey, the collective point of view

is represented through strong family relations (Kagitcibasi, 1996). For this reason, family members continue to influence each other even after marriage. Hence, aspects of sibling dynamics are assumed to be expressed in marital relationships via individuals' ongoing family relationship roots. However, little is known about how past and present sibling dynamics impact the well-being of marital adults within Turkish culture. Even though individuals leave their homes and establish romantic relationships, their family of origin still seems to have an impact on their relationships (Kerr & Bowen, 1988). Although time spent together by siblings decreases in adulthood as siblings leave their families of origin, sibling relationships continue to impact adulthood well-being. Beyond current sibling dynamics and adulthood well-being, studies have suggested that past childhood sibling relationship quality is associated with adult mental health (Milevsky, 2016). For example, negative childhood sibling relationship dynamics have been found to relate to mood disorders in adulthood (Gilligan et al., 2020; Waldinger et al., 2007). Hence, in order to understand the interplay between past and present sibling relationship quality and current well-being, the second objective of this study was to assess the link between childhood sibling relationship quality and adulthood well-being as well as to examine the intermediary effects of adult sibling relationships on this link. In this study, we analyzed associations between past and present sibling relationship quality and current well-being. Taken together, based on the literature, the third hypothesis of the study is that sibling relationship quality in adulthood is expected to play a role of mediator between childhood sibling relationship quality and well-being.

In summary, although studies have indicated that characteristics of early sibling relationships are repeated in romantic relationships (Sun et al., 2019), these explanations are limited and rarely assess mediating variables. More specifically, although studies have examined gender-related differences in sibling relationship characteristics (Campion-Barr & Smetana, 2010), limited work has examined how these constellation variations impact adult well-being and marital satisfaction (Milevsky & Heerwagen, 2013; Paul, 1997). These dynamics are particularly undefined in non-Western samples. Hence, the first aim of this study was to assess how the relationship characteristics of warmth and conflict between same-sex and different-sex siblings explain the wellness and marital satisfaction of married Turkish adults. Considering the collectivistic nature of Turkish culture and its continuous family and communal emphasis across development, it is particularly important to assess how sibling relationship characteristics continue to impact married adults. Furthermore, studies suggest that past child and current adult sibling dynamics continue to impact adulthood well-being (Lindell et al., 2015; Riggio, 2000; Waldinger et al., 2007). Hence, in order to understand the interplay between past and present sibling relationship quality and current well-being, the second objective of this study was to examine the association between childhood sibling relationship quality and adulthood well-being as well as to assess the intermediary effects of adult sibling relationships on this link.

## Method

### Participants

The sample consisted of 344 Turkish heterosexual married adults ( $\text{Range}_{\text{age}} = 25\text{--}70$ ,  $M_{\text{age}} = 36.52$ ,  $SD_{\text{age}} = 8.53$ ) with at least one sibling. In the surveyed group, 68.9% were women ( $n = 237$ ) and 31.1% were men ( $n = 107$ ). The mean duration of marriage was 8.46 ( $SD = 9.27$ ) years. Their sibling's age was from 15 to 68 years ( $M_{\text{age}} = 35.35$ ,  $SD_{\text{age}} = 10.32$ ). If participants have more than one sibling, they were asked to answer the questions by choosing one of their siblings specifically. As to the specific chosen sibling's gender, 50.9% were women ( $n = 175$ ) and 49.1% men ( $n = 169$ ). The participants' birth orders were 113 (39.32%) first born, 98 (28.5%) second born, 45 (13.1%) third born, 40 (11.6%) fourth born, and 26 (7.6%) later born. The chosen siblings' birth orders were, 93 (27%) first born, 134 (39%) second born, 64 (18.6%) third born, 30 (8.7%) fourth born, and 23 (6.7%) later born. In this study, the majority of the participants (64.2%) lived at least 100 km from their siblings. See Table 1 for other sibling relationship characteristics of the sample. Participants were also asked if they talked about their marital relationship with this sibling. Fifty five (16%) of the respondents said they never spoke, 101 (29.4%) said they rarely spoke, 125 (36.3%) said they spoke occasionally, 47 (13.7%) said they spoke frequently, and 16 (4.7%) said they spoke significantly. The vast majority of siblings (75.6%) come together on holidays and special family days.

**Table 1.** Demographic Characteristics of Dyad (Between) Siblings.

Group		f	%
Physical distance	Same city	123	35.8
	Living away	221	64.2
How much do you and this sibling see each other?	Hardly at all	11	3.2
	A little	57	16.6
	Somewhat	158	45.9
	Very much	80	23.3
	Extremely much	38	11
How much does this sibling phone you?	Hardly at all	16	4.7
	A little	31	9
	Somewhat	117	34
	Very much	110	32
	Extremely much	70	20.3
How much do you phone this sibling?	Hardly at all	13	3.8
	A little	30	8.7
	Somewhat	119	34.6
	Very much	119	34.6
	Extremely much	63	18.3
How much do you and this sibling see each other for holidays and family gatherings?	Hardly at all	12	3.5
	A little	10	2.9
	Somewhat	62	18
	Very much	132	38.4
	Extremely much	128	37.2

### Measures

The participants completed the Adult Sibling Relationship-Short Form (ASRQ-SF), the Lifespan Sibling Relationship Scale (LSRS), the Couple Satisfaction Index (CSI), and the Wellness Scale for Emerging Adults (WSEA).

**ASRQ.** The ASRQ-SF was used to assess warmth and conflict in participants' relationship with a specific chosen sibling (Lanthier & Stacker, 1992; Stocker et al., 1997). The ASRQ-SF evaluates the person's relationship with adult siblings with regard to three dimensions: warmth, conflict, and rivalry (Lanthier & Stacker, 1992; Stocker et al., 1997). As part of this study, the ASRQ-SF was translated into Turkish using the back translation technique. In this study, the factor structure of the scales was assessed using confirmatory factor analysis (CFA). The results revealed an acceptable model fit for the ASRQ with three subscales:  $\chi^2(17) = 31.959$ ,  $p < .001$ ,  $\chi^2/df = 1.88$ , CFI = .98, GFI = .97, and RMSEA = .05. In the present study, Cronbach's alpha estimates were .96, .89, and .86 warmth, conflict, and rivalry scale, respectively. The warmth scale contained 18 items from three subscales: intimacy (6 items), emotional support (6 items), and knowledge (6 items). The conflict scale included 17 items from three subscales: quarreling (5 items), antagonism (6 items), and dominance (6 items). The rivalry scale included 12 items from two subscales: maternal rivalry (6 items) and parental rivalry (6 items). This measure included questions such as "How much do you discuss important personal decisions with this sibling?" "How much does this sibling disagree with you about things?". Response options were organized using a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). In this study, the total score of both the warmth scale and the conflict was evaluated.

**LSRS.** In the study, the LSRS was used to assess the characteristics of the sibling relationship in childhood and adult participants. This scale is a 48-item self-report instrument (Riggio, 2000; Turkish adaptation and validation: Oz Soysal et al., 2016) assessing feelings, behaviors, and thoughts related to sibling relationships in childhood and adulthood. This questionnaire addresses the importance of the developmental aspect of the sibling relationship across the lifespan. The LSRS consists of two dimensions one of which is a childhood sibling relationship scale and the other is an adult sibling relationship scale. These two scales both have three subscales: Affect, behaviors and cognitions. The Affect subscale assesses emotions toward the target sibling (e.g., adult affect, My sibling's feeling are very important to me and child affect, I remember loving my sibling very much when I was a child/when we were children); the Behavior subscale evaluates the frequency of the engagement in activities by the participant and the target sibling (e.g., adult behavior, My sibling and I do a lot of things together and child behavior, My sibling and I spent time together after school as children); and the Cognition subscale measures beliefs about the target sibling (e.g., adult cognitions,

*I believe I am very important to my sibling and childhood cognitions, My sibling had an important and positive effect on my childhood).* Respondents were asked to rate items on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) in which high scores show more positive attitudes toward sibling relationships. In this study, the dimensions of “childhood sibling relationship quality” and “adult sibling relationship quality” consisting of affect, cognition, and behavioral dimensions rather than subdimensions of the scales were used. In the present study, Cronbach’s alpha estimates were .90, .88, .93, .87, .85, and .91 adult affect, adult behavior, adult cognition, child affect, child behavior and child cognition, scale, respectively. Also, Cronbach’s alpha for childhood sibling relationship quality was .95 and that for adult sibling relationship quality .96.

**CSI.** CSI (Funk & Rogge, 2007) was used to measure marriage relationship satisfaction. We used the Turkish version of the CSI, translated and validated by Sagkal and Ozdemir (2018). This scale is a 4-item scale, with three items on a 6-point Likert scale (0 = *Not at all true*, 5 = *Completely true*) and one item on a 7-point Likert scale (0 = *Extremely unhappy*, 6 = *Perfect*). A sample item is *I have a warm and comfortable relationship with my partner*. Higher scores in the scale show greater relationship satisfaction. Cronbach’s alpha coefficient for the 4-item CSI was calculated to be .96

**WSEA.** This scale aims to measure the wellness of adults (Siyez et al., 2022). The scale consists of 12 items on a 5-point Likert scale ranging from strongly dissatisfied to strongly satisfied. The scale items are family life, relationships with others, love, career choice, world view, sexual life, sexual identity, physical health, spiritual life, life goals, and satisfaction with life. Higher scores indicate a higher level of wellness. In the present study, Cronbach’s alpha for wellness was .82.

## Procedure

The study was conducted with the approval of the host’s University Institutional Review Board (No. 804.01-E.2005110024). Data collection was conducted online and shared with people who were married and have siblings via social media (Facebook, Instagram, and Twitter) and WhatsApp groups. At the beginning of the study, the scope and objectives of the study were announced and the informed consent was provided for participants in the study. First, participants were informed that their responses should be related to only one chosen sibling. Average time for the completion of the survey was about 30 min.

## Data Analytic Strategy

The data obtained from the study were analyzed using SPSS 21 and AMOS 20 statistical package programs. First, the normal distribution of the sample was examined and the relationships between study variables were analyzed using Pearson correlations. The skewness and kurtosis values of the distributions

were examined before regression analysis. The lowest and highest skewness values were between .37 and 1.02. The lowest and highest kurtosis values were .11 and 1.08. Values between  $-1.5$  and  $+1.5$  were taken as the criterion for rankings (Tabachnick & Fidell, 2013).

Based on the initial purpose of the study, two separate multiple regression analyses were used to determine how intimacy and gender-based conflict between siblings explain wellness and relationship satisfaction. Second, the direct and indirect effects on the well-being of remembered childhood and adult sibling relationships were assessed using structural equation modeling (SEM). First, measurement model of the variables in the study were tested with confirmative factor analyses and then hypothetical models were tested. Maximum likelihood estimation technique was used to calculate Measurement model and structural model. Verification of the tested structural models was explained using chi-square, CFI, GFI, RMSEA, and TLI values fit indices. Kline (2015) asserts reporting of at least four fit indices. To test the goodness of fit of the models created,  $\chi^2/SD$  ratio. If this value is under 3, this indicates a good fit (Kline, 2015; Tabachnick & Fidell, 2013), yet, others accept this value to be below 5 (Bollen, 1989). For GFI, CFI, and TLI, values .85 or over; for RMSEA, values under .08 are accepted as good fit values (Kline, 2015).

## Results

The results of the study will be presented in two sections. First, we present how the gender constellation of sibling warmth and conflict explains adulthood wellness and marital satisfaction. Second, the link between childhood sibling relationship quality and adulthood well-being as well as the mediating effects of adult sibling relationships on this link is presented.

### Gender Constellation Sibling Relationship Characteristics and Wellness and Marital Relationship Satisfaction

Gender dyads composed of 70 male participants reporting on a male sibling (male-male), 138 female participants reporting on a female sibling (female-female), 98 female participants reporting on a male sibling (female-male), and 35 male participants reporting on a female sibling (male-female). In the study, two separate multiple regression analyzes were used to determine how the relationship characteristics of sibling warmth and conflict explain wellness and relationship satisfaction. As shown in Table 2, sibling warmth between sisters and brothers explained 10% of the variance of married individuals’ relationship satisfaction. Also, sibling relationships of sisters, sister and their brothers, and brother and their sisters had statistically contributed to the wellness model. The most important contribution was sibling warmth between brother and their sisters ( $\beta = .52, p < .01$ ), sibling warmth between sister and their brothers ( $\beta = .44, p < .01$ ), and sibling conflict between sisters ( $\beta = -.22, p < .01$ ) to wellness.

**Table 2.** Multiple Regression Results.

Gender	Characteristics	Marital Satisfaction					Wellness				
		<i>B</i>	R	<i>R</i> <sup>2</sup>	<i>t</i>	$\Delta F$	$\beta$	R	<i>R</i> <sup>2</sup>	<i>t</i>	$\Delta F$
Sister-sister	Warmth	.13	.22	.05	4.48	3.47	.11	.26	.07	11.906*	5.149
	Conflict	-.16					-.22				
Sister-brother	Warmth	.28	.30	.10	2.88**	4.98	.44	.44	.19	8.273*	11.498
	Conflict	-.07					.02				
Brother-brother	Warmth	.23	.24	.06			.03	.14	.02	12.974	.679
	Conflict	.12			1.90	2.17	-.13				
Brother-sister	Warmth	.28	.28	.08	1.45	1.45	.52	.54	.30	4.207*	6.961
	Conflict	.08					.25				

Note.\* $p < .01$ , \*\* $p < .05$ .

### Lifespan Sibling Relationship Effects of Well-being

**Preliminary Analysis.** In this study, well-being consisted of well-being and marital satisfaction measures. Table 3 includes intercorrelations of study variables and basic descriptive statistics in the total sample. Well-being was positively significantly associated with childhood sibling relationship quality ( $r = .24$ ,  $p < .01$ ) and adulthood sibling relationship quality ( $r = .22$ ,  $p < .01$ )

**Measurement Model.** In the study, CFA was carried out to assess the measurement model. Measurement model included three latent factors (childhood sibling relationship quality, adult sibling relationship quality, and well-being) and 8 observed variables (adult affect, adult behavior, adult cognition, child affect, child behavior, child cognition, relationship satisfaction, and wellness). A primary analysis of the measurement model provided good fit indices,  $\chi^2(344) = 27.729$ ,  $p < .001$ ,  $\chi^2/df = 1.63$ , NFI = .98 CFI = .99, TLI = .99, and RMSEA = .04. Factor loadings ranged from .82 to .97 for adult sibling relationship, .76 to .97 for childhood sibling relationship, and .82 to .83 for well-being. Standardized coefficients of the measurement model show significance at .01 levels.

**Structural Model.** To examine the role of adult sibling relationship quality as a mediator between childhood sibling relationship quality and well-being, a path analysis examining direct and indirect effects was conducted using AMOS. In the first

stage, the relationship between childhood sibling relationship quality and well-being was examined. Childhood sibling relationship quality had a direct and positively significant influence on well-being. The standardized regression weights demonstrated that childhood sibling relationship quality was positively linked with well-being in married individuals ( $\beta = .28$ ,  $p < .01$ ). In the second stage of the model, the mediator role of adult sibling relationship quality on the link between childhood sibling relationship quality and well-being was tested. After adult sibling relationship quality was entered into the model, childhood sibling relationship quality continued to explain well-being, however, its impact decreased ( $\beta = .22$ ,  $p < .001$ ). This result indicated that adult sibling relationship quality is a partial mediating variable in the relationship between childhood sibling relationship quality and well-being. The structural model indicated a good fit to the data:  $\chi^2(344) = 27.729$ ,  $p < .001$ ,  $\chi^2/df = 1.64$ , NFI = .98 CFI = .99, TLI = .99, and RMSEA = .04 (Figure 1).

The Bootstrapping method was used to test mediating criteria and to evaluate whether the indirect effects were significant. The bootstrap estimation procedure with 1,000 resamples and 95% bias-corrected (BC) confidence intervals were utilized to test the significance of the indirect effects. The standardized indirect effects and 95% BC confidence intervals are shown in Table 4. The results show that the total indirect effect of childhood sibling relationship quality on adult psychological well-being via the mediator of adult sibling relationship quality was significant ( $\beta = .07$ , 95% bootstrap, 95% CI = -.03 to .14,  $p = .04$ ).

**Table 3.** Intercorrelations of Lifespan Sibling Relationships and Well-being.

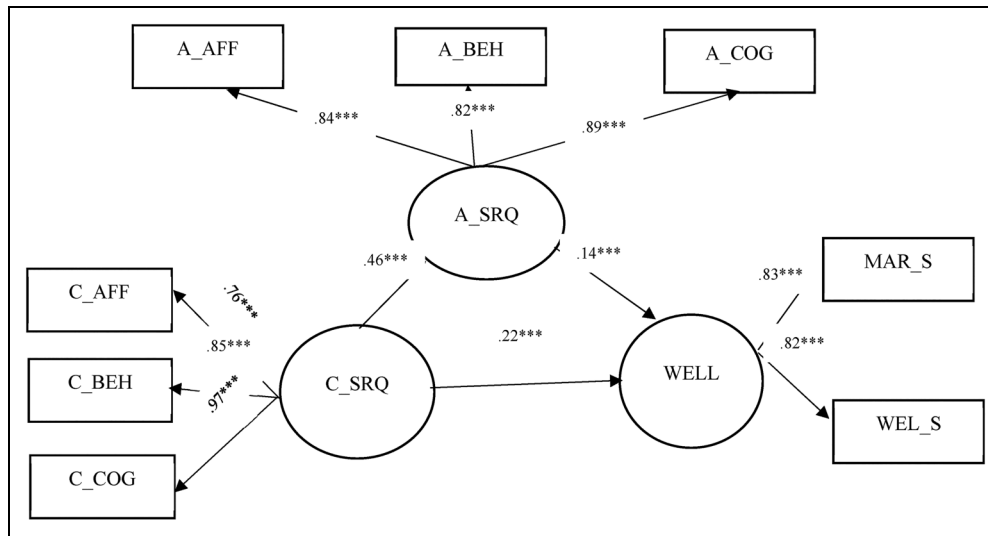
Variables	1	2	3
Childhood SRQ	-	.43**	.24**
Adulthood SRQ		-	.22**
Well-being			-
<i>M</i>	3.62	3.86	3.79
<i>SD</i>	.73	.76	.87

Note. SRQ = Sibling relationship quality.

\*\* $p < .01$ .

### Discussion

The study had two objectives. First, to evaluate how the warmth and conflict characteristics of married adults and their siblings of the same and different sex explain marital satisfaction and well-being of Turkish married adults. The second goal was to assess how the quality of past childhood sibling relationships in married adults directly explains the well-being and the intermediary effects of sibling relationship quality in adulthood on the association between childhood sibling relationships and well-being.



**Figure 1.** The mediation model.

Note. Standardized path coefficients are presented. A\_BEH = Adult behavior; A\_COG = Adult cognitions; AFF = Child affect; A\_AFF = Adult affect; A\_SRQ = Adulthood sibling relationship quality; C\_SRQ = Childhood sibling relationship quality; C\_C\_BEH = Child behavior; C\_COG = Child cognitions; MAR\_S = Marital satisfaction; WELL = Well-being; WEL\_S = Wellness.

\*\*\*  $p < .001$ .

In line with the first aim of the study, the first hypothesis was partially confirmed. Closeness and conflict between siblings of sisters predicted individual well-being, while relations between brothers were not found to be associated with well-being. The results of the study explaining gender-based features suggest that growing conflict between same-sex (sister-sister) siblings negatively affects married individuals' well-being. In addition, closeness between siblings of different sexes (sister-brother and brother-sister) has positive effects on well-being. The importance of wellness and its dependency on healthy social interactions have been highlighted in past studies (Myers et al., 2000; Turkdogan et al., 2019). These results show that close, supportive, and nurturing relationships with siblings increase well-being. These results complement studies that reveal negative associations between psychological functioning and sibling conflict (Stocker et al., 1997) and studies that indicate that closeness and warmth established with siblings in adulthood are closely related to well-being (Gilligan et al., 2017; Milevsky & Heerwagen, 2013; Waldinger et al., 2007). In adulthood, sibling relationships embody a unique autonomy

regarding communication and time spent together (Stocker et al., 1997). Despite this limitation, our results indicate that siblings continue to connect with each other in distinctive ways and that these relationships enhance well-being. This is particularly true when the nurturing and satisfying relationships are with opposite-sex siblings.

In accordance with the first aim of the research, the proposed hypothesis number 2 was partially confirmed. In the study, it is revealed that warmth and conflict between siblings of the same sex were not related to marital satisfaction. But, the study concluded that close and supportive relationships between siblings of different sex (sister-brother) predicted marital satisfaction. Interestingly, close and supportive relationships between women and their brothers resulted in marital satisfaction. Past studies, in different cultural contexts, have suggested that intimacy and supportive relationships are more common in same-sex siblings (Campion-Barr & Smetana, 2010; Furman & Buhrmester, 1985). Also, studies show that closeness between male and female siblings may positively contribute to opposite-sex relationships (Doughty et al., 2015a). Having an opposite-sex sibling may offer a context to learn about and explore intersex connections and communication. Consequently, siblings reared with opposite-sex siblings have been shown to be more motivated to get married than the siblings growing up with same-sex siblings (Hall & Willoughby, 2018). However, the current results indicate that certain characteristics of inter-fraternal relations are reflected in marital relations within Turkish culture. In married persons in Turkish society, the effects of the larger family can be observed in the dynamics of marital relationships. Although marriage ushers in a reorganization of broader family dynamics, including a diminished focus on siblings (Jensen et al., 2018), the family

**Table 4.** Standardized Indirect Effects and 95% Confidence Intervals.

Model pathways	Point estimation	SE	BC 95% CIs		p
			Low	Up	
Childhood SRQ → Adulthood SRQ → Well-being	-.07	.03	.03	.14	.04

Note. BC = bias corrected; CI = confidence interval; SRQ = Sibling relationship quality.

\* $p < .001$ .

at large continues to impact married adults in their marital interactions. In newly industrialised Turkish culture, relationships between brothers and sisters in adulthood continue to have an impact on marital relations. Social norms determine the siblings to show certain role behaviors in the cultural context. In general, brothers are supposed to look after their sisters, while the sisters expect social and economic support from their brothers. For example, in Turkish society, when women divorce their husbands, they expect their brothers to backup and support them in the postdivorce period. Further studies are needed to examine the continuous effects of the family of origin on married adults and their relational dynamics.

The second objective of this study suggests that the quality of childhood sibling relationships recalled has positive effects on well-being in adulthood. In addition, this association is mediated by adult sibling relationships. This result shows that the hypothesis proposed in line with the second aim of the research is confirmed. Although change is common in the process and content of adult sibling dynamics (Stocker et al., 1997), their link with childhood sibling features as they translate into adulthood well-being is sound. Studies have shown that sibling relationships in childhood affect adulthood (Bedford & Avioli, 2012; Riggio, 2000; Tonti, 1988), and positive sibling relationships in childhood can be decisive in adult well-being (Waldinger et al., 2007). In particular, this study reveals the importance of childhood sibling relationship quality in explaining the well-being of married people and the effects of the continuity of these sibling dynamics into adulthood. These results further our understanding of married adults' sibling relations. Furthermore, considering the unique cultural background of the current participants, this study fills a notable gap in understanding family dynamics in Turkish samples where the collectivist tendency is dominant. Moreover, the results of the study are notable in terms of highlighting the lifetime effects of childhood sibling relations, even after marriage.

### **Limitations and Future Directions**

In this study, partly a retrospective approach was taken, which allowed participants to reflect and recall earlier life incidents (i.e., childhood sibling relationship experiences) (Creswell, 1994). This study contains some limitations. First, surveys were answered by only one member of the sibling dyad. Future research should consider the dyadic effects of how sibling relationships impact individual well-being and relationship satisfaction. Second, this study examines the dynamics of sibling relationships in married adults in a society dominated by community culture. The results of this study point to a unique feature of collectivistic cultures and how the broader family continues to impact the sibling relationships of married adults. Studies on adult sibling relationships in a cultural context are limited, and these inherit some limitations in cultural perspective as well (Cicirelli, 1994). Future work should continue to assess sibling relationship dynamics across the culture. The third limitation is associated with the memory of sibling relationships in childhood.

The manner in which earlier sibling relationships influence later-life consequences has typically depended on retrospective reports (Bedford & Avioli, 2012). The responses given here by the participants may include experiences that are a reconstruction of what occurred in the past. Hence, future work should include longitudinal studies to evaluate the developmental trajectories of these relations. The characteristics and consequences of sibling relationships between married and unmarried adults need to be examined. Furthermore, the participants in this study were of a wide age range (i.e., 25–70 years). Based on this age difference, remembering how sibling relationships were in the past may differ. This constitutes an important restriction of the study. Future studies should examine the characteristics and qualities of sibling relationships in young adults and older people and comparatively. Furthermore, former studies have shown that age differences between siblings and sibling birth order impacts sibling interactions. Since there was no restriction on a certain age range in the participants in this study, no analysis was conducted based on the age difference between siblings and sibling birth order; however, it is considered notable in terms of examining the relations and results between older brothers and sisters. Finally, results suggest that sibling relationships have effects on marital relationship and well-being; however, it may also be possible that nourishing marital relationships and well-being impact positive and supportive relationships with siblings. In the future, explanations are needed to examine the cause and effects of these relationships.

In summary, this research contributes to a growing body of literature assessing sibling dynamic and their outcomes in married people. In this study, warmth in sibling relationships of the same sex or different sexes had positive effects on the individual (e.g., wellness) and relational dynamics (e.g., relationship satisfaction) of married people; while conflict between siblings had negative effects. Additionally, our findings suggest that clinical practice focus on understanding the effects of sibling relationship dynamics in the family of origin on married individuals. More specifically, the results of the study highlight the significance of the effects of childhood sibling relationships as determinants of the well-being of married people. The results indicate that strengthening sibling relationships can positively contribute to the mental health and marital dynamics of adults.

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### **Declaration of Conflicting Interests**

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## Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the University of Hasan Kalyoncu Research Ethics Committee.


## Informed Consent

Informed consent was obtained from all individual participants included in the study.

## Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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