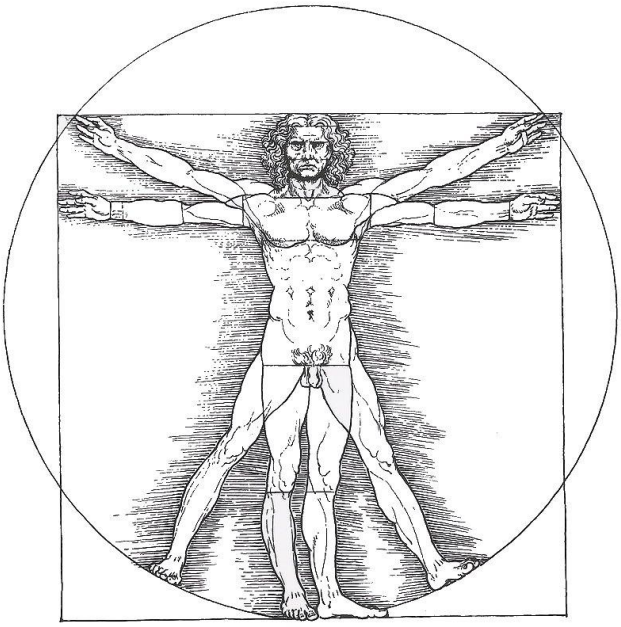
Dr. Lars Satow

# Satow® Resilience Scale (SRS)

# Test and scale documentation



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More information, all test documents and contact to the author: www.drsatow.de

About The Author

Dr. Lars Satow studied psychology at the University of Göttingen and at the Free University of Berlin. After completing his psychology studies, he completed his doctorate under Prof. Dr. Ralf Schwarzer at the Institute for Work, Organizational and Health Psychology at the Free University of Berlin. In addition to his psychology diploma, he holds a diploma (DAS) in educational management from the University of St. Gallen and a master's degree (M.A.) in personnel development from the Technical University of Kaiserslautern. Dr. Lars Satow has developed several well-known psychometric test, including the Big Five Personality Test (B5T®), the Stress and Coping Inventory (SCI), and the *Satow® Resilience Scale* (SRS).

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# 1. Introduction

The *Satow® Resilience Scale* (SRS) is a psychometric test with 10 items for the reliable (Cronbach's *α= .92)* and valid assessment of psychological resilience. The test was developed on the basis of an evidence-based meta-analysis by Lee et al. (2013). The meta-analysis, which is based on more than 33 studies with more than 33,000 participants, shows that there are two main factors that contribute to psychological resilience: A) Belief in one's own abilities (Self Efficacy Beliefs) and B) Positive, confident emotions (Positive Affect). Both factors are measured reliably and efficiently with the *Satow® Resilience Scale* (SDS).

Due to the high test accuracy (Cronbach's *α* = .92), the *Satow® Resilience Scale* (SRS) is not only suitable for diagnostics and individual case decisions, but also for measuring therapy success. Numerous therapy modules aim to promote positive affectivity and strengthen self-efficacy beliefs.

The *Satow® Resilience Scale* (SRS) is available in German, English, Spanish, Italian and French and is also available as a short form (SRS-SF) with 6 items (Cronbach's Alpha = .88).



The present test and scale documentation documents the most important psychometric parameters of the *Satow® Resilience Scale* (SRS). The additionally available test manual describes the implementation, evaluation and interpretation of the procedure in an easy-to-understand way. It also contains the gender- and age-specific norms. The Excel evaluation aid, which is also available, enables fast, automated calculation and presentation of the results. All test materials can be obtained from the author's website (www.drsatow.de).

# 2. Theoretical background

Resilience is a much-respected and much-discussed term today. In general, it is understood to be the ability of individuals to recover quickly from setbacks (Smith et al, 2008), to remain confident despite difficult circumstances (poverty, illness) and adverse events (bullying, trauma, wars) and to be able to lead a happy (and normal) life (Herrman et al, 2011). Accordingly, resilience training often includes modules on stress resistance, dealing with trauma and psychological self-help (cf. Böhme et al, 2012, Vanhove et al 2016) and promoting resilience is often seen as the goal of therapeutic interventions (Herrman et al, 2011) – especially because resilience is correlated with numerous indicators of mental health, such as life satisfaction, depression and anxiety (Hu et al, 2015). In addition, large meta-analyses have correlated relationships with the Big Five personality dimensions: While emotional instability (neuroticism) is associated with reduced psychological resilience, extraverted and conscientious individuals often have above-average resilience (Oshio et al, 2018).

However, there is still no universally recognized operationalization of resilience (Liu, 2020). Most tools for assessing resilience have not been designed on a theory or evidence-based basis. Often, the common methods are merely loose collections of items that have been grouped retrospectively (exploratively) with the help of factor analysis (Connor & Davidson, 2003). Or they contain items, such as "I like myself" or "It's important to me to stay interested in many things" (Schumacher et al., 2005), which apparently have little to do with the actual construct (lack of content validity). Other scales tend to capture the outcome of resilience, such as "I tend to bounce back quickly after hard times" (Smith et al., 2008), but not the underlying factors of resilience.

An example of a well-known method that is based solely on a loose collection of items is the Connor-Davidson Resilience Scale (Connor & Davidson, 2003). The scale includes 25 items that were taken from different sources and subsequently (exploratively) assigned to five factors. The first and most important factor includes items on determination ("You work to attain your goals", "When things look hopeless, I don't give up", "You can achieve your goals") – but the substantive reference to resilience remains largely unclear.

A meta-analysis (Lee et al., 2013), which is based on more than 33 studies with more than 33,000 participants, shows that there are two factors in particular that contribute to resilience:

A) Self-Efficacy Beliefs (SE): Belief in one's own abilities
B) Positive Affect (PA): A positive, confident emotional mood

In the meta-analysis, these two factors showed a significantly higher effect size than all other variables examined. Both factors are described in detail in the literature and will therefore only be briefly reproduced here.

The concept of *Self Efficacy Beliefs* was introduced by the well-known social psychologist Albert Bandura. It refers to cognition, namely the conviction or belief in one's own abilities. In numerous studies, Bandura has been able to prove that people who are convinced of their abilities take on more, work harder, finish things sooner and are more successful in the end – regardless of how pronounced their skills actually are. In addition, Bandura was able to show that belief in one's own abilities can be built up in a targeted manner, e.g. through model skills and special training.

*Positive affect* (PA), on the other hand, refers to an emotion, namely a positive, energetic emotional state or basic mood (Watson et al, 1988, 1994), even in the face of difficult situations. There are numerous studies that show that a positive, confident emotional state can have a lasting positive effect on health - from a reduced risk of stroke to low mortality, especially in older people (Pressman et al, 2019). Until now, however, there has been no method to measure this positive mood easily and quickly. The PANAS method is usually used, but it is only based on a number of adjectives and has no relation to resilience.

The *Satow® Resilience Scale* (SRS) is the first method that measures the two factors that underlie psychological resilience in a theory-driven and evidence-based manner: Self Efficacy Beliefs (SE) and Positive Affect (PA). The first factor is an cognition (belief), the second is an emotion (basic mood).

# 3. Test development, test forms and test materials

The *Satow® Resilience Scale* (SRS) was developed with the aim of reliably and efficiently measuring the two resilience factors with the highest evidence, "Self-Efficacy" (SE) and "Positive Affect" (PA). For this purpose, an item pool with more than 30 questions and statements was constructed and tested on several random samples. The items were formulated in such a way that they either express belief in one's own abilities or emotional confidence in the face of difficulties.

Example items are:

I have a lot of confidence in my abilities. (SE)

I always look ahead with confidence. (PA)

The statements are answered on a four-point Likert scale:

1) Does not apply at all

2) Rather does not apply

3) Rather applies

4) Applies exactly

The four-point Likert scale not only offers the advantage that it can be answered quickly, but also counteracts the tendency towards the middle. Participants have to choose between approval and disagreement, as there is no middle category. Medium categories are often chosen by participants in order not to reveal anything about themselves or to present themselves more inconspicuously. This is counteracted by the four-point scale (cf. Garland, 1991). Likewise, the four-level Likert scale counteracts an artificial spread of variance (Chang, 1994).

## Test Forms and Structure

The *Satow® Resilience Scale* (SRS) is available in two test forms:

*Long form* with 10 items and two sub-scales. For the reliable and valid assessment of a person's resilience.

- Sub-scale "Self-Efficacy" (SE) based on 5 items
- Sub-scale "Positive Affect" based on 5 items
- Resilience Overall Score (SRS) based on 10 items

*Short form with 6 items without sub-scales*: Especially for screenings and research studies.

- Resilience Overall Score (SRS-SF) based on 6 items

The questionnaires can be found in the appendix of this documentation.

## Test Materials

The following test documents are available *for the* Satow® Resilience Scale (SRS):

*Test and scale documentation*: This test and scale documentation documents all test and scale values for reliability and validity.

*Test manual with norms*: The test manual describes the implementation, evaluation and interpretation of the procedure. It also contains the gender-specific norms.

*Excel evaluation aid*: The Excel evaluation aid enables the quick evaluation of a test sheet. Standard values and confidence intervals are calculated automatically.

*Test* sheets: Test sheets are available in German, English, Spanish, Italian and French.

*Profile template*: The profile template is used to display the results as a profile. The standard values can be transferred to the profile template for this purpose.

All documents can be obtained from the author's website (www.drsatow.de).

# 4. Areas of application, implementation and evaluation

The *Satow® Resilience Scale* (SRS) was developed as a scientific research and screening method. Any application beyond this must be carefully weighed up by the respective test manager, taking into account the question and target group. Due to its very high reliability (Cronbach's $\alpha$ = .92), the *Satow® Resilience Scale* (SRS) may also be suitable for important individual decisions. The *Satow® Resilience Scale* (SRS) may also be used to measure the success of therapy.

Furthermore, the following application requirements apply to the *Satow® Resilience Scale* (SRS):

- The test may only be used for people aged 16 and over.
- Instructions, test items and answer scales must not be changed.
- The test participants must be informed about the meaning and purpose of the test as well as about the handling of their data before the test is carried out.
- There is no time limit for answering. However, as a rule, participants do not need more than 5 minutes to complete.
- The test may only be evaluated and interpreted by qualified persons.

## Evaluation

Evaluation and interpretation of the *Satow® Resilience Scale* (SRS) are described in detail in the test manual (Satow, 2026). To avoid errors, the evaluation should usually be carried out with the Excel evaluation aid. Another advantage of the Excel evaluation aid is the calculation of confidence intervals. Excel evaluation aid and test manual are available on the author's website (www.drsatow.de). In the following, the evaluation is therefore only briefly described.

**1. Coding the answers**

In the first step, the answers are coded per item, whereby the answers are converted into raw points as follows:

1) Doesn't apply to → 1 point at all

2) Doesn't apply to → 2 points

3) Hits more like → 3 points

4) Applies exactly → to 4 points

**2. Summing up the raw values**

In the second step, the raw points per subscale (SRS-SE, SRS-PA) and total scale (SRS) are summed up. A maximum of one missing value per subscale can be replaced by the rounded mean of the subscale. The summed minimum and maximum raw scores per scale, shown in Table 1, must be adhered to. Before the raw points are converted into standards, it should be carefully checked that the values are within the minimums and maximums.

**Table 1. Minimum and maximum raw points per scale**

| Scale | Number of Items | Minimal resting points | Maximum raw points |
|---|---|---|---|
| *Satow® Resilience Scale* (SRS) | 10 | 10 | 40 |
| *Satow® Resilience Scale* Short Form (SRS-SF) | 6 | 6 | 24 |
| Self-efficacy subscale (SE) | 5 | 5 | 20 |
| Subscale Positive Affectivity (PA) | 5 | 5 | 20 |

**3. Convert to standard values**

The raw points summed up per scale can be converted into Stanine values and T-values with the help of the norm tables (see test manual). The test manual also contains step-by-step instructions for evaluation and interpretation. With the Excel evaluation aid, the evaluation and calculation of confidence intervals can be carried out automatically. Both the test manual and the Excel evaluation aid can be obtained (www.drsatow.de) from the author's website.

**4. Interpretation of the norm values**

In the last step, the norm values are interpreted. The raw points themselves should not be interpreted. The interpretation of the normed values should be carried out taking into account the standard measurement errors and confidence intervals, which can be calculated automatically with the help of the Excel evaluation aid.

# 5. Psychometric Item and Scale Values

In the following, the most important psychometric item and scale values are presented. All analyses were carried out with the statistical program R (version 4.5.1, 2025) (www.r-project.org).

## Description of the sample

The sample to determine the psychometric parameters was collected in 2025 with the help of the psychology portal Psychomeda®, where the *Satow® Resilience Scale* (SRS) is offered as a free and anonymous online self-test. All visitors to the portal can take part in the test. Relevant demographic data is collected before the test. Immediately after the last test item, the test result is displayed with detailed explanations. Due to the presentation as a self-test with a detailed result report, it can be assumed that most participants answer the test truthfully in order to obtain meaningful results. In addition, participants are asked whether they want to just try out the test or answer it truthfully. Participants were excluded from further analyses if they stated that they only wanted to try out the test. Participants who had already taken part in the test several times were also excluded.

In total, the final data set includes 1,783 people (female: n = 1,163), most of whom are between 20 and 50 years old. For the calculation of the norms, a representative sample of norms was formed from the sample by means of the quota procedure, which corresponds to the population of the Federal Republic of Germany in essential characteristics (gender, age, school education, occupational status).

## Reliability and item discrimination index for the Satow® Resilience Scale (SRS)

The most important psychometric parameter is the reliability (test accuracy) of a scale. At the same time, it represents the upper limit for validity. Reliability can be determined using different statistical methods, but the most common is Cronbach's $\alpha$. Cronbach's $\alpha$ can take values between 0 and 1. The value approaches 1 if a scale has no measurement error and a repeated or parallel measurement leads to the same result. In scientific practice, values for Cronbach's $\alpha > .80$ are considered good. For important individual case decisions, the reliability of a test should be above .90 (cf. Evers, 2015). At the item level, the discrimination is important. The item discrimination indicates the extent to which an item contributes to the test accuracy of its scale.

The *Satow® Resilience Scale* (SRS) achieves a very good value for reliability with a total of 10 items (Cronbach's Alpha = .92). The discrimination of the individual items is also consistently convincing (Table 2). The two items with the highest discrimination are: "I have a lot of confidence in my abilities" (*rit* = .77) and "I always look ahead with confidence" (*rit* = .77). These two items with the highest discrimination make it clear that the scale captures both self-efficacy (cognition) and positive affectivity (emotion).

**Table 2. Psychometric Metrics for the Satow® Resilience Scale (SRS)**

| Item no. | Item | Average | SD | Discrimination |
|---|---|---|---|---|
| SE1 | No matter how bad things get, I can rely on my abilities. | 3.0 | 0.73 | 0.75 |
| SE2 | When push comes to shove, I know how to help myself. | 3.1 | 0.73 | 0.69 |
| SE3 | No matter what, I'll find a solution. | 3.1 | 0.67 | 0.70 |
| SE4 | **I have a lot of confidence in my abilities.** | **2.9** | **0.77** | **0.77** |
| SE5 | I can rely on my abilities in any situation. | 2.9 | 0.72 | 0.75 |
| PA1 | Even if things go badly for a long time, I don't lose my confidence. | 2.6 | 0.79 | 0.73 |
| PA2 | **I always look ahead with confidence.** | **2.8** | **0.82** | **0.77** |
| PA3 | Even if I make big mistakes, I remain confident. | 2.6 | 0.84 | 0.73 |
| PA4 | I see difficulties as a positive challenge. | 2.5 | 0.85 | 0.68 |
| PA5 | When difficulties arise, I simply focus on the positive. | 2.6 | 0.80 | 0.69 |

Cronbach's Alpha = .92

## Sub-Scale "Self-Efficacy Beliefs" (SRS-SE)

The sub-scale for measuring self-efficacy beliefs (SE) also achieves very good values for reliability (Cronbach's $\alpha$ = .88) and discrimination (Table 3) with five items. The two items with the highest discrimination are "No matter how bad it gets, I can rely on my skills" (*rit* = .81) and "I can rely on my skills in any situation" (*rit* = .81).

**Table 3. Psychometric Parameters for the Self Efficacy Beliefs (SRS-SE) Sub-Scale**

| Item no. | Item | Average | SD | Discrimination |
|---|---|---|---|---|
| SE1 | **No matter how bad things get, I can rely on my abilities.** | **3.0** | **0.73** | **0.81** |
| SE2 | When push comes to shove, I know how to help myself. | 3.1 | 0.73 | 0.72 |
| SE3 | No matter what, I'll find a solution. | 3.1 | 0.67 | 0.69 |
| SE4 | I have a lot of confidence in my abilities. | 2.9 | 0.77 | 0.76 |
| SE5 | **I can rely on my abilities in any situation.** | **2.9** | **0.72** | **0.81** |

Cronbach's Alpha = .88

## Sub-Scale "Positive Affect" (SRS-PA)

The sub-scale Positive Affect (PA) also achieves a good score for accuracy with five items in view of its brevity (Cronbach's $\alpha$ = .87; Table 4). The item with the highest discrimination is "I always look ahead with confidence" (*rit* = .81).

**Table 4. Psychometric Parameters for the Sub-Scale "Positive Affectivity" (SRS-PA)**

| Item no. | Item | Average | SD | Discrimi-nation |
|---|---|---|---|---|
| PA1 | Even if things go badly for a long time, I don't lose my confidence. | 2.6 | 0.79 | 0.77 |
| **PA2** | **I always look ahead with confidence.** | **2.8** | **0.82** | **0.81** |
| PA3 | Even if I make big mistakes, I remain confident. | 2.6 | 0.84 | 0.72 |
| PA4 | I see difficulties as a positive challenge. | 2.5 | 0.85 | 0.70 |
| PA5 | When difficulties arise, I simply focus on the positive. | 2.6 | 0.80 | 0.75 |

Cronbach's Alpha = .87

## Reliability and Discrimination of the Short Form (SRS-SF)

For rapid screenings, the short form of the *Satow® Resilience Scale* (SRS-SF) can be used. This includes 6 items and achieves a reliability of Cronbach's $\alpha$ = .88 (Table 5). A subdivision into sub-scales is not provided for in the short form. The item with the highest discrimination is "I have a lot of confidence in my abilities" (*rit* = .77).

**Table 5. Psychometric Parameters for the Satow® Resilience Scale Short Form (SRS-SF)**

| Item no. | Item | Average | SD | Discrimi-nation |
|---|---|---|---|---|
| SE1 | No matter how bad it gets, I can rely on my abilities. | 3.0 | 0.73 | 0.76 |
| **SE4** | **I have a lot of confidence in my abilities.** | **2.9** | **0.77** | **0.77** |
| SE5 | I can rely on my abilities in any situation. | 2.9 | 0.72 | 0.76 |
| PA1 | Even if things go badly for a long time, I don't lose my confidence. | 2.6 | 0.79 | 0.71 |
| PA2 | I always look ahead with confidence. | 2.8 | 0.82 | 0.74 |
| PA3 | Even if I make big mistakes, I remain confident. | 2.6 | 0.84 | 0.73 |

Cronbach's Alpha = .88

# 6. Reliability at a glance

Table 6 shows the psychometric scale values in the overview. The long form of the *Satow® Resilience Scale* (SRS) achieves a very good value for test accuracy with only 10 items (Cronbach's $\alpha$ = .92) and can therefore also be considered for important individual case decisions. For rapid screenings, the short form (SDS-SF) can be used (Cronbach's $\alpha$ = .88). The reliability of the sub-scales ranges between Cronbach's $\alpha$ = .87 and Cronbach's $\alpha$ = .88.

**Table 6. Overview of psychometric characteristics of the SRS scales**

| Scale | Items | M | SD | Median | Min | Max | Cronbach's Alpha | Se |
|---|---|---|---|---|---|---|---|---|
| Satow® Resilience Scale (SRS) | 10 | 28.16 | 5.86 | 29 | 10 | 40 | .92 | 1.66 |
| Satow® Resilience Scale Short Form (SRS-SF) | 6 | 16.75 | 3.72 | 17 | 6 | 24 | .88 | 1.29 |
| Sub-Scales | | | | | | | | |
| Self-Efficacy (SRS-SE) | 5 | 15.04 | 2.98 | 15 | 5 | 20 | .88 | 1.03 |
| Positive Affect (SRS-PA) | 5 | 13.13 | 3.33 | 13 | 5 | 20 | .87 | 1.20 |

# 7. Validity

## Factorial validity

To check the factorial validity of the *Satow® Resilience Scale* (SRS), a confirmatory factor analysis (CFA) was performed, in which each item is assigned exactly to a sub-scale. Unlike exploratory factor analysis, which reveals factors only retrospectively, confirmatory factor analysis checks a predefined model. Confirmatory factor analysis is therefore considered a much stricter test of theoretical assumptions.

The model achieved a very good fit right from the start (CFI = .99; RMSEA = .02; SRMR = .03) and thus confirms the factorial validity of the *Satow® Resilience Scale* (SRS). The factor loadings for this model are shown in Table 7. The CFA also confirms the reliability of the sub-scales. Both sub-scales achieve very good values for *Composite Reliability* (CR), which are close to the estimates for Cronbach's $\alpha$ .

**Table 7. Factor Loadings and Composite Reliability of the SRS Scales**

| | SRS-SE | SRS-PA |
|---|---|---|
| Composite Reliability (CR) | .87 | .87 |
| SE1 | 0.77 | |
| SE2 | 0.72 | |
| SE3 | 0.73 | |
| SE4 | 0.81 | |
| SE5 | 0.77 | |
| PA1 | | 0.77 |
| PA2 | | 0.81 |
| PA3 | | 0.77 |
| PA4 | | 0.72 |
| PA5 | | 0.72 |

Notes: SRS-SE: Self Efficacy Sub-Scale;
SRS-PA: Sub-scale "Positive Affect".

## Interscale correlation

The interscale correlations (Table 8) show the expected high correlations between the *Satow® Resilience Scale* (SDS) and its two sub-scales "Self-Efficacy" ($r$ = .92) and "Positive Affect" ($r$ = .94). The sub-scales are significantly less correlated with each other ($r$ = .72), which supports the assumption that the two sub-scales each measure different aspects of resilience. The *Satow® Resilience Scale* (SRS) is correlated with its short form to $r$ = .97, so that instead of the long form for rapid screenings, the short form can also be used – however, a differentiation according to the two factors "Self Efficacy" and "Positive Affect" is then no longer possible.

**Table 8. Interscale correlation**

| | SRS | SRS-SF | SRS-SE | SRS-PA |
|---|---|---|---|---|
| SRS | 1.00 | | | |
| SRS-SF | .97 | 1.00 | | |
| SRS-SE | .92 | 0.91 | 1.00 | |
| SRS-PA | .94 | 0.90 | 0.72 | 1.00 |

*Note*: All correlation are highly significant ($p$ < .01). SRS: Satow® Resilience Scale; SRS-SF: Satow® Resilience Scale Short Form; SRS-SE: Self Efficacy Sub-Scale; SRS-PA: Sub-scale "Positive Affect".

## Prognostic validity

Resilience should be particularly noticeable in better handling of stress. For this reason, the relationships between the *Satow® Resilience Scale* (SDS) and the coping strategies from the Stress and Coping Inventory (SCI) were investigated (Satow, 2024). The SCI is a standard scientific procedure for the reliable and efficient measurement of stress load, stress symptoms and coping.

### Influence on coping with stress

The correlations with the coping strategies of the SCI prove the expected correlations (Table 9): Self-Efficacy (SRS-SE) is associated with active problem solving ($r$ = .27), while Positive Affect (SRS-PA) is correlated with social support ($r$ = .32) and religiosity ($r$ = .39).

**Table 9. Correlation with coping strategies**

| | COPE_ACT | COPE_SUP | COPE_REL |
|---|---|---|---|
| SRS | 0.25 | 0.33 | 0.35 |
| SRS-SF | 0.24 | 0.31 | 0.33 |
| SRS-SE | 0.27 | 0.29 | 0.25 |
| SRS-PA | 0.20 | 0.32 | 0.39 |

*Note*: All correlation are highly significant ($p < .01$).
SRS: Satow Resilience Scale, SDS-SF: Satow Resilience Scale Short Form,
SRS-SE: Self-Efficacy Sub-Scale, SRS-PA: Positive Affect Sub-Scale.

More precisely, relationships and their direction can be investigated using a structural equation model. The model (Figure 1) achieved a very good fit right from the start (CFI = 0.99; RMSEA = 0.02; SRMR = 0.03) and confirms the assumption that resilience exerts a significant influence on the management of stress. Self-Efficacy (SE) primarily leads to more active problem solving, while Positive Affect (PA) promotes the search for social support and is closely linked to religiosity.

Overall, the model proves the prognostic validity for the *Satow® Resilience Scale* (SDS). The resilience factors Self-Efficacy (SRS-SE) and Positive Affect (SRS-PA) measured by the *Satow® Resilience Scale* (SDS) significantly promote better coping with stress.

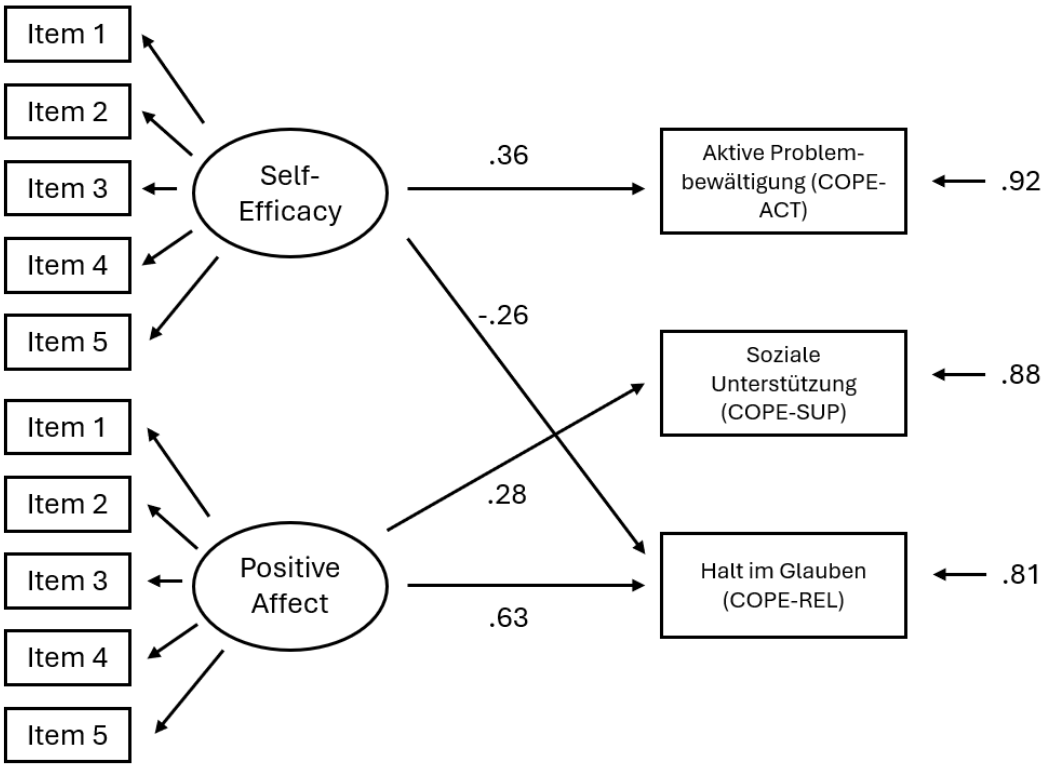


Figure 1. The figure shows a simplified representation of the model. For better understanding, only the significant paths are shown.

## Relationship with gender and age

In addition to the influence on dealing with stress, resilience should also be related to work and income. In particular, it is to be expected that the self-employed have a higher degree of resilience and this should also be reflected in income. Ideally, the strength of the effect should be greater than, for example, the effects of gender and age. Therefore, these effects are reported first in the following. For the *Satow® Resilience Scale* (SRS), there are only minor (Cohen's $f$ < 0.10) sex differences. In particular, the resilience factor Self Efficacy (SRS-SE) is more pronounced for males (Table 10).

**Table 10. Gender differences**

| | *Male* | *Female* | *Miscellaneous* | *F* | *Cohen's f* |
|---|---|---|---|---|---|
| SRS | 28.77 | 27.91 | 25.83 | 6.633** | 0.09 |
| SRS-SF | 17.20 | 16.55 | 15.45 | 7.746** | 0.09 |
| SRS-SE | 15.43 | 14.86 | 14.24 | 8.364** | 0.10 |
| SRS-PA | 13.34 | 13.05 | 11.59 | 4.647** | 0.07 |

*Note*: **$p$ < .01; *$p$ < .05; SRS: Satow Resilience Scale, SRS-SF: Satow Resilience Scale Short Form, SRS-SE: Self-Efficacy Sub-Scale, SRS-PA: Positive Affect Sub-Scale.

There is a linear trend for age (Figure 2): resilience increases with age. This effect, in turn, is most pronounced for the resilience factor Self Efficacy (SRS-SE). Overall, the effect of age can be described as rather small (Table 11).

**Table 11. Age differences**

| | *Younger than 20 years* | *20 to 30 years* | *31 to 40 years* | *41 to 50 years* | *older than 50 years* | *F* | *Cohen's f* |
|---|---|---|---|---|---|---|---|
| SRS | 26.34 | 27.45 | 28.44 | 28.62 | 29.1 | 9.807** | 0.15 |
| SRS-SF | 15.71 | 16.3 | 16.86 | 17.03 | 17.33 | 8.631** | 0.14 |
| SRS-SE | 14.07 | 14.67 | 15.24 | 15.36 | 15.42 | 10.1** | 0.15 |
| SRS-PA | 12.28 | 12.79 | 13.2 | 13.26 | 13.67 | 7.416** | 0.13 |

*Note*: **$p$ < .01; *$p$ < .05; SRS: Satow Resilience Scale, SRS-SF: Satow Resilience Scale Short Form, SRS-SE: Self-Efficacy Sub-Scale, SRS-PA: Positive Affect Sub-Scale.

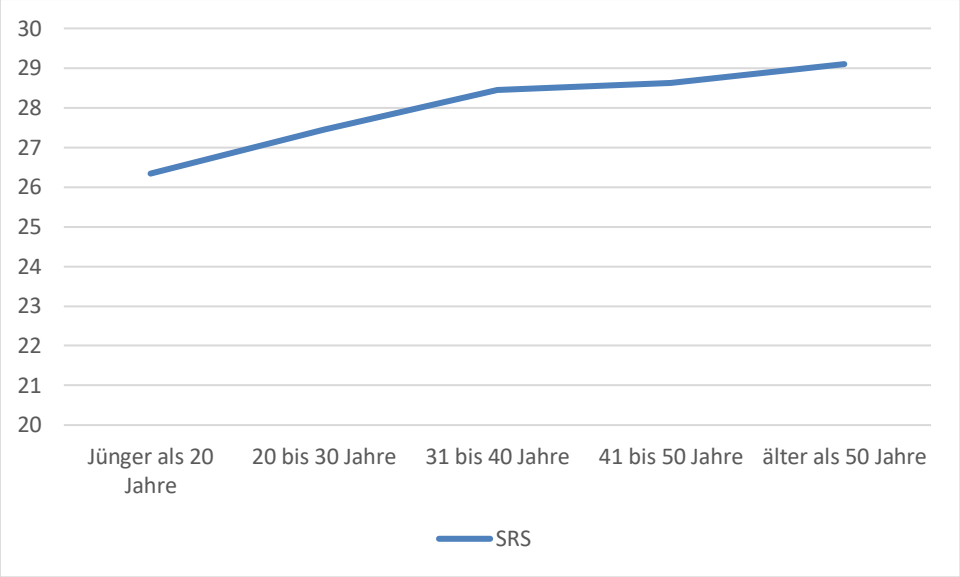


*Figure 2*. Resilience by age group.

## Connection with employment

As mentioned at the beginning, resilience should have an influence on career choices: It is to be expected that particularly resilient people will decide to become self-employed. Resilience should decrease for jobseekers – and resilience should also be lower for students due to age and higher insecurity. It is precisely these effects that could be confirmed in analyses of variance, with the effect size significantly higher than that of age and gender (Table 12). By far the highest resilience is shown by the self-employed, followed by normal employees and civil servants (Figure 3).

**Table 12. Resilience by occupational group**

| | *Employee* | *Worker* | *Jobseeker* | *Official* | *Independent* | *Student* | *F* | *Cohen's f* |
|---|---|---|---|---|---|---|---|---|
| SRS | 28.59 | 27.09 | 25.66 | 28.35 | 31.64 | 27.83 | 20.41** | 0.26 |
| SRS-SF | 16.96 | 16.17 | 15.23 | 16.97 | 18.91 | 16.56 | 18.49** | 0.25 |
| SRS-SE | 15.35 | 14.27 | 13.72 | 15.1 | 16.51 | 14.87 | 18.35** | 0.25 |
| SRS-PA | 13.24 | 12.83 | 11.94 | 13.24 | 15.13 | 12.96 | 17.37** | 0.24 |

*Note*: **$p < .01$; *$p < .05$; SRS: Satow Resilience Scale, SRS-SF: Satow Resilience Scale Short Form, SRS-SE: Self-Efficacy Sub-Scale, SRS-PA: Positive Affect Sub-Scale.

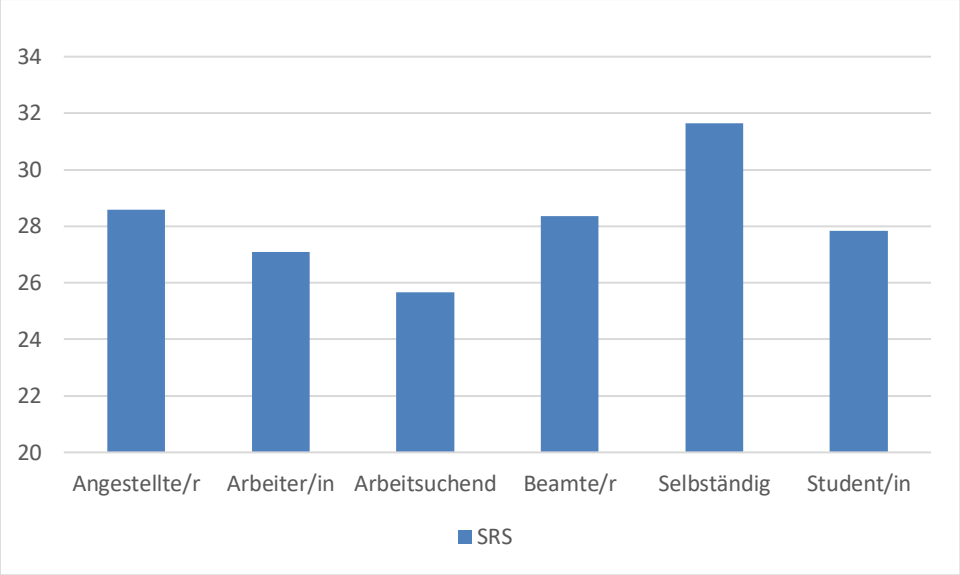


*Figure 3*. Resilience by occupational group

These effects are also reflected in the salary. Resilience increases significantly in higher salary grades. The effect sizes are again higher than for age and gender (Table 13).

**Table 13. Resilience by salary group**

| | *< 1000 EUR* | *1000 – 3000 EUR* | *3000 – 5000 EUR* | *5000 – 7000 EUR* | *7000 – 9000 EUR* | *> 9000 EURO* | *F* | *Cohen's f* |
|---|---|---|---|---|---|---|---|---|
| SRS | 26.65 | 27.87 | 28.89 | 29.57 | 30.49 | 32 | 17.18** | 0.22 |
| SRS-SF | 15.89 | 16.55 | 17.13 | 17.56 | 18.16 | 19.27 | 14.96** | 0.21 |
| SRS-SE | 14.15 | 14.96 | 15.43 | 15.9 | 16.12 | 16.71 | 19.11** | 0.23 |
| SRS-PA | 12.5 | 12.9 | 13.46 | 13.67 | 14.37 | 15.29 | 11.93** | 0.18 |

*Note*: **$p < .01$; *$p < .05$; SRS: Satow Resilience Scale, SRS-SF: Satow Resilience Scale Short Form, SRS-SE: Self-Efficacy Sub-Scale, SRS-PA: Positive Affect Sub-Scale.

These findings underpin the validity of the test. While age and gender play only a minor role in resilience, there are greater effects on occupation and income. On the one hand, it can be assumed that particularly resilient people are more likely to choose self-employment, while on the other hand, unemployment leads to decreasing resilience.

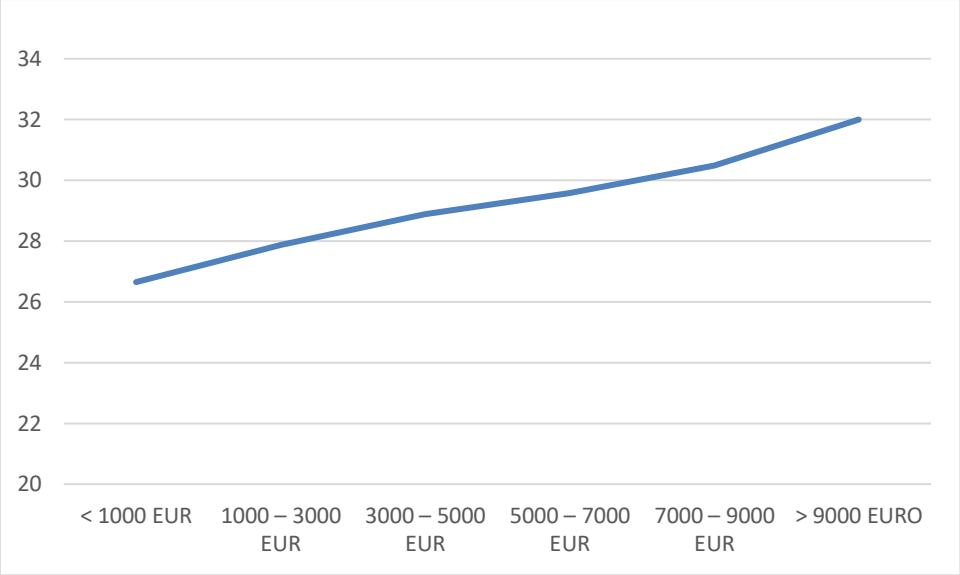


*Figure 4*. Resilience by salary group

# 8. Summary

The *Satow® Resilience Scale* (SRS) captures the two most important aspects of resilience with 10 items: belief in one's own abilities (Self Efficacy Beliefs, SE) and positive, confident affectivity (Positive Affect, PA). Despite its brevity, the scale achieves a very good value for measurement accuracy (Cronbach's Alpha = .92). The two sub-scales are also convincing in terms of their measurement accuracy (Cronbach's Alpha = .88 / .87). The *Satow® Resilience Scale* is also available as a short form for rapid screenings and in English, Spanish, French and Italian.

Due to the high test accuracy (Cronbach's $\alpha$ = .92), the *Satow® Resilience Scale* (SRS) may not only be suitable for diagnostics and individual case decisions, but also for measuring therapy success. Numerous therapy modules aim to promote positive affectivity (confidence) and self-efficacy beliefs.

*Internal Validity*

The factorial structure with two sub-scales could be impressively confirmed by a confirmatory factor analysis. The interscale correlations prove the expected correlations: Both sub-scales are highly correlated with the overall scale, but far less with each other.

*External validity*

Resilience should have a particularly positive effect on dealing with stress. The analysis of a corresponding structural equation model shows that the sub-scale "Self Efficacy" promotes active problem solving (.36), while Positive Affectivity leads to more social support and, above all, to a greater hold in faith (.63).

While there are only minor differences in terms of gender and age, the differences in terms of occupation were significant: self-employed people have the highest resilience scores, job seekers the lowest (Cohen's $f$ = .26).

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# Example profiles

The samples below show the Stanine norm values for three persons:

Person A (blue profile): High psychological resilience due to particularly positive affectivity.

Person B (green profile): High psychological resilience due to a particularly high self-efficacy beliefs.

Person C (red profile): Low psychological resilience due to a lack of self-efficacy beliefs and a lack of positive affectivity.

In the context of therapy, the profile of a client should improve through the therapeutic intervention in the direction of a higher resistance. This can be proven by means of before/after measurements.

**Satow® Resilience Scale (SRS) - Example Profiles**

| **Stanine standard** | | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
|---|---|---|---|---|---|---|---|---|---|---|
| **T-values** | | **30** | | **40** | | **50** | | **60** | | **70** |
| **Satow® Resilience Scale Overall Score (SRS)** | Overall psychological resilience | | | | | | | | | |
| **Self-efficacy beliefs (SRS-SE)** | Conviction or belief in one's own abilities (cognition) | | | | | | | | | |
| **Positive affect (SRS-PA)** | Positive, confident emotional attitude (emotion) | | | | | | | | | |
| | | | | | | | | | | |
| **Frequency** | | **4%** | **7%** | **12%** | **17%** | **20%** | **17%** | **12%** | **7%** | **4%** |

# Satow® Resilience Scale (SRS, German)

*Vorname*:_____ *Nachname*: _____

*Geburtsdatum*: ___ ___ _____ *Geschlecht*: männlich O weiblich O

anderes O

*Testdatum*: ___ ___ _____ *Ort*:_____

**Anleitung**

Inwieweit treffen die folgenden Aussagen auf Sie zu? Antworten Sie möglichst offen und ehrlich. Es gibt keine richtigen oder falschen Antworten. Achten Sie darauf, dass Sie keine Aussage auslassen.

| | trifft gar nicht zu | trifft eher nicht zu | trifft eher zu | trifft genau zu |
|---|---|---|---|---|
| 1. Egal wie schlimm es auch wird, ich kann mich auf meine Fähigkeiten verlassen. | O | O | O | O |
| 2. Ich blicke immer zuversichtlich nach vorn. | O | O | O | O |
| 3. Ich sehe Schwierigkeiten als positive Herausforderung an. | O | O | O | O |
| 4. Ich habe viel Vertrauen in meine Fähigkeiten. | O | O | O | O |
| 5. Wenn es hart auf hart kommt, weiß ich mir selbst zu helfen. | O | O | O | O |
| 6. Ich kann mich auf meine Fähigkeiten in jeder Situation verlassen. | O | O | O | O |
| 7. Auch wenn etwas über lange Zeit schlecht läuft, verliere ich meine Zuversicht nicht. | O | O | O | O |
| 8. Egal was kommt, ich finde eine Lösung. | O | O | O | O |
| 9. Auch wenn ich große Fehler mache, bleibe ich zuversichtlich. | O | O | O | O |
| 10. Bei Schwierigkeiten konzentriere ich mich einfach auf das Positive. | O | O | O | O |

# Satow® Resilience Scale (SRS, English)

*First name*:_____ *Last name*: _____

*Birth date*: ___ ___ _____ *Gender*: male O female O

other O

*Test date*: ___ ___ _____ *Location*:_____

**Instructions**

To what extent do the following statements apply to you? Answer as openly and honestly as possible. There are no right or wrong answers. Make sure you don't leave any statements out.

| | | Does not apply at all | Rather does not apply | Rather applies | Applies exactly |
|---|---|---|---|---|---|
| 1. | No matter how bad things get, I can rely on my abilities. | O | O | O | O |
| 2. | I always look ahead with confidence. | O | O | O | O |
| 3. | I see difficulties as a positive challenge. | O | O | O | O |
| 4. | I have a lot of confidence in my abilities. | O | O | O | O |
| 5. | When push comes to shove, I know how to help myself. | O | O | O | O |
| 6. | I can rely on my abilities in any situation. | O | O | O | O |
| 7. | Even if things go badly for a long time, I don't lose my confidence. | O | O | O | O |
| 8. | No matter what, I will find a solution. | O | O | O | O |
| 9. | Even if I make big mistakes, I remain confident. | O | O | O | O |
| 10. | When difficulties arise, I simply focus on the positive. | O | O | O | O |

# Satow® Resilience Scale (SRS, Español)

*Nombre de pila*:_____ *Apellido*: _____

*fecha de nacimiento*: ___ ___ _____ *Género*: masculino O femenino O otro O

*Fecha de la prueba*: ___ ___ _____ *Ubicación*:_____

**Instrucciones**

¿En qué medida se aplican las siguientes afirmaciones a su caso? Responda con la mayor franqueza y honestidad posible. No hay respuestas correctas ni incorrectas. Asegúrese de no omitir ninguna afirmación.

| | Ni siquiera se aplica | Más bien no se aplica | Más bien se aplica | Se aplica exactamente |
|---|---|---|---|---|
| 1. No importa lo mal que se pongan las cosas, puedo confiar en mis habilidades. | O | O | O | O |
| 2. Siempre miro hacia el futuro con confianza. | O | O | O | O |
| 3. Veo las dificultades como un desafío positivo. | O | O | O | O |
| 4. Tengo mucha confianza en mis habilidades. | O | O | O | O |
| 5. Cuando las cosas se ponen difíciles, sé cómo ayudarme. | O | O | O | O |
| 6. Puedo confiar en mis habilidades en cualquier situación. | O | O | O | O |
| 7. Aunque las cosas vayan mal durante mucho tiempo, no pierdo la confianza. | O | O | O | O |
| 8. Pase lo que pase, encontraré una solución. | O | O | O | O |
| 9. Incluso si cometo grandes errores, sigo siendo optimista. | O | O | O | O |
| 10. Cuando surgen dificultades, simplemente me concentro en lo positivo. | O | O | O | O |

# Satow® Resilience Scale (SRS, Français)

*Prénom*:_____ *Nom de famille*: _____

*Date de naissance*: ___ ___ _____ *Genre*: masculin O femelle O

autre O

*Date du test*: ___ ___ _____ *Emplacement*:_____

**Instructions**

Dans quelle mesure les affirmations suivantes vous concernent-elles ? Répondez aussi ouvertement et honnêtement que possible. Il n'y a pas de bonnes ou de mauvaises réponses. Veillez à ne rien omettre.

| | Fortement en | Plutôt pas vrai | S' applique plutôt | Tout à fait exact |
|---|---|---|---|---|
| 1. Peu importe la gravité de la situation, je peux compter sur mes capacités. | O | O | O | O |
| 2. Je me tourne toujours vers l'avenir avec confiance. | O | O | O | O |
| 3. Je perçois les difficultés comme un défi positif. | O | O | O | O |
| 4. J'ai une grande confiance en mes capacités. | O | O | O | O |
| 5. Quand il le faut, je sais me débrouiller. | O | O | O | O |
| 6. Je peux compter sur mes capacités dans n'importe quelle situation. | O | O | O | O |
| 7. Même si les choses vont mal pendant longtemps, je ne perds pas confiance. | O | O | O | O |
| 8. Quoi qu'il arrive, je trouverai une solution. | O | O | O | O |
| 9. Même si je commets de grosses erreurs, je reste optimiste. | O | O | O | O |
| 10. Lorsque des difficultés surviennent, je me concentre simplement sur le positif. | O | O | O | O |

# Satow® Resilience Scale (SRS, Italiano)

*Nome di battesimo*:_____ *Cognome*: _____

*Data di nascita*: ___ ___ _____ *Genere*: maschile O femmina O

altro O

*Data del test*: ___ ___ _____ *Posizione*:_____

**Istruzioni**

In che misura le seguenti affermazioni si applicano a te? Rispondi nel modo più aperto e onesto possibile. Non ci sono risposte giuste o sbagliate. Assicurati di non tralasciare alcuna affermazione.

| | | Fortemente in disaccordo | Piuttosto non si applica | Piuttosto si applica | Si applica esattamente |
|---|---|---|---|---|---|
| 1. | Non importa quanto brutte possano essere le cose, posso contare sulle mie capacità. | O | O | O | O |
| 2. | Guardo sempre al futuro con fiducia. | O | O | O | O |
| 3. | Considero le difficoltà una sfida positiva. | O | O | O | O |
| 4. | Ho molta fiducia nelle mie capacità. | O | O | O | O |
| 5. | Quando la situazione si fa critica, so come aiutarmi. | O | O | O | O |
| 6. | Posso contare sulle mie capacità in ogni situazione. | O | O | O | O |
| 7. | Anche se le cose vanno male per molto tempo, non perdo la mia fiducia. | O | O | O | O |
| 8. | Qualunque cosa accada, troverò una soluzione. | O | O | O | O |
| 9. | Anche se commetto grandi errori, rimango ottimista. | O | O | O | O |
| 10. | Quando sorgono difficoltà, mi concentro semplicemente sugli aspetti positivi. | O | O | O | O |