

## An analysis of sibling relationship in adulthood: STQ-Now, Polish version

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### Summary

**Aim:** The main aim was to develop a Polish version of the STQ-Now, an American questionnaire created by Stewart and colleagues to evaluate the current sibling relationship.

**Method:** The sample of 416 adults, 18 to 36 years old, completed a survey that consisted of a sociodemographic form, the STQ-Now and one of three questionnaires: the ASRQ, the SWS or the UCLA.

**Results:** The five-factor structure of the STQ-Now was validated using confirmatory factor analysis, however, because of the low level of reliability of one of the scales (Longing) some changes were introduced: items included in Longing were distributed between Mutuality and Apathy and 7 items from Criticism formed a new factor – Predominance. The new model was well-fitted to the data. The internal consistency of all scales was high (Cronbach's  $\alpha$  0.719 to 0.935). The Pearson correlation coefficients for STQ-Now and ASRQ, SWS and UCLA showed a satisfactory level of concurrent and discriminant validity.

**Discussion:** STQ-Now consists of 48 items examining the sibling relationship. Statistical and theoretical analyses led to a five-factor model with the following scales: Mutuality, Criticism, Predominance, Apathy and Competition. Some limitations of the questionnaire are also mentioned in the paper.

**Conclusions:** In spite of some differences with regard to the original version, STQ-Now is a valid and reliable questionnaire and can be used in the Polish population.

**sibling relationships/STQ-Now questionnaire/adulthood**

### INTRODUCTION

The relationship between siblings is unique. Cicirelli [1, p.4] defines it as 'the total of the interactions (physical, verbal, and nonverbal communication) of two or more individuals who

share knowledge, perceptions, attitudes, beliefs, and feelings regarding each other, from the time that one sibling becomes aware of the other.' It is also usually the longest running relationship in life. This means that brothers and sisters influence each other's behavior and mutually modify the ways of perceiving the reality which surrounds them, share their joys and support each other in times of crisis.

The interactions of siblings with each other are seen at all stages of development: in childhood [2], adolescence [3] and adulthood [4-6], but their nature is not the same at all times. In the early years of life, the relationship is somewhat forced

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on the siblings by circumstances, i.e. the necessity to live together, and consequently, the inevitability of daily interaction. In adulthood, it becomes voluntary. If a strong bond has not developed by then, the bond that exists is often lost as a result of a brother's or sister's concentration on the implementation of tasks arising from the adoption of new life roles: an employee, a spouse or a parent. Research by White and Riedmann [7] indicates that more than a half of adult siblings had contact with each other in the previous month, less than 60% would consider their brother or sister as one of their friends, and a third would call their siblings for help in an emergency. This suggests that despite the loosening of bonds, the sibling relationship is still important in adulthood.

A positive relationship with a brother or sister seems to bring many benefits, however, it is often underestimated by clinicians and psychotherapists. The sibling relation sometimes emerges in the course of family therapy as a substitute of parental relation, when the parents avoid revealing information about their own relation. Additionally, adults often try to exclude siblings, especially the younger ones, because they do not feel it may be profitable beneficial to the therapeutic process [8].

A close bond between siblings is a buffer during a confrontation with unfavorable social, psychological and physical conditions – siblings are the primary source of instrumental and emotional support [1,7,9]. A high level of sibling support affects the functioning of the sibling unit and the whole family system; it is connected with lower levels of internalizing and externalizing problems [10]. Clinical research has shown that siblings whose brothers or sisters suffer from a mental illness may be more tolerant and compassionate [11], but they are often treated as caregivers, and according to the level of their involvement, the strength of the bond between them may vary [12]. Horwitz [13] found that adult siblings of people with schizophrenia and bipolar disorder are more engaged in the relation, especially when both parents are deceased. The results of the studies analyzing their coping strategies are not consistent: some siblings adjust and cope with the situation by seeking other emotional and informational support, whilst others may use substances, such as various stimulants [11,14]. Therefore, it is important to pay attention to the healthy child's

needs as their fulfilment may contribute to the child's self-development [15].

Being close with a sibling increases the feeling of security and gives a sense of stability and control [1], whereas the loss of a sibling may affect the future life of "the survivor" by impeding the establishing of close and intimate relationships and lowering the sense of the predictability of the world [16]. In later life, having siblings reduces the burden of caring for aging parents and helps to cope in the event of their death.

In view of the fact that sibling relationships in adulthood are valuable, but not of key importance, regular, close contact and openness may be beneficial for their maintenance [17,18].

There are very few tools that enable studying the relationship between siblings in adulthood. One such tool is the Lifespan Sibling Relationship Scale [19], which enables an exploration of the respondent's current attitude towards their brother/sister in three dimensions (cognitive, emotional and behavioral), and allows to retrospectively evaluate these attitudes during childhood. The current relationship with siblings is therefore examined quite briefly – the researcher obtains information only on whether the attitude towards siblings was positive or negative, without a qualitative and in-depth analysis.

The second tool is the 81-item Adult Sibling Relationship Questionnaire (ASRQ) [20]. The complex structure makes it possible to study the relationship in three dimensions: warmth, conflict and rivalry, each of which is divided into subscales enabling additional analysis. The main drawback of ASRQ, however, is that it focuses largely on the positive side of the relationship. Most of the test items fall on the warmth scale (8 subscales), whereas only 4 subscales form the conflict scale and 2 the rivalry scale. Therefore, the questionnaire does not give a full picture concerning the nature of sibling ties in adulthood and can sometimes lead to erroneous conclusions.

The Sibling Type Questionnaire – Now (STQ-Now) [21] is the third questionnaire created to enable a description of the relationship between siblings in adulthood. The American version consists of five scales: mutuality, criticism, apathy, competition and longing, and is characterized by a high psychometric performance, which is well suited for a multidimensional analysis of the link between adult brothers and sisters.

The process of constructing the questionnaire proceeded in several stages. First, Robert Stewart and his colleagues [21] conducted interviews with a group of 100 subjects (48 men and 52 women) aged 18 to 58. Each respondent was asked to indicate 3 statements describing his or her current relationship with their siblings. Duplicates and ambiguous statements were excluded from the total 326 responses, thus giving 123 items, which were used to create a draft of the questionnaire.

At the next stage, a quantitative survey was conducted with 172 participants. The average age of the respondents was 27.9 years, and the sample included the eldest (37%), middle (26%) and youngest (37%) siblings. Their task was to respond to 123 statements, marking the extent they agreed with each on a scale from 1 to 5. On the basis of the survey's results, an exploratory factor analysis was conducted, using the principal components with orthogonal rotation to confirm the validity of the factor model. Based on a scree plot, five factors explaining 64% of the variance were distinguished:

- mutuality – describing the level of intimacy and acceptance between siblings (high results also indicate high engagement in the relationship and similarity in the most important life issues);
- criticism – assessing the level of hostility and criticism in the relationship, containing items referring to the dominance of one sibling over the other;
- apathy – including items that indicate lack of interest and low involvement in the relationship with a brother/sister;
- competition – showing the level of rivalry and jealousy between siblings;
- longing – describing the level of grief and longing for the past experience with a brother/sister

Items with a low factorial load were removed from the content of the questionnaire, leaving the final 50 statements: 12 included in the mutuality scale, 13 in the criticism scale, 12 in apathy, 7 in competition and 6 in the longing scale. The Cronbach's alpha internal consistency factors for the individual scales ranged from 0.89 for longing to 0.97 for mutuality.

For a more comprehensive analysis, the authors conducted another study ( $n=658$ ) [21] and, using a cluster analysis, distinguished 5 types of siblings: supportive, longing, apathetic, hostile, and competitive. These types were used for further research and verification of the theoretical model.

## METHOD

### Adaptation procedure

After obtaining the authors' consent for an adaptation of the STQ-Now questionnaire, its content was translated into Polish by three independent translators. The three versions were compared and a draft version of the tool was compiled; a descriptive label was added containing basic information about the respondent (year of birth, gender) and their selected siblings (year of birth, gender, biological vs. half-siblings). This version was back-translated into English by a person not involved in the previous steps of the adaptation process and sent to the author of the original version for additional consultation. Following feedback from R. Stewart, minor linguistic changes were introduced to achieve greater compatibility with the original version. In addition, 28 competent judges analyzed the content of the questionnaire, indicating stylistic and grammatical irregularities, so that the tool gained in clarity and intelligibility. In the version used for further research, the questionnaire was preceded, just as in the original version, by short instructions requesting the respondent to select one brother or sister from among their siblings and to describe their relationship with them by rating the questionnaire statements. Answers were entered onto a five-point scale showing the extent to which a particular statement characterizes the relationship (1 – hardly ever, 2 – a little, 3 – on average, 4 – very much, 5 – exceptionally).

The next step in the adaptation process was to conduct quantitative research enabling verification of the tool's structure on a Polish sample of subjects. The study was conducted in May and June 2015. The surveys were distributed to groups in the presence of the author of the adaptation. Respondents were informed that participa-

tion in the study was voluntary and anonymous and that the results would be used for research purposes only. Each person received a battery of tests consisting of a sociodemographic questionnaire, the STQ-Now (Polish version) and, depending on the subgroup they were assigned to: the ASRQ [22], the Loneliness Scale (UCLA) [23] or the Social Support Scale (SWS) [24].

### Participants

The study group consisted of 416 subjects (298 women and 118 men), students of three university-level schools with different profiles: the University of Lodz, the Lodz University of Technology and the Grażyna and Kiejstut Bacewicz Academy of Music in Lodz, representing 15 different majors, including: biotechnology, economics, computer science, instrumental music, logistics, pedagogy, psychology, food technology and vocalism. Their age ranged from 18 to 36 years ( $M = 21.5$ ;  $SD = 1.8$ ). The analysis of birth order in relation to other siblings revealed that 39% of subjects were the youngest among the siblings, 14% were middle children, and 47%

were the eldest ones. Respondents came from different backgrounds: 149 lived in large cities (over 100 000 inhabitants), 141 in small and medium-sized towns (up to 100 000 inhabitants), and 126 in the country.

### RESULTS

Statistical analyses were carried out in two programs: IBM SPSS Statistics 22 and IBM SPSS AMOS 22. To verify psychometric properties of the STQ-Now factorial, concurrent and discriminant validity [25] were assessed, and item discrimination power, the scales' inter-correlations and reliability coefficients were measured.

#### Factorial validity – confirmatory factor analysis

In the first instance, we attempted to verify the original American model of the STQ-Now. To this end, a confirmatory factor analysis (CFA) using the maximum likelihood method (Table 1) was performed. The original model, consisting of 50 items and 5 correlated factors was verified (Table 2).

**Table 1.** STQ-Now confirmatory factor analysis

Model	Chi <sup>2</sup>	df	Chi <sup>2</sup> /df	RMSEA	CFI
Original five-factor model	3623.87	1165	3.11	0.071	0.76
Modified five-factor model	3064.25	1068	2.87	0.067	0.803
Four-factor model	3375.15	1168	2.89	0.067	0.785
Three-factor model	3201.62	1075	2.98	0.069	0.79

**Table 2.** Verification of the STQ-Now original five-factor model

STQ-Now subscale	Items	Cronbach's $\alpha$
Mutuality	2, 4, 7, 13, 16, 23, 26, 30, 35, 39, 44, 46	0.93
Criticism	1, 6, 14, 18, 21, 31, 32, 36, 38, 42, 45, 47, 49	0.86
Apathy	5, 9, 12, 15, 20, 27, 29, 33, 37, 41, 48, 50	0.85
Competition	11, 19, 25, 28, 34, 40, 43	0.84
Longing	3, 8, 10, 17, 22, 24	0.36

Although the fit indexes obtained may be considered satisfactory, an analysis of the reliability of scales estimated using Cronbach's alpha

internal compliance prompted us to reconsider the original structure of the tool. The theoretical and statistical analysis of the Longing scale in-



indicated that its items also cross-loaded two other factors: items 3, 8 and 22 loaded the Mutuality scale, whereas items 10, 17 and 24 loaded the Apathy scale. These results are consistent with the effects of exploratory factor analysis carried out when the original version of the questionnaire was being created – such cross-correlations also appeared. Therefore, we decided to re-examine the contents of the items and their loads and work aiming to create a better fitted model was undertaken.

Subsequently, a four-factor model was verified. The Longing scale was withdrawn and its items were distributed among the two scales that demonstrated cross-loading: Mutuality and Apathy. The resulting improvement in model fit to the data ( $\chi^2/df = 2.89$ , RMSEA = 0.067, CFI = 0.785) was not entirely satisfactory, and neither were the results obtained in the analysis of the tripartite model, including the following scales: positive attitude towards siblings, negative attitude towards siblings and indifference.

In order to maintain the original five-factor structure of the tool, while keeping in mind the indicators of its reliability and substantive correctness, we decided to divide the Criticism scale into two factors: Criticism and Predominance. Content analysis of the constituent items indicated that the items belonging to that scale on the one hand explored a critical approach to the relationship with a sibling, and on the other hand evaluated the tendency of one sibling to dominate over another one. Eventually, 6 items were

assigned to the Criticism scale, whereas 7 formed a new scale assessing the Predominance factor. In addition, two items, i.e. 37 and 50, were deleted from the model due to low factor loading (0.37 and 0.27). Bearing in mind that there is a considerable convergence of the contents of two pairs of items, the correlation of error residues between items 3 and 22, as well as items 17 and 20 was introduced. The final model achieved a satisfactory level of fit indexes ( $\chi^2/df = 2.87$ , RMSEA = 0.067, CFI = 0.803) [26,27].

The final version of the tool consists of 48 of items grouped into 5 scales: Mutuality, Criticism, Predominance, Apathy and Competition (Figure 1).

### Concurrent and discriminant validity

The construct validity of the tool was estimated using Pearson  $r$  correlation coefficient and three tools: the ASRQ, the SWS and the UCLA.

A positive correlation between the scales and subscales assessing identical constructs was obtained (Table 3) for the first scale, ASRQ. A strong correlation between the Mutuality and Warmth scales ( $r = 0.82$ ,  $p < 0.001$ ) as well as all of the constituent subscales was demonstrated. At the same time, no correlation was obtained between the Mutuality and Conflict scales and the subscales, except for the Opposition subscale ( $r = 0.02$ ,  $p = 0.03$ ) and Maternal Rivalry subscale ( $r = 0.22$ ,  $p = 0.02$ ), where the indicators were very poor. Both the Predominance and Criticism scales demonstrated the strongest correlations with the Conflict scale ( $r = 0.65$ ,  $p < 0.001$  and  $r = 0.69$ ,  $p < 0.001$ ) and all of its subscales. In the case of Criticism, negative correlations with the subscales of Warmth were revealed. No significant correlations were obtained on the Predominance scale. The Apathy scale correlated negatively with the Warmth scale ( $r = -0.69$ ,  $p < 0.001$ ) and all of its subscales, but did not correlate with the Rivalry factor. Finally, Competition showed a positive correlation with the Conflict scale ( $r = 0.54$ ,  $p < 0.001$ ), and a negative correlation with the Warmth scale ( $r = -0.31$ ,  $p < 0.001$ ). It did not correlate with the Rivalry scale, which may be due to the fact that the questions of this ASRQ scale focus to a greater extent on the feeling of being favored by the parents than on the competition itself.

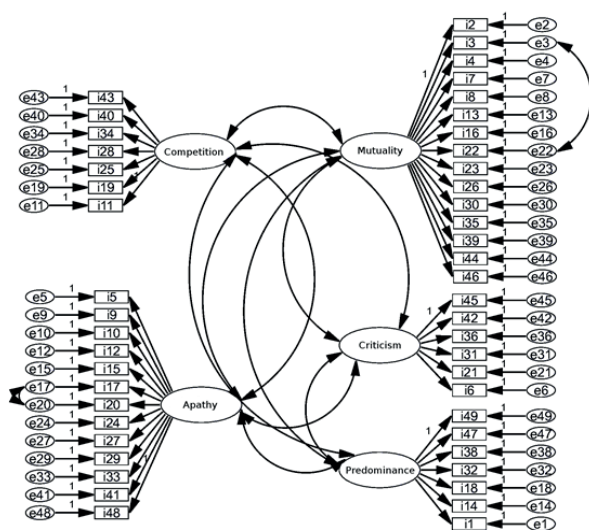


Figure 1. The modified five-factor model.

**Table 3.** The coefficient values of the Pearson linear correlation (r) between the STQ-Now scales and the ASRQ scales

Adult Sibling Relationship Questionnaire (ASRQ) (N=109)		STQ-Now				
		Mutuality	Criticism	Predominance	Apathy	Competition
Warmth		0.82**	-0.31**	-0.23*	-0.69**	-0.31**
Subscales	Similarity	0.65**	-0.29*	-0.18	-0.63**	-0.27*
	Intimacy	0.65**	-0.22*	-0.18	-0.53**	-0.22*
	Affection	0.78**	-0.24**	-0.16	-0.64**	-0.26*
	Admiration	0.72**	-0.22*	-0.16	-0.56**	-0.17
	Emotional support	0.82**	-0.27**	-0.17	-0.06**	-0.25*
	Instrumental support	0.53**	-0.12	-0.10	-0.49**	-0.22*
	Acceptance	0.60**	-0.47**	-0.38**	-0.54**	-0.35**
	Knowledge	0.45**	-0.22*	-0.15	-0.38**	-0.23*
Conflict		-0.14	0.69**	0.65**	0.19*	0.54**
Subscales	Quarrel	-0.13	0.62**	0.55**	0.21*	0.38**
	Opposition	-0.02*	0.62**	0.47**	0.16	0.29*
	Competition	-0.01	0.47**	0.44**	0.10	0.54**
	Domination	-0.011	0.54**	0.69*	0.16	0.56**
Rivalry		0.06	-0.21*	-0.15	-0.10	-0.13
Subscales	Maternal Rivalry	-0.22*	-0.15	-0.10	0.05	-0.03
	Paternal Rivalry	-0.03	-0.13	-0.01	-0.06	0.02

\*p<0.05; \*\*p<0.01

The analysis of correlation between the STQ-Now and the Siblings subscale in the SWS (Table 4) showed a strong positive association of Mutuality with all kinds of support received from a sibling and the general indicator of support (r = 0.71, p < 0.01). Negative correlations with the level

of support from siblings in all the surveyed categories were revealed in the case of Criticism and Apathy scales. There were no correlations demonstrated for Predominance, and for Competition there was only a weak negative correlation with the Emotional support scale (r = -0.19, p < 0.04).

**Table 4.** The coefficient values of the Pearson linear correlation (r) between the STQ-Now scales and Social Support Scale (Sibling subscale) and Loneliness Scale (UCLA)

	STQ-Now				
	Mutuality	Criticism	Predominance	Apathy	Competition
Social Support Scale (SWS)/ Sibling subscale (N=111)					
Total support	0.71**	-0.46**	-0.18	-0.47**	-0.18
Informational support	0.55**	-0.44**	-0.18	-0.34**	-0.18
Instrumental support	0.62**	-0.43**	-0.17	-0.41**	-0.11
Evaluative support	0.64**	-0.35**	-0.08	-0.43**	-0.13
Emotional support	0.64**	-0.36**	-0.18	-0.46**	-0.19*
Loneliness Scale (UCLA) (N=92)					
Intimate others	-0.31**	0.16	0.19	0.31**	0.26*
Social others	0.37**	-0.24*	-0.28*	-0.30**	-0.30**
Belonging and affiliation	0.20	-0.04	-0.10	-0.14	-0.14

\*p<0.05; \*\*p<0.01

Statistical analyses also demonstrated correlations between the STQ-Now and the UCLA scales (Table 4). Mutuality correlated negatively with the Intimate others scale ( $r = -0.31$ ,  $p < 0.01$ ), indicating a sense of lack of close ties with other people. In contrast, it correlated positively with the Social others scale ( $r = 0.37$ ,  $p < 0.01$ ), indicating the presence of supportive persons in the respondents' social environment. In the case of the remaining STQ-Now scales, a negative relationship with the Social others scale was revealed. In addition, the Apathy and Competition scales correlated with the Intimate others scale ( $r = 0.31$ ,  $p < 0.01$  and  $r = 0.26$ ,  $p < 0.01$ , respectively). No statistically significant correlations with

the last UCLA scale, Belonging and affiliation, were demonstrated.

These results confirm high concurrent validity of the Polish version of STQ-Now, including a correlation between the Mutuality and Warmth scales, the latter's subscales (Table 3), and the Social Support Scale subscales studied (Table 4), and a negative correlation between the Criticism and Apathy scales and the Warmth (Table 3), and Social others scales (Table 4). At the same time, lack of correlations between Competition, Predominance and Social Support Scale subscales (Table 4) as well as some subscales of the Warmth scale (Table 3) indicates the discriminant validity [10].

### Sibling relationship quality

**Table 5.** The sibling relationship: gender differences

STQ-Now scales	Women (N=298)		Men (N=118)		Student's t-test
	M	SD	M	SD	t
Mutuality	3.52	0.79	3.12	0.78	4.676**
Criticism	2.38	0.82	2.52	0.87	-1.508
Predominance	2.07	0.68	2.19	0.66	-1.664
Apathy	2.16	0.72	2.44	0.63	-3.914**
Competition	1.96	0.78	2.14	0.79	-2.164*

\* $p < 0.05$ ; \*\* $p < 0.01$

We analysed the perceived quality of the relationship with a sibling based on the respondent's gender (Table 5) and compared their responses using the Student's *t*-test with the assumption of variance equality (except for the Apathy scale, where this assumption was not met). The results show that differences exist between women and men in the perceived quality of the relationship. Women scored significantly higher on the Mutuality scale ( $M = 3.52$ ,  $p < 0.01$ ), and men scored higher on the Apathy scale ( $M = 2.44$ ,  $p < 0.01$ ) and the Competition scale ( $M = 2.14$ ,  $p < 0.05$ ). This is consistent with previous studies [6,28,29], which showed a stronger mutual emotional relationship between women and their siblings. At the same time it was also established that, particularly in male-male pairs, the respondents experienced more nega-

tive emotions and indicated much lower rates of warmth and intimacy, and were resolving conflicts in a constructive manner more infrequently than mixed or female-female pairs [30].

### Item discrimination

The discriminatory power allows to assess the extent to which a particular item differentiates the population studied. To estimate item discrimination power, a coefficient of correlation between an item and a scale to which it belongs was used. The following results were obtained: Mutuality 0.49 – 0.78, Criticism 0.44 – 0.67, Predominance 0.35 – 0.59, Apathy 0.52 – 0.68, and Competition 0.38 – 0.69. These results indicated an acceptable level of the test's discriminatory power [31].

### Reliability and intercorrelations

Intercorrelations between the scales were calculated with Pearson correlation coefficient (Table 6). All correlations between the analyzed variables were found to be statistically significant. The strongest correlation was observed between the Predominance and Com-

petition scales ( $r = 0.733$ ,  $p < 0.01$ ), as well as between the Predominance and Criticism scales ( $r = 0.685$ ,  $p < 0.01$ ). At the same time, a strong negative correlation between Apathy and Mutuality ( $r = -0.668$ ,  $p < 0.01$ ) was revealed. These results are consistent with the theoretical assumptions of the model and confirm the earlier analyses.

**Table 6.** Intercorrelations between STQ-Now scales and the level of reliability

STQ-Now scales	STQ-Now scales				Reliability
	Mutuality	Criticism	Predominance	Apathy	Cronbach's $\alpha$
Mutuality	1				0.935
Criticism	-0.337**	1			0.807
Predominance	-0.224**	0.685**	1		0.719
Apathy	-0.668**	0.406**	0.316**	1	0.843
Competition	-0.259**	0.645**	0.733**	0.379**	0.864

\* $p < 0.05$ ; \*\* $p < 0.01$

The reliability of the test was measured by Cronbach's  $\alpha$  internal consistency method (Table 6), with high rates obtained (ranging from 0.719 for Predominance to 0.935 for Mutuality). Just as in the original version of the tool, the highest rates were obtained with reference to the scale surveying the perceived positive, close relationship with a sibling.

### DISCUSSION

STQ-Now is a comprehensive tool allowing to study the quality of relationships between siblings in adulthood. The Polish adaptation, like the original version, consists of 5 dimensions, but factor analysis of the tool and purport analysis of the test items indicated the necessity to modify the grouping of items in the factors. Therefore, after consultations with the author of the original version, the Longing factor was removed, and 7 statements were separated from the Criticism factor, creating a new factor – Predominance. It was also decided to delete 2 statements with low factor loadings. Finally, the adapted version consisted of 48 items arranged in the following scales: Mutuality, Criticism, Predominance, Apathy and Competition.

The reliability of the questionnaire measured using Cronbach's  $\alpha$  internal consistency coefficient ranged from 0.719 for Predominance to 0.935 for the Mutuality scale, which is considered to be very high (Table 6). At the same time, intercorrelations between the scales indicate the tool's consistency and confirm the theoretical assumptions of its original version. The discriminative power indicators obtained are satisfactory. Statistical analysis indicated a high concurrent and discriminant validity of the questionnaire. The correlation between closeness and intimacy and a sense of reciprocity in the relations has also been confirmed by other researchers [5,21].

Siblings are usually seen as one of the main sources of support [9,32], even when one of them is suffering from a mental illness [33]. The high quality of the relationship is also connected with the feeling that a brother/sister supports us emotionally or instrumentally (Table 4). Siblings who share a close bond support each other in difficult situations [4]. However, young individuals whose brother or sister has a mental illness report a need for respite and educational and psychological support [33]. Inactivity of an ill person may partially contribute to the increase in the severity of their siblings' depressive symptoms and lead to some behavioral and emotional problems [34]. The present study has



revealed correlations between the scales related to the existence of a conflict and negative emotions in contact with siblings, which had also been noted in previous studies, not only in adults [19], but also among children [35]. In addition, conflict relationship with brother/sister, based on quarrels and rivalry, may be associated with an increased sense of loneliness [36] (cf. Table 4). Even after controlling for the parent-child relation, the conflict between siblings may contribute to a negative social adjustment during adolescence and to an increase in depressive symptoms [37].

Introducing a new scale in the questionnaire, Predominance, makes it possible to enhance the analysis of the sibling relation. It is especially valuable for practitioners working with families, because the imbalance of dominance in the sibling pair is a risk factor, for instance in peer victimization [38].

Despite its many advantages, the adaptation of the questionnaire is not without limitations. All analyses were performed on a sample consisting of 416 university students and cannot be generalized to the whole Polish population. The number of participants was sufficient to conduct statistical analyses, but in order to increase the precision of the tool, it is expedient to carry out additional studies. Moreover, the adaptation failed to reproduce the same factors as in the original version, which may be a result of cultural differences, but also age differences (Polish sample  $M = 21.5$ ;  $SD = 1.8$  vs. original sample  $M = 27.9$ ,  $SD = 10.26$ ). The adaptation process was exploratory and some additional studies should be conveyed to confirm the validity of the questionnaire. Nevertheless, analyses of the Polish adaptation of STQ-Now confirm that this tool is accurate and reliable and can be used to examine the quality of sibling relationship in adulthood.

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