



# Psychological study of siblings subsystems – methodological considerations<sup>1</sup>

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Katarzyna Kamila Wałęcka-Matyja<sup>a</sup> ✉

<sup>a</sup> Associate Professor Katarzyna Kamila Wałęcka-Matyja, PhD, <https://orcid.org/0000-0001-8222-729x>, Department of Social Psychology and Family Study, Institute of Psychology, University of Łódź, Poland

✉ Corresponding author: [katarzyna.walecka@now.uni.lodz.pl](mailto:katarzyna.walecka@now.uni.lodz.pl)

**Abstract:** *Introduction:* The analysis of the literature devoted to scientific considerations on the relational aspect of the functioning of siblings, especially those who are in adulthood, allows us to draw the conclusion that they are relatively rarely undertaken by researchers. It is noticed that nowadays there is an increase in interest in this issue. The aims of the work were to consider some of the limitations occurring in the process of conducting psychological research on the sibling subsystem and to present tools for psychological measurement of the quality and dimensions of the interpersonal relationship between siblings. *Method:* The method of content analysis of publications in this field was used and a comparative analysis of issues undertaken in the context of psychological research on the relational aspects of the functioning of siblings was carried out. *Results:* Five self-report questionnaire tools that were developed in 2014-2017 were presented along with their psychometric properties: Adult Sibling Relationship Questionnaire, Adult Sibling Family Relations Scale, STQ – Now, STQ – Then and Sibling Relationship Questionnaire. *Conclusions:* The specificity of research on interpersonal relationships in the sibling subsystem is related to methodological awareness of the high complexity of the family environment and knowledge of the uniqueness of sibling relationships. The researcher's consideration of both issues creates space for searching for new methodological solutions.

**Keywords:** siblings, family, interpersonal relationship, psychological measurement.

## Introduction

The interest of social science researchers in the problem matter of interpersonal relationships of adult siblings has recently shown an upward trend (Bouchard et al., 2019; Cicirelli, 1995; Kosiol, 2015; Lewandowska-Walter, Połomski and Peplińska, 2017; Rostowska, 2010; Szymańska, 2019; Shepherd et al., 2021; Stocker et al., 2020; Szymańska, 2020).

The research focused on the problem matter of interpersonal relationships of adult siblings initially included the issue of the differentiated structure of the sibling subsystem, the importance of the position of a child in the family for the socialization process and the development of adaptational skills (Adler, 1986; Ansbacher, Ansbacher, 1956; Irish, 1964). At first, the research aimed at determining the long-term influence of sibling relationships in early childhood on the level of social adaptation in people in middle

childhood (Dunn, 1983; Furman, Buhrmester, 1985) and adolescence (Noller, 2005; Szymańska, 2020). Over time, psychologists realized that the role of early experiences in the human development and the adaptational function of social behaviours in the sibling-dyad subsystem could affect the functioning of a human being in the later stages of development. The survey of the more recent literature on the subject allows us to find out that family specialists started to gradually expand the area of research on siblings and more and more research results emphasized the role of siblings in adulthood (Cicirelli, 1995; Biegler, Edward and Kennair, 2016; Finzi-Dottan and Cohen, 2010; Floyd and Morman, 1998; Greszta, Rys, Trąbicka and Hofer-Buczowska, 2020; Marotta, 2015; Milevsky, 2005; Riggio, 2000; Rocca and Martin, 1998; Slomkowski et al., 2005; Szymańska, 2021).

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However, it is still being noticed that the issue of interpersonal sibling relationships is raised by a relatively scarce group of researchers as compared with other types of family interactions, e.g. mother – child, parents – children, which attract a greater interest (Feinberg et al., 2012; Myers, 2015). That seems quite surprising as it has been found out that more than 80% of the global population have a brother or a sister (Rittenour et al., 2007). Thus, it can be assumed that the issue of the dimensions and the quality of interpersonal sibling relationships is essential for a large group of people. Despite this fact, one might get the impression that it is underestimated or even ignored by the researchers. Then, naturally, the question arises as to the reasons of this state of affairs. Therefore, in this study we have made an attempt to answer the question about the reasons why there has been so little psychological research on adult sibling relationships, presenting, at the same time, some issues that are important from the methodological point of view. The scientific considerations were based on the content analysis of the publications in this scope as well as the comparative analysis of the issues raised in the context of the psychological research on the relational aspects of the functioning of sibling dyads.

## **1. The specificity of psychological research conducted on the family system**

Studies on interpersonal relationships, especially the ones from the family system, shall require a specific research approach as the social relationships occurring in families are intense, multi-aspectual and complex and may evoke complicated feelings and attitudes. However, the biggest challenge for the researcher is the private nature of family relationships. It is not easy to observe them, and family members are often reluctant to reveal private, sometimes embarrassing family life problems. Due to their specific features, sibling relationships are a unique area of experiences, sometimes extremely painful, which people do not wish to reveal, for example, experiences connected with parental favouritism, the status of the strongest sibling, rivalry or conflict. It has been stressed that the

biggest challenge in conducting research on siblings is the fact that sibling relationships are an element of a complex network of relationships between the members of a given family system or systems, e.g. in case of reconstructed families. The reference to the systemic perspective is based on the fact that, at present, the majority of research studies on families are conducted in this paradigm (de Barbaro, 1999; Cierpka, 2003; Janicka and Cieślak, 2020; Minuchin, 1988; Namysłowska, 2000; Płopa, 2005; Rostowska, 2008; Satir, 2000; Szymańska and Poraj-Weder, 2021; Świętochowski, 2014).

According to the systemic approach, the family is treated as a whole, which consists of different elements constantly interacting with each other. It is emphasized that this whole is something more than a simple sum of these components. It is a unique system where the family members depend on each other. Therefore, every change in the functioning of one of the persons shall modify the functioning of not only the family system considered as a whole but also its individual members. It is stressed that the dependencies between the persons making up a family are of a circular nature (so called circular causality), not, as previously considered, a linear one. That means that the behaviours of some family members are undoubtedly related to the behaviours of the other ones (Cierpka, 2003). Therefore, in case of conducting research on the sibling subsystem, we cannot ignore the other subsystems of the family system, e.g. the marriage subsystem or the parent and child one.

Considering the multidimensionality and differentiation of interpersonal sibling relationships, it has been accepted that the systemic perspective is neither the only nor the fully sufficient approach to describe and explain this type of relationship in the context of developmental, family and group differences (comp. Stocker et al., 1997; Szymańska, 2019). It shall be stated that, like in other close interpersonal relationships, the processes determining their dynamics have impacts on many different levels. In their deepest layer, they refer to inner psychological processes, such as attachment and social comparisons, up to relational dynamics including the processes of social learning and extra-family factors, which include social-cultural influences (Whiteman et al., 2011).

Therefore, the next issue which should be paid attention to while exploring the problem matter of interpersonal sibling relationships is determining theoretical perspective or perspectives in which research will be conducted and its results interpreted. Based on the literature review, it has been noticed that the researchers most often follow the assumptions of the four main psychological perspectives basically used to describe and explain differentiation in sibling relationships. They include: the psychoanalytical-evolutionary approach, the social-psychological perspective, the theory of social learning and the family-ecological system paradigm (Whiteman et al., 2011).

Returning to the issue of the family system whose part of the relational networks includes the interpersonal sibling relationships, which the researcher is interested in, it is worth emphasizing that this system is characterized by high variability. It results not only from normative crises typical of all families but also from experiencing non-normative crises, e.g. divorce, loss of job or chronic disease. Also, in the very sibling subsystem we might observe changes resulting largely from the increase or decrease of the family size, birth order, age difference between siblings, different gender, somatic or personality features (Lewandowska-Walter, Połomski and Pepińska, 2017).

Another issue referring to the research on siblings, essential from the methodological point of view, is to understand and operationalize the term of *siblings and sibling relationships*. When considering the relationship between siblings, the most commonly used approaches are two different perspectives (Kądziołka, 2012). The first of them includes the formal-biological dimension relating to the biological relationship between siblings. The second one concerns the psychological dimension in which interactions, thinking patterns and emotions occurring between siblings can be considered. This is quite a large generalization, somewhat structuring in nature. However, in some cases that may make it difficult to solve research problems, because there is a large variety of sibling relationship types. Even 26 possible different sibling relationship types have been identified (e.g. twins, biological siblings, adoption siblings, foster siblings) (Treffers, et al., 1990).

The researchers emphasize that including such a great number of variables and the awareness of all the dependencies between them in one study significantly impede the creation of comparator groups (Braun-Galkowska, 1992).

## **2. Characteristics of the siblings' interpersonal relationship**

The family environment is a natural space in the early ontogenesis for building relationships between siblings. Understood as the centre of family life, it plays a significant role in learning the rules and norms of social functioning, and as a source of structuring space in time, it provides a specific rhythm (Nymś-Górna, 2018).

Sibling relationships are described as the longest-lasting ones, since they also last after the parents' death. They are primary and attributed to a person due to the fact of birth in a specific family environment and the impossibility to make a choice. They are of an egalitarian nature, based on partnership rules, horizontal, different from vertical relationships with the parents. Sibling relationships are also described as ambivalent, as they include the whole range of interpersonal relationship shades from love and attachment, through rivalry, favouritism, criticism, domination, conflict to indifference. The relationship quality is in a great degree connected with spending time with the siblings, giving them attention, involvement in playing together and undertaking different activities. Moreover, it is important whether brothers and sisters pay attention to each other's needs and accept each other regardless of each other's virtues or flaws. Closeness and intimacy in a sibling dyad also mean the emotions accompanying everyday coexistence and the built-up bonds. The researchers assume that the quality and style of cooperation developed in the early stages of life affects the quality and style of cooperation between siblings in adulthood (Nymś-Górna, 2018; Szymańska i Poraj-Weder, 2021).

The sibling relationship has its own dynamics. In some periods it can be perceived as coherent and strong and in others it may become weaker. It shall

be pointed out that individual developmental periods differ as regards the quality and strength of these relationships. In childhood they are the most intense and conflicting whereas in adulthood they become friendlier and more supporting (Stocker, et al., 1997). Moreover, family specialists emphasize that it is a unique relationship since its common thread is the experiences, features, history, which are specific for each family environment. It is not possible to recreate such an interpersonal relationship with any another person, coming from outside the family system (Cicirelli, 1995; Riggio, 2000; Szymańska, 2021).

### 3. Methods of psychological assessment of the quality of interpersonal relationships between siblings

From the psychological point of view it is interesting to study the changeable and unchangeable elements of sibling relationships in longer periods of time. For this purpose, it is advisable to use the longitudinal research strategy enabling the observation of the same persons for many years (Kosiol, 2015). Nonetheless, although the results obtained in this way are highly valued in the field of social sciences, its complexity and difficulty resulting from high costs and the necessity of keeping contact with the surveyed persons often make the researchers choose other research methods.

The methods for the assessment of sibling relationships that are most commonly used include observational and questionnaire ones. Observational methods are particularly useful if the surveyed persons are in early childhood. The methods that are quite often used in such cases include interviews with parents and self-report methods, e.g. concerning behaviours of older children.

At present, the literature on the subject provides numerous questionnaires for the assessment of the quality of sibling relationships not only in different developmental stages, i.e. in childhood, adolescence and adulthood, but also in different life situations, such as chronic disease or mourning. The full review of these

questionnaires was made by M. Kosiol, presenting its results in her study *Research on sibling relationships. Questionnaire review* (comp. Kosiol, 2015).

Presently, there are new tools, not mentioned by M. Kosiol in her study (2015), which are being used in the contemporary research on interpersonal sibling relationships. Therefore, it seems reasonable to make some additions in this respect. These tools include: *Adult Sibling Relationship Questionnaire (ASRQ)* by C. Stocker and co-authors (1997) in the adaptation of Wałęcka-Matyja (2014), *Skala Stosunków Familiarnych Dorosłego Rodzeństwa (SSFDR)* (*Adult Sibling Familial Relationship Scale*) in the adaptation of Wałęcka-Matyja (2015), *You and Your Siblings Now Questionnaire (STQ-Now)* by R. Stewart and co-authors (2000) in the adaptation of P. Szymańska (2016), *You and Your Siblings Then Questionnaire (STQ-Then)* by R. Stewart and co-authors (2000) in the adaptation of P. Szymańska (2019) and *Questionnaire of Sibling Relationships* by A. Lewandowska-Walter, P. Połomski and A. Peplińska (2017a). The above mentioned tools for measuring interpersonal sibling relationships have been shortly described below in the chronological order.

*Adult Sibling Relationship Questionnaire (ASRQ)* by C. Stocker and co-authors (1997) in the adaptation of Wałęcka-Matyja (2014) enables the assessment of the psychological aspects of interpersonal sibling relationships in adulthood. It is a questionnaire where the perception of behaviours and feelings of the respondents towards their siblings as well as the perception of the siblings' behaviours and feeling towards the respondents are assessed. It is worth noting that ASRQ has a full 81-item version (Wałęcka-Matyja, 2014) and a shortened 61-item one (Wałęcka-Matyja, 2016). The interpersonal sibling relationship is assessed by referring to its three factors, i.e. Warmth, Conflict and Rivalry. To get a deeper analysis of the relationship, it is possible to assess it on the sub-scales making up the mentioned three main factors. The factor of Warmth includes the following sub-scales: affection, intimacy, knowledge, emotional support, instrumental support, admiration, similarity, acceptance. The factor of Conflict consist of the following sub-scales: opposition, quarrelling, domination and competition. The factor of Rivalry

consists of two subscales of maternal rivalry and paternal rivalry. For the full ASRQ version, the Cronbach  $\alpha$  coefficients are in the range of 0.97-0.87 (Wałęcka-Matyja, 2014). The shortened version of this tool is characterized by Cronbach  $\alpha$  coefficients in the range of 0.97-0.87 (Wałęcka-Matyja, 2016).

*Skala Stosunków Familiarnych Dorosłego Rodzeństwa* (SSFDR) (Adult Sibling Familial Relationship Scale) by Wałęcka-Matyja (2015) has been designed to measure the respondent's attitude to their siblings in adulthood. SSFDR consists of 20 items. The final score on SSFDR is the sum of points received within the three aspects of one's attitude to their adult siblings, i.e. affective commitment, behavioural commitment, cognitive commitment. The lower the score, the more positive the respondent's attitude to their siblings in adulthood is.

Affective commitment (AC) is described as emotional involvement in experiencing the relationships with adult siblings and emotional attitude resulting from playing the role of a brother/sister for their siblings. The affective factor is related to experiencing events that are emotionally important for the siblings and demonstrating interest in their feelings by the surveyed person. Cognitive commitment (CC) has been operationalized as one's beliefs on their siblings and the relationships with them. It concerns the focusing of thinking, attention, ideas and memories on the siblings. Behavioural commitment (BC) means the degree of interaction with the siblings, demonstrated in various activities. Behavioural commitment is demonstrated when the surveyed person undertakes specific activities showing their interest in their sibling's situation and affairs. The Cronbach  $\alpha$  coefficient calculated for SSFDR is  $\alpha = 0.90$ . Reliability for the individual sub-scales of this tool was following: behavioural commitment  $\alpha = 0.81$ , affective commitment  $\alpha = 0.74$ , cognitive commitment  $\alpha = 0.68$ . Due to the Cronbach  $\alpha$  coefficient's value, which is close to the required level, it is advisable to be careful while interpreting the scores obtained on the scale of cognitive commitment (Wałęcka-Matyja, 2015).

*You and Your Siblings Now Questionnaire* (STQ-Now) by R. Stewart and co-authors (2000) in the adaptation of P. Szymańska (2016) enables

the assessment of sibling relationships in adulthood. The questionnaire consists of 48 items, which make up five scales: reciprocity, criticism, domination, indifference, rivalry. The reciprocity scale enables us to assess the strength of intimacy and acceptance in a sibling dyad. The criticism scale describes the level of hostility and criticism in the sibling relationship. The domination scale includes elements related to domination of one of the siblings over the other. The indifference scale allows us to assess lack of interest in the brother/sister and poor involvement in the relationship with them. The rivalry scale describes the level of rivalry and jealousy in a sibling dyad. The Cronbach  $\alpha$  coefficient's values were in the range from 0.72 for the scale of domination to 0.93 for the scale of reciprocity (Szymańska, 2016).

*You and Your Siblings Then Questionnaire* (STQ-Then) by R. Stewart and co-authors (2000) in the adaptation of P. Szymańska (2019) has been designed to measure retrospective assessment of the quality of the relationships with siblings in childhood. It refers to the period when the respondent was at the age between five and eight years. The questionnaire consists of 56 items, which make up five scales: reciprocity, criticism, support, care, imitation. The scale of reciprocity allows us to assess the strength of intimacy and warmth between siblings, number of interactions and involvement in the time spent together. The criticism scale measures the strength of negative feelings demonstrated towards the siblings as well as the frequency of quarrelling, criticizing and blaming each other. The support scale shows the level of caring for each other, responding to each other's needs and showing interest in the siblings in difficult situations. The scale of care enables us to assess the willingness to protect one's sister/brother, the feeling of responsibility for them and demonstrating educational behaviours. The imitation scale measures the level of copying the sibling's behaviours, perceiving them as a role model, admiring them and taking their opinions into account. The Cronbach  $\alpha$  coefficient's values fell in the range between from 0.92 for the reciprocity scale to 0.84 for the scale of support (Szymańska and Poraj-Weder, 2021).

*Questionnaire of Sibling Relationships (QSR)* by A. Lewandowska-Walter, P. Połomski and A. Peplińska (2017a) is a tool that enables us to measure interpersonal relationships in the sibling subsystem. The type of the family in which the surveyed person is being raised does not affect the results obtained by means of QSR. This tool is designed to examine persons at the age of 12-25 years. It consists of three scales: coherence, communication and rivalry. The Questionnaire of Sibling Relationships has got well-developed sten standards.

In the studies on interpersonal sibling relationships, apart from the use of questionnaire methods, it is recommended to apply qualitative ones, which will be complementary to quantitative methods or will be the way to conduct a separate study. One of the recommended methods is the Focus Group Interview (FGI) (Brabour, 2011). It is noted that it is especially useful in some cases. The first of them refers to studying issues which are difficult to operationalize. The second one concerns conducting research in a situation of a conscious or unconscious discrepancy between the normative area and the social practice. The third case in which it is advisable to use FGI is connected with the importance of getting an in-depth description as well as understanding activities that occur in the analysed section of social life. The last case refers to the aim of the research, which is to reconstruct the socially established meanings and patterns of perception, thinking, assessing and behaving (Sinczuch, 2015).

In studies on siblings the application of FGI is aimed at determining the opinion on siblings, describing the feelings toward them, often hidden needs, behaviours demonstrated in various specific situations, e.g. chronic disease of the parent or the sibling, a criminogenic situation of the sibling, in case of the parent's favouritism or an attempt to understand the phenomenon of mental advantage of one of the siblings. FGI is a discussion led by a researcher (moderator) on a given subject (e.g. behaviour of your siblings in case of the necessity of taking care of your chronically ill parents) with the use of a specifically designed scenario. The researcher asks questions, raises different issues, monitors the discussion, trying to make sure that all the participants can fully

express themselves. The researcher encourages the group to verify the descriptions and statements that have appeared in the discussion. They can use the projection techniques. The moderator records the discussion and this literal record is subject to analysis and reporting. The transcriptions are analysed with the use of both qualitative methods, e.g. discourse analysis, interpretative analysis and quantitative ones, e.g. frequency analysis (Sinczuch, 2015). A small number of discussion members, from 5 to 10, gives the researcher an opportunity to observe the natural social interaction between the participants. The FGI method is considered to allow us to reconstruct the deep-seated mindsets and ways of perception. Moreover, the scheme of free discussion shall facilitate generation of new and creative solutions and encourage emotional disclosure (Brabour, 2011).

When considering the advantages of the FGI techniques, its three features are mentioned. The first of them refers to the fact that FGI is a social situation simulation (discussion in a group). The next feature concerns the fact that such a facilitated discussion includes a group process. The last FGI feature, proving great usefulness of this technique, is related to the fact that the relationship between the researcher and the surveyed persons is more symmetrical. And that results from the occurrence of asymmetry in their numbers (Sinczuch, 2015).

## Conclusions

Scientific studies on the relational aspect of the functioning of sibling dyads, especially adult ones, lead us to the conclusion that they are still scarcely represented in the literature on the subject. Nonetheless, some increase in interest in this issue is being noticed recently (Cicirelli, 1995; Kosiol, 2015; Lewandowska-Walter, Połomski and Peplińska, 2017; Marotta, 2015; Riggio, 2000; Rostowska, 2010; Shepherd et al., 2021; Słomkowski et al., 2005; Szymańska, 2021). The researchers agree that while characterizing interpersonal relationships of adult siblings, it is important to indicate their complexity and ambivalence (Stocker et al., 1997; Szymańska, 2019; Wałęcka-Matyja, 2018).

What has to be noticed here is the researchers' interest in the methods to measure interpersonal sibling relationships and development of new psychological tools for examining the quality of interpersonal sibling relationships.

The aim of the present study was to consider some limitations existing in the process of conducting psychological research on the sibling subsystem as well as to present new tools designed to measure the quality and dimensions of interpersonal sibling relationships. The presented tools included self-report questionnaire tools developed in years 2014-2017 (Adult Sibling Relationship Questionnaire, Adult Sibling Familial Relationship Scale, You and Your Siblings Now Questionnaire, You and Your Siblings Then Questionnaire and Sibling Relationship Questionnaire). Moreover, the study referred to the possibility of applying qualitative methods in research on siblings, especially the focus group interview method.

The methodological considerations on conducting psychological research in the area of family environment presented in this article point out to at least to issues, which are worth thinking about. One of them refers to the uniqueness of psychological research on the family environment, which is characterized by high complexity. The other one is related to the specificity of interpersonal sibling relationships. Both the aspects bring about specific limitations, at the same time creating an opportunity to look for new solutions of a methodological nature, allowing the researcher to describe, understand and predict the character of interpersonal sibling relationships in the most accurate way. One of such solutions can mean encouraging a more open and cooperative attitude of the researchers to creating interdisciplinary teams, which shall allow them, as part of joint activities and

with the use of advanced research tools and methods, to analyse the relational aspect of sibling functioning in a more comprehensive way.

It is assumed that properly developed family relationships, including relationships with siblings, are a very important resource. It takes on a slightly different meaning if interpersonal relationships are considered in a temporal perspective. That is because they can be an element of proactive coping with stress in the increasingly longer human life. In the VUCA world family support seems to be invaluable. VUCA refers to an environment characterized by great Volatility, Uncertainty, Complexity and Ambiguity. This kind of reality, in which an individual has to live, can greatly disturb their sense of order and stabilization (Musiał, 2021). And, especially people who face different problems need to have a stable foundation in space and time, which can be their family environment. Their family's respect, care and attention as well as help and support give them strength to cope with difficulties more effectively, let them experience more satisfaction with life and take care of their health in long term (Lawrence and Adewale, 2023; Romm, Metzger and Turiano, 2021). It is noted that family support can be provided by any family members, also siblings, grandparents or further relatives (Fan and Meng, 2022). In numerous psychological concepts, e.g. the systemic theory (de Barbaro, 1999; Minuchin, 1988; Świętochowski, 2014) or the resource theory by Hobfoll (Hobfoll, 2006), the authors pay attention to the importance of resources in the functioning improvement process for both an individual and the family. Therefore, an increasing interest in the issue of interpersonal sibling relationships seems to be inevitable from the point of view of not only family specialists but also practising psychologists.



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