



Sleep Score™
7.4/10 Points

1. Transparency

Criteria	Associated question	Reviewed in	Met
1.1. Information on the objective of the app	Has the (functional) objective, i.e. the goal achievable for the user by using the app, been clearly illustrated in the App Store?	App Store	✓
1.2. Information on the scope of acquired usage rights	Is it clear how, to what extent, and for what duration the usage rights for the app have been acquired (e.g. one-time purchase or subscription)?	App Store	✓
1.3. Information on function scope and prices of in-app purchases	Are the possible in-app purchases (fully) listed and are the functional scope and costs of individual in-app purchases clearly recognizable from the display? ¹	App Store	✓
1.4. Transparent cost information	Is there transparency regarding the costs that (can) arise upon purchase and use of the app?	App Store vs. In App	✓
1.5. Information on the license model for use on several devices	Is it made clear which license model applies for the use of the app on multiple devices?	App Store	✗
1.6. Information on export and import options	Is it clear from the description of the app in the App Store whether – and if applicable in what formats – health data processed by the app can be imported or exported?	App Store	✓
1.7. Site notice	Can the user identify from a clearly visible and locatable site notice who the offering provider is (and therefore who the person responsible for the form and content is), and how this person can be reached? ²	App Store	✓
1.8. Information on the purpose of data processing	Are the intended purposes of the health data recorded and processed by the app clearly defined? ¹	App Store	✓
1.9. Information on consumer protection	Has information on consumer protection been made available in the App Store and within the app itself? ¹	App Store/ In App	✓
1.10. Information on supported situations	Can users evaluate on the basis of the App Store description whether the app is appropriate for their own situation?	App Store	✓
1.11. Information on use of cost controlling	How clearly and comprehensively is information provided on options for deactivating payment functions or other forms of cost controlling?	App Store/ In App	✓
1.12. Geographical origin of app provider	Is the geographical origin of the provider of the app known? ^{1,2}	App Store	✓
Met in total ✓			11

2. Risk appropriateness			
Criteria	Associated question	Reviewed in	Met
2.1. Necessary access rights	Are access rights requested? ¹	In App	✓
2.2. Request for necessary access rights on platform services and apps	Does the app only request access rights on platform services and/or other apps that are absolutely required for the stipulated use, and is it clear (or disclosed) what these are needed for?	In App	✓
2.3. Recognizability of risks of incorrect use	May it be assumed given the tips and user instructions provided that incorrect use of the product by the user will be recognized as risky?	App Store/ In App	✓
2.4. Product safety in the event of configuration changes	If the user can modify configuration of the app: Does the app provide clear warning signs if enhanced or additional risks to the safety and health of individuals could arise in the event of any configuration modifications?	In App	✗
2.5. Information on exclusion criteria (usage scenarios)	Are the usage scenarios for which the app is not suited readily identifiable from the description in the App Store?	App Store	✗
2.6. Product safety through low-risk default settings	Is the app installed with standard settings that, to the greatest extent possible, exclude any dangers to the safety and health of individuals? ³	In App	✓
2.7. Fair representation of risks and added values	Are the figures for and probabilities of risks or chances of success made transparent and comprehensible through the language used? ¹	In App	N.A.
2.8. Display of units when entering health data	Is the specific unit to be used continuously displayed when entering health data?	In App	✓
2.9. Deactivation of user tracking	Is the user given the option of temporarily switching off the recording of data used for creating a profile (user tracking)?	In App	✓
2.10. Information on the need to obtain specialist support	In the offering description, is it mentioned and made clear that the app cannot act as a replacement for professional medical care?	App Store	✗
2.11. Reference to specialist care in the event of critical systems	If the app records and evaluates symptoms: Is it ensured that – in the event of any serious medical symptoms arising – an indication is given that professional treatment should be sought?	In App	N.A.
2.12. Preliminary information on reliability of diagnoses	Are appropriate notices/warnings in respect of the app's diagnosis security or the reliability of other calculated results provided prior to the app's use?	App Store	✓
2.13. Information on reliability of calculated scores	When values (scores, diagnoses, etc.) are displayed, are meaningful and unmissable notices/warnings in respect of the reliability of these figures provided?	In App	✓
2.14. Product safety for user groups other than those intended	If the app is not expressly envisaged for a specific user group: Is it ruled out that any threat to the safety and health of individuals could arise through use by persons other than the intended user groups?	In App	✓
2.15. Information on age-specific risks for children and teenagers	In addition to the age classification, is other, age-specific information given on content risks, such as the risk of harmful effects or the importance of the disclosure of personal data (e.g. requesting location)?	App Store	✗
Met in total ✓			9

3. Ethical soundness				
Criteria	Associated question	Reviewed in	Met	
3.1. Advertising of provider products	Does the app advertise any paid-for products (books, etc.) of the provider or author? ^{1,4}	In App	✘	
3.2. Advertising within the app	Is the app advertisement-free or is reference at least made to a paid-for version of the app without any advertising? ⁴	In App	✘	
3.3. Segregation of advertising and content	Is any advertising contained in the app recognizable as such at all times?	In App	✘	
3.4. Privacy settings	Does the app offer settings that allow users to protect their privacy?	In App	✘	
3.5. Subsequent restriction of granted access rights	Can the user subsequently remove from the app any access rights that have been granted upon installation or during use of the app?	In App	✔	
3.6. Deletion of data upon deinstallation of the app	New question: Is the data fully deleted in the event of deinstallation, so that it is no longer available upon reinstallation? ¹	In App	N.A	
3.7. Incentive to pass on data	Are no incentives created by the app to pass on personal or third-party data?	In App	✔	
Met in total ✓				2

4. Validity of content				
Criteria	Associated question	Reviewed in	Met	
4.1. Subjective information segregated from objective information	Are the objective specialist information and (subjective) assessments and recommendations based thereon clearly distinguishable from one another?	In App	✔	
4.2. Accuracy of sources	Are the sources of the used content logical, consistent, and comprehensible?	App Store/ In App	✔	
Met in total ✓				2

5. Technical appropriateness				
Criteria	Associated question	Reviewed in	Met	
5.1. Optional additional hardware	Can the app be supplemented with additional hardware? ¹	In App	✘	
5.2. Option: Direct transfer of data to a personal data repository/trustworthy third party	Is there an option to have the data transferred directly to a personal data repository (e.g. a personal patient file) or to a trustworthy third party?	App Store	✔	
5.3. Supported operating systems	Is the app supported on different operating systems?	App Store	✔	
5.4. Reliability of the app	Does the app function flawlessly and reliably?	In App	✔	
Met in total ✓				3

6. Usability			
Criteria	Associated question	Reviewed in	Met
6.1. Rapid access to enhanced functions and functionalities	Is it easy for the user to find help, settings, and other enhanced functions of the app?	In App	✓
6.2. Ensuring the right connection and use of sensors	Does the app offer help to connect to device-internal sensors or external devices? ¹	In App	✓
6.3. Error messages in the event of erroneous data input	If the user enters erroneous data, does the app provide helpful indications that make it clear what the error was and how it can be rectified?	In App	N.A.
6.4. Data synchronization across devices	Can the app be installed on several devices, with the data then automatically being synchronized between these devices?	In App	✓
6.5. Availability of app and support in the three major Swiss languages	Is the app usable in Switzerland's three major languages, or are there usage instructions/online assistance and support provided in these three languages? ¹	App Store/ In App	✗
6.6. Off-line usability of the app	Can the user make use of the app's functions or obtain access to his/her data even without a permanent internet connection? ¹	In App	✓
6.7. Functional implementation of content structure	Is the app logically organized and structured?	In App	✓
6.8. Required additional hardware	Is additional hardware mandatory for the app's use? ¹	App Store	✓
6.9. Supplementary device-internal sensors	Are there internal sensors in the end device that can be used as a supplement to the app? ¹	In App	✓
6.10. Impairment of use due to advertising	Is use of the app not substantially impaired by pop-up advertising or similar?	In App	✓
6.11. License model for use on several devices	Can the app be simultaneously installed on several devices without an additional license having to be acquired? ¹	App Store	✓
6.12. Alteration in the degree of difficulty of exercises contained in the app	Can the user easily adjust the degree of difficulty of therapeutic exercises contained or presented in the app?	In App	N.A.
Met in total ✓			9

7. Health competence			
Criteria	Associated question	Reviewed in	Met
7.1. Use of recognized units of measurement	Are the units used in the app to record and/or display measurements and scores in common use?	In App	✓
7.2. Applicability of the app's results for the user	Are the statements made by the app (e.g. in respect of lifestyle or fitness) applicable to users?	In App	✓
7.3. Interpretation aids for recorded figures	Do users receive interpretation aids for measured values?	In App	✓
7.4. Linguistic comprehensibility	Is the offering couched in language that is readily comprehensible to the target group.	In App	✓
Met in total ✓			4

8. Expediency (Behavioural change techniques)			
Criteria	Associated question	Reviewed in	Met
8.1. Goals and planning (9)			
	Goal setting (behavior)	In App	✗
	Problem solving	In App	✗
	Goal setting (outcome)	In App	✓
	Action planning	In App	✗
	Review behavior goal(s)	In App	✗
	Discrepancy between current behavior and goal	In App	✗
	Review outcome goal(s)	In App	✗
	Behavioral contract	In App	✗
	Commitment	In App	✗
Met ✓			1
8.2. Feedback and monitoring (7)			
	Monitoring of behavior by others without feedback	In App	✗
	Feedback on behaviour	In App	✓
	Self-monitoring of behaviour	In App	✓
	Self-monitoring of outcome	In App	✗
	Monitoring of outcome(s) of behavior without feedback	In App	✗
	Biofeedback	In App	✓
	Feedback on outcome(s) of behavior	In App	✓
Met ✓			4
8.3. Social support (3)			
	Social support (unspecified)	In App	✓
	Social support (practical)	In App	✗
	Social support (emotional)	In App	✗
Met ✓			1
8.4. Shaping knowledge (4)			
	Instruction on how to perform the behavior	In App	✗
	Information about Antecedents	In App	✗
	Re-attribution	In App	✗
	Behavioral experiments	In App	✗
Met ✓			0

8.5. Natural consequences (10)			
	Information about health consequences	In App	✓
	Salience of consequences	In App	✗
	Information about social and environmental consequences	In App	✗
	Monitoring of emotional consequences	In App	✗
	Anticipated regret	In App	✗
	Information about emotional consequences	In App	✗
Met ✓			1
8.6. Comparison of behaviour (3)			
	Demonstration of the behavior	In App	✗
	Social comparison	In App	✓
	Information about others'	In App	✗
Met ✓			1
8.7. Associations (8)			
	Prompts/cues	In App	✗
	Cue signalling reward	In App	✗
	Reduce prompts/cues	In App	✗
	Remove access to the reward	In App	✗
	Remove aversive stimulus	In App	✗
	Satiation	In App	✗
	Exposure	In App	✗
	Associative learning	In App	✗
Met ✓			0
8.8. Repetition and substitution (6)			
	Behavioral practice/rehearsal	In App	✗
	Behavior substitution	In App	✗
	Habit formation	In App	✓
	Habit reversal	In App	✗
	Overcorrection	In App	✗
	Generalisation of target behavior	In App	✗
	Graded tasks	In App	✗
Met ✓			1

8.9. Comparison of outcomes (3)			
	Credible source	In App	x
	Pros and cons	In App	x
	Comparative imagining of future outcomes	In App	x
Met ✓			0
8.10. Reward and threat (11)			
	Material incentive (behavior)	In App	x
	Material reward (behavior)	In App	x
	Non-specific reward	In App	x
	Social reward	In App	✓
	Social incentive	In App	x
	Non-specific incentive	In App	x
	Self-incentive	In App	x
	Incentive (outcome)	In App	x
	Self-reward	In App	x
	Reward (outcome)	In App	x
	Future punishment	In App	x
Met ✓			1
8.11. Regulation (4)			
	Pharmacological support	In App	x
	Reduce negative emotions	In App	x
	Conserving mental resources	In App	x
	Paradoxical instructions	In App	x
Met ✓			0
8.12. Antecedents (6)			
	Restructuring the physical environment	In App	x
	Restructuring the social environment	In App	x
	Avoidance/reducing exposure to cues for the behavior	In App	x
	Distraction	In App	x
	Adding objects to the environment	In App	✓
	Body changes	In App	x
Met ✓			1

8.13. Identity (5)			
	Identification of self as role model	In App	x
	Framing/reframing	In App	x
	Incompatible beliefs	In App	x
	Valued self-identify	In App	x
	Identity associated with changed behavior	In App	x
Met ✓			0
8.14. Scheduled consequences (10)			
	Behavior cost	In App	x
	Punishment	In App	x
	Remove reward	In App	x
	Reward approximation	In App	x
	Rewarding completion	In App	x
	Situation-specific reward	In App	x
	Reward incompatible behavior	In App	x
	Reward alternative behavior	In App	x
	Reduce reward frequency	In App	x
	Remove punishment	In App	x
Met ✓			0
8.15. Self-belief (4)			
	Verbal persuasion about capability	In App	x
	Mental rehearsal of successful performance	In App	x
	Focus on past success	In App	x
	Self-talk	In App	x
Met ✓			0
8.16. Covert learning (3)			
	Imaginary punishment	In App	x
	Imaginary reward	In App	x
	Vicarious consequences	In App	x
Met ✓			0
Met in total ✓			11

How is the score calculated?

The category rating corresponds to the number of fulfilled criteria in relation to the answerable criteria as a percentage (bar chart). An exception is the category of expediency. In this category, an app is classified as optimal (100%) if it contains at least one third of the 93 Behavior Change Techniques. The score corresponds to the sum of the ratings of the 8 categories, converted into a number from 1 (minimum) to 10 (maximum).

¹ For the purposes of this exercise, the question on the APPKRI criterion was adjusted for health apps.

² Evaluation based solely on information from the Google Play Store

³ Evaluation based on recommendations of specialist companies (e.g. sleep of six to nine hours)

⁴ Not taken into account: advertising for the premium offering of the Apple and in-app purchases