

## **The “Soziale Beziehungstest für Kinder” - Revision (SoBeKi-R). A brief description.**

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**Abstract:** Social relationships of children influence developmental pathways in nearly every domain, like mental health, academic learning, and social competences. However, diagnostic instruments that access subjective social networks according to the child’s subjective appraisal are rare.

The project investigates the quantities, qualities, and functions (burdens and resources) of personal social networks of children (5 to 12 years of age) and their associations with social and psychological development (e.g. social acceptance, psychological symptoms, social self-concept). As a result, a revised form of the Sozialer Beziehungstest für Kinder (Engl. Social Relationship Test for Children) (SoBeKi-R) will be published. The SoBeKi-R consists of 17 questions and a game like sculpture technique concerning resources and burdens in the relationships to significant persons of the child’s social net.

**Background:** In addition to biological and psychological factors, children's social relationships have a significant influence on the development of mental disorders in childhood, as well as on their treatment and recovery and maintenance of mental health. However, there is a lack of diagnostic procedures that capture the complete social network of children from their own subjective perspective. This study aims to optimize and validate a revised version (SoBeKi-R) of the Sozialer Beziehungstest für Kinder (Berger et al, 1996), which has been used in practice for years but has not been sufficiently validated. Its purpose is to assess resources and burdens that come from family, friends, caregivers, teachers, and other significant individuals within a child's social network. Furthermore, it is necessary for the validation of the instrument to investigate whether and how these characteristics of the social network are associated with psychiatric symptoms and disorders in children and adolescents.

The SoBeKi-R measures the subjective (internal) representation of social relationships in the personal social network of children aged five to twelve and focuses on the social relationships that are particularly important to the child. Internal representation of social relationships means that a specific memory structure with specific content and emotional valences is assumed for each of these relationships, which develops against the background of the child's own needs according to the interaction experiences with social partners and the emotional quality of these relationships (cf. Titze & Lehmkuhl, 2010). This internal representation of the child's social relationships does not have to correspond to the "objective" events of the relationship as they are presented to the parents or another external person. However, it is important for the child's development because it influences the integration of social experiences, social expectations, and the anticipation of the social reactions of others, and thus the child's social actions.

**Structure:** The SoBeKi-R consists of an interview section with 17 questions and a so-called sculpture section. The questions in the interview section record the extent (quantitative network structure) and selected resources and burdens (qualitative network structure) of the child's social network from the child's perspective. The questions and instructions of the SoBeKi-R are standardized.

The **quantitative** network structure is defined by the total number of people with whom the child has relationships (in kind) and their distribution across the various microsystems (e.g., family, school, after-school care, leisure) and subsystems (children/adults; male/female). The **qualitative** network structure, on the other hand, records the frequency or intensity of relationship characteristics, which are defined as either burden or resource characteristics. The eight resource items include positive social contacts (3 items), social-emotional resources (3), and competence-related support (2), while the eight burden items include social conflicts (5) and anxiety and internalization (3).

In the subsequent playful **sculpting part**, the child then creates a sculpture from colored tiles that symbolize the previously mentioned persons, according to the perceived proximity to the persons and arranges them according to their affiliation to the relevant microsystems.

In addition, perceived **participation** (opportunities for co-determination) in various micro- and sub-systems and **overall satisfaction** with social relationships are measured.

**Administration:** The SoBeKi-R is administered as an interview in individual situations and is designed for children between the ages of five and twelve. The requirements for the children are sufficient language and concentration skills and no acute socio-emotional crises; the interviewers should be trained or experienced in conducting interviews with children. Scoring and interpretation require appropriate training in test psychology. The interview takes about 20 minutes.

## Evaluation Principles

The evaluation is based on the following principles.

1. all questions of the SoBeKi-R were constructed in such a way that they can be clearly assigned to either the domain of social resources or the domain of social burdens (index items).
2. the items were developed both theoretically and based on clinical expertise and were tested several times for comprehensibility.
3. specific responses to individual items or combinations of responses that meet certain criteria for burdens or resources are considered indicators of social resources or burdens. These criteria were defined a priori according to the results of preliminary studies and clinical considerations. The predictive function of the indicators has yet to be empirically tested (criterion validity).
4. the quality of the social network (as a summarizing overall measure) is defined as the difference between the sum of the resource indicators (resource index) minus the sum of the burden indicators (burden index).
- 5 The operationalization of the burden and resource indices follows a formative principle (Welp, 2014). The aim is to capture a wide range of (independent) resources and burdens with as few items as possible, so as not to overburden younger children with short attention spans. It is therefore not

necessary for the individual risk and resource characteristics to correlate. However, internal consistency is then not an appropriate measure of reliability. In this case, reliability must be tested using test-retest reliability. For an interval of X days, this was X and Y for the resource and stress sum scales, respectively.

6 In addition to the quantitative evaluation, the SoBeKi-R offers a wide range of possibilities to obtain diagnostically and therapeutically valuable information by talking to the child about his or her social relationships.

7 Significant deviations from objective facts, e.g. the denial of known conflicts or the failure to name a central person, are understood as functional reactions of the child - as long as comprehension problems are excluded - and require interpretation. The existing distress must then be validated elsewhere and considered in the interpretation.

### **Definition of key terms and evaluation principles**

To use standardized terminology within the SoBeKi-R, the central terms should first be defined<sup>1</sup>. The SoBeKi-R investigates a so-called personal (or egocentric) network, i.e. the network information is collected from the subjective perspective of an individual person. Within the network, a distinction is made between different microsystems, usually the family, school (or day care center), after-school care, leisure contacts and others (Bronfenbrenner, 2005). Within the microsystems, subsystems can be distinguished in terms of generational boundaries (e.g., parents and siblings, teachers, and classmates) and gender (Minuchin, 2015).

In network research, the concepts of ego and alteri have become established for the person being interviewed about his or her network and the people who make up the network (e.g., Pfenning, Pfenning & Mohler, 1991). In the SoBeKi-R, for reasons of conceptual continuity with the previous version and greater practical relevance, the terms **respondent** or subject are used for ego and **persons** for alteri.

Relevant for the evaluation are the structural, qualitative characteristics that result from the number of persons and the qualitative characteristics that can be derived from the frequency with which persons are named in the questions on resources and burdens and the assessment of the intensity of these contacts. In addition, specific combinations of individual significant characteristics, which can be represented as indices, allow for specific and summarized evaluations. These characteristics can be calculated as follows:

- a) The number of individual persons named in the SoBeKi questions can be counted for the overall network as well as for micro- and subsystems (e.g. a total of three adults and six children were named). The same person is only counted once here, regardless of whether they were named in one or more questions.

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<sup>1</sup> A generally standardized terminology for egocentric networks has not yet been established, partly because the theoretical and methodological concepts of the survey methods differ significantly in some cases. Laireiter (2009) Klärner et al. (2020) offer a good conceptual orientation.

- b) The number of **mentions** indicates how often people were mentioned for individual questions or in specific content areas, such as the resource or stress areas. Individuals are also counted multiple times if they were mentioned for multiple questions (e.g., adults were mentioned 19 times and children 25 times for the resource items).
- c) The **ratings** are calculated as sums or averages from the intensity or frequency data (e.g., the sum of all ratings for the frequency of arguments or conflicts or the intensities of the ratings for the question about fear of certain people). These are usually calculated for resources and burdens together but can also be calculated for individual questions. Because of the weighting, the ratings provide a somewhat more precise but also more abstract indicator than the responses.
- d) Summary **indices** are derived from certain combinations of characteristics that are particularly meaningful in terms of burdens or resources. Examples of such characteristics include excessive decision-making power (participation) over parents, failure to name important caregivers, or a combination of both positive and negative aspects (ambivalence). These indices can also be easily calculated with pen and paper using the Rating Sheet.

The above four parameters (and others) are calculated by the SoBeKi-R evaluation program for the whole system as well as for various micro- and subsystems.

### **Design principles and calculation of indices**

There are three design principles for the index indicators (the variables in the scoring sheet that are intended to indicate resources and burdens): a) As simple as possible, but no simpler; b) The index indicators should be as independently predictive of the child's adjustment indicators as possible, such as psychological symptoms, so that as little redundancy as possible and a wide range of resources/burdens are captured; c) The indicators can be weighted by tightening conditions or summation to allow for improved validity; e) Indicators for which empirical evidence is lacking may be considered if they are sufficiently theoretically justified and empirically validated in the validation process.

### **Initial findings on the reliability and stability of the relationships**

The operationalization of the burden and resource indices follows a formative principle (Welppe, 2014). Internal consistency is therefore not an appropriate measure of reliability. Reliability must therefore be assessed using test-retest reliability.

For this purpose, 147 unselected children from 12 different institutions were interviewed twice with the SoBeKi-R (Titze & Sommer-Himmel, 2019). The mean age was 8.3 years (SD: 1.6 years; range: 5.8 to 12.9 years), 57.1% were female. The mean test-retest interval (t1 to t2) was 22.1 days (SD: 11.7 days, range: 5 to 63 days). For the burden and resource sum scores, the test-retest correlation (Pearson) for a test-retest interval of up to 10 days was .91 and .82, respectively. This indicates good to very good reliability of the sum scores.

Another indication of the good reliability of the SoBeKi-R is that the family members named by the child showed a high test-retest agreement of 91% on average, even over long test-retest intervals (Titze & Sommer-Himmel, 2019). Family members are usually the most stable people in the social network, and their stability is therefore suitable as a measure of reliability.

The stability of other people, such as school (64%), after-school care (59%), and leisure (56%), was lower, as expected, and decreased with longer time periods. Stability scores differed significantly between test-retest intervals (Kruskal-Willis  $p = .027$  to  $.000$ ).

On average, 68% of the children were mentioned in one of the SoBeKi-R questions at both time points. In response to the question "Do you have a best friend?", 83% of the children mentioned at least one best friend at both survey times. However, only 57% of the children who were named as "best friends" at t1 were also named as "best friends" at t2. This stability in the number of friends named did not increase with the children's age. However, unlike the first percentage, the percentage for the stability of best friends is based on only one item and is therefore not methodologically comparable.

The SoBeKi-R is still under development. Publication by the test center (Hogrefe) is planned for 2025. Therefore, the wording of the items cannot be published here for copyright reasons.

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