

**Obstacles in Evidence-Based Mental Health:  
On The Relation Between Duration of Psychotherapy, Theoretical School Orientation,  
and Practitioners' Attitude Towards Evidence-Based Mental Health**

Lina Hävecker, s4313356

Department of Psychology, University of Groningen

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Supervisor: drs. Nina Schwarzbach

Second Evaluator: dr. Norbert Borger

In collaboration with Jane de Boer, Robin Hoekstra,

Lee Hornbogen, and Aaron Landers

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### **Abstract**

With increasing demand for psychotherapy, ensuring high treatment quality is a central aim of clinical psychology. One strategy to provide effective treatment is the implementation of Evidence-based Mental Health (EBMH). However, prior literature shows a gap between research and practice and suggests that a limited application of EBMH could be related to practitioners' attitudes. This study explored possible obstacles in the implementation of EBMH in clinical practice and investigated the relationship between practitioners' attitudes towards EBMH, therapy duration, and theoretical school orientation. Employing a cross-sectional, correlational research design, a sample of 135 participants was collected through convenience and purposive sampling. A questionnaire was used to collect quantitative data on the personal practice and attitude towards EBMH of practicing therapists from the Netherlands, Germany, and the US. The results showed that therapy duration as well as theoretical orientation were both significant in relation to practitioners' attitudes; however, no interaction effect was found. The results were consistent with the existing literature and suggest a systematic difference in attitudes towards EBMH, which in turn may limit the application of EBMH in professional practice. If future research aligns with these findings and consistently demonstrates a lower attitude towards EBMH among practitioners of specific therapy schools, it carries significant implications for EBMH guidelines, suggesting a potential negative bias towards an entire group of therapy approaches and showing the need to rethink the type of evidence valued in the EBMH paradigm.

*Keywords:* Evidence-based Practice, Evidence-based Mental Health, Psychotherapy, Long-term Psychotherapy, Evidence-based Guidelines

### **Obstacles in Evidence-Based Mental Health: On the Relation Between Duration of Psychotherapy and Attitudes Towards Evidence-Based Practice**

In every kind of healthcare institution, patients hope for the best practice of clinicians when it comes to treatment decisions and care. Especially in light of an ongoing increase in demand for psychotherapy (American Psychological Association, 2021), ensuring good treatment quality is crucial. In Psychology, just as in other disciplines, practitioners should aim to provide the best possible treatment to their clients by using the most current understanding of disorders, psychological processes, and possibilities to help people who are experiencing distress. This implies the utilization of the most recent findings to create an empirical base that informs daily practice. The “scientist-practitioner model” was established to ensure that the discipline of Psychology stays current and dynamic through the integration of both empiric research and therapeutic practice in the training of psychologists (Jones & Mehr, 2007).

#### **EBMH and its Practical Application**

The most current term for this empirical paradigm is Evidence-based Healthcare. First introduced in the field of medicine, it was established to make sure science guides clinical decision-making, not only clinical intuition (Heiwe et al., 2011). This paradigm was taken over by the field of Psychology in its motivation to practice as an empirical discipline. Specifically applied to Psychology, Evidence-based Mental Health (EBMH) or Evidence-based Practice (EBP) describes the integration of current research evidence, clinical expertise, and patient values in psychological practice (Huppert et al., 2006). This three-faced understanding of ideal practice in psychology aims to regard the value in the clinical experience of practitioners as well as in the research findings while keeping the focus on client concerns.

However, within the field of mental healthcare specifically, differing perspectives on the type of evidence that should guide decision-making has led to a divide termed the “scientist-practitioner gap” (Cha & DiVasto, 2017). While many research-focused psychologists value empirical evidence and its implementation into standardized treatment manuals, practice-oriented psychologists often prioritize clinical observation and individual treatment of each client (Cha & DiVasto, 2017). This results in a divide between what the research evidence supports to be effective and what is applied in clinical psychotherapeutic practice (Heiwe et al., 2011), or, in other words, a limited application of EBMH.

### **Practitioners are Lacking EBMH Knowledge**

It is, then, of interest to find out what obstructs the application of current research. Lilienfeld and colleagues (2013) suggest that many patients currently do not receive scientifically supported treatment despite the existing guidelines and remark that even the less quantifiable “art” of psychotherapy can be informed by scientific evidence. Therefore, they see the main obstacle of Evidence-based Practice in practitioners’ “informal clinical observations” (Lilienfeld et al., 2013, p.389) that are irreconcilable as evidence with the outcomes of Randomized Controlled Trials (RCTs). Lilienfeld and colleagues (2013) stress the importance of evidence-informed practicing, naming cognitive biases and negative attitudes towards research application as the main barriers to the implementation of EBMH. Following this line of argument, the responsibility for improvement would lie mainly with practitioners, suggesting that the gap between research and practice will shrink when practitioners are more open to strict, empirical guidance in their clinical practice.

### **Limitations in the Clinical Utility of EBMH**

A failure to fully implement EBMH, however, cannot always be attributed to lacking knowledge. Clinicians also perceive a limitation in the applicability of research findings for their practice: Safran and colleagues (2011) found that even among research-clinicians

familiar with current research, personal clinical expertise and supervision experiences were rated as significantly more beneficial for their personal practice than research publications – practitioners criticized the limited clinical utility of current research. From the research topics that were perceived as most impactful on clinical practice, a clear preference for transdiagnostic variables and varied evidence was evident (Safran et al., 2011). However, the current evidence-based guidelines do not employ a variety of evidence but, instead, focus on RCT research, which consists of clinical trials of specified treatments high in statistical and experimental control (Zabor et al., 2020). In a real-world setting that naturally includes confounding factors kept out of RCTs, the clinical utility of suggestions based purely on research might, therefore, be limited.

### **The Role of Treatment Duration in EBMH**

In addition to the narrow scope of evidence used for the creation of guidelines, Benecke and colleagues (2016) also criticize that the research methods favored in EBMH are not the ideal measures of effectiveness for all therapeutic treatments. Prior literature shows that the evidence currently valued in EBMH might be biased towards short-term therapies: RCT studies, which are taken as the gold standard of evidence (Lilienfeld et al., 2013), can be designed more easily for short-term psychotherapies and have therefore delivered more evidence for these than for long-term psychotherapies (Brockmann et al., 2006). Benecke et al. (2016) describe the following characteristics of RCTs to which this circumstance can be attributed:

Firstly, studies designed to investigate the efficacy of long-term therapies have to run much longer, corresponding to the therapy's longer duration. This requires more funding, which makes the study less realizable and researchers less likely to suggest a study on long-term therapy to begin with.

Secondly, RCTs require the use of a control group as a reference standard. The realization of control group designs is more problematic with long-term therapy studies than for shorter therapies: A waiting list condition can be unethical due to the long waiting time without treatment, which is related to negative psychological and behavioral consequences (Punte et al., 2022). A comparison to other treatments as a reference is also difficult: using a short-term therapy as a comparison is impossible due to the many differences but shortening the studied long-term therapy or not using a control group at all would significantly weaken the empirical support for the original long-term therapy (Benecke et al., 2016).

Furthermore, RCTs aim to use participants with a clear diagnosis, meaning without comorbidity or otherwise complex presentations, to avoid covariation and to keep the study results as clear and comparable as possible. However, most clients with a psychological disorder present with more than one disorder (Benecke et al., 2016) and the literature suggests that long-term therapies could be more effective than short-term therapies for patients with complex presentations (Leichsenring & Rabung, 2011). Research with patients with comorbidity would therefore be higher in ecological validity and most valuable for the validation of long-term therapies - but is not targeted in RCTs.

Lastly, the high experimental control and replicability that RCTs aim for require high manualization of the studied therapy. Cooper (2011) argues that, to meet the demand of current EBMH standards, it is possible to also manualize relational therapies to some extent, but it is much more common and achievable in short-term therapies, like behavioral therapies, than in long-term or more relational therapies.

Given these characteristics that make the design of an RCT for long-term therapies impractical, RCTs may not be the optimal study design to evaluate the effectiveness of long-term therapies. But because RCT evidence is favored in evidence-based guidelines, longer and less manualized therapies are currently less empirically supported - because of a lack of

accepted evidence, not because of accumulating evidence against them. This creates a bias in the empirical support of different therapy techniques. It can be hypothesized that, given the bias for short-term therapies, clinicians practicing long-term therapies approach research and also research-based guidelines more critically.

### **The Role of Theoretical Therapy Orientation in EBMH**

Besides the duration, other therapy traits could be influencing the attitude of practitioners towards EBMH. Safran and colleagues (2011) found that psychodynamic practitioners rated the importance of therapy research as lower and the ongoing experience with clients as more important than clinicians from other therapeutic approaches. The theoretical underpinning of the practiced therapy, therefore, also has an influence on what is perceived as the best source of information to guide clinical practice. Higa-McMillan and colleagues (2015) found that therapists identifying with a behavioral or cognitive-behavioral theoretical orientation were significantly more likely to implement Evidence-Based Practices (EBPs). Their findings, therefore, suggest a relation between theoretical orientation and a therapist's attitude towards EBMH.

The theoretical background of a therapist will, in turn, also influence the average length of therapy (Benecke et al., 2016). As an example, in their study on the effects of long-term therapy for depression, Brockmann and colleagues (2006) found that psychoanalytical therapy lasted on average 1.3 years longer than behavioral therapy. It is, therefore, probable to assume an interconnectedness between the theoretical background and the length of therapy: The average trajectory of a psychotherapy is based on its theory, which, for example, aims for a concise and time-limited treatment in CBT (Fenn & Byrne, 2013), while Person-centered Therapy prioritizes a longer process of relationship-building with the client (Renger et al., 2020). This implies that because certain schools of psychotherapy are more likely to have a



long-term treatment trajectory through their theoretical underpinning (Benecke et al., 2016, Brockmann et al., 2006), these schools are likely less supported by EBMH.

In summary, certain schools that use more relational approaches and long-term therapies are more likely to be in conflict with the evidence valued in EBMH and encounter the practical difficulties described above with RCT research designs. The whole of certain therapy approaches will, therefore, be systematically harder to empirically support through RCTs and, therefore, be less recommended by the current evidence-based guidelines. As argued in the previous paragraph, this could lead to a systematically more negative attitude towards EBMH throughout these groups of clinicians.

### **The Current Study**

In light of the prior literature, it is likely that attitudes regarding the utility of EBMH play a central role in the limited application of EBMH. It seems plausible that practitioners of long-term therapy as well as practitioners of schools less in line with the empirical paradigm will feel disadvantaged by the current research and, therefore, see less value in implementing EBMH guidelines in their treatment. To ensure high treatment standards and improve communication throughout the field of psychology, concerns with the accepted kind of evidence should be listened to and implemented; it is, therefore, important to study if there are specific groups of therapists who hold negative attitudes towards EBMH.

In line with this aim, this thesis firstly inquires whether there is a relation between the length of the practiced psychotherapy and the attitude of the practitioner towards EBMH. Since the findings described by Benecke and colleagues (2016) suggest a bias in current EBMH research that complicates the empirical support of long-term therapies and Safran and colleagues (2011) suggest that the limited perceived utility of current research evidence is a driving factor in more negative attitudes towards EBMH, it is hypothesized that practitioners

mainly treating through long-term therapies will hold more negative attitudes towards EBMH than short-term therapy practitioners (H1).

Furthermore, the relation between the school of psychotherapy the practitioner identifies with and the practitioner's attitude towards EBMH is explored. Because of the differences between the theoretical basis of most relational schools of therapy and the current evidence-based research paradigm, practitioners identifying with more relational schools (Person-centered, Psychodynamic, Analytical Psychotherapy) are hypothesized to hold more negative attitudes towards EBMH than practitioners of schools with an empirical orientation (Cognitive-Behavioral Therapy, Neuropsychology) (H2).

In addition to these main questions, the influence of the theoretical underpinning of a therapy on its treatment trajectory prompts an exploration of possible interaction effects - it is expected that the duration of practiced therapy does interact with the effect of school orientation on the attitude of the practitioner to some extent (H3). This analysis is explorational in regard to how these variables are related and interact.

## **Methods**

The study was preregistered on OSF. Under [https://osf.io/7eyra/?view\\_only=cd45a9b61ce44baf8fee71840f553184](https://osf.io/7eyra/?view_only=cd45a9b61ce44baf8fee71840f553184), all study details can be found.

### **Study Design**

The study employs a cross-sectional and correlational research design. Quantitative data was obtained through a questionnaire made and distributed with Qualtrics (Qualtrics, Provo, UT, 2023) with mostly close-ended questions; the same questions were presented to every participant.

### **Participants**

The population of interest for this study was psychologists working in mental health care. The final analyses included 135 participants. In this sample, the mean age was 39.62 (*SD*

= 12,32) with the youngest participant being 24 and the oldest participant being 68 years old. 80% ( $n = 108$ ) of the psychologists were working in the Netherlands, 17.78% ( $n = 24$ ) were working in Germany, and 2.22% ( $n = 3$ ) were working in the USA. 114 (84.44%) participants were female, the remaining 21 (15.56%) participants were male. The participants were also asked to report their highest academic title: 117 (86.67%) participants had a Master's Degree or equivalent, while 18 (13.33%) participants had a Ph.D. or equivalent.

## Materials

This study is based on previous research of a Master's psychology student, who conducted semi-structured interviews with trainers of the GZ-training (a Dutch postmaster program for becoming a licensed health psychologists) on the promotion of and obstacles in the application of Evidence-based Mental Health (EBMH). The developed survey was, for this study, augmented and expanded upon to ask about details of practitioners' treatment methods, openness to new scientific literature, and support from their institutions for integrating evidence-based treatments into their practice. The current questionnaire starts with a short explanation of EBMH. In the first part of the study itself, participants' demographic information, educational background, the psychological school of thought they identify with, and professional practice information (average treatment trajectory and current work setting) were collected. The second part of the survey was divided into subscales on different factors relevant to EBMH use: personal, contextual, and organizational factors. The Likert scales yielded descriptive data about the frequency of demographic characteristics, different attitudes, and behaviors of psychotherapists relevant to the implication of EBMH in clinical practice. The whole questionnaire can be found in Appendix A.

For this thesis, Q12 from the questionnaire (*"If you would need to choose, which therapeutic movement (school) did most of your trainings (GZ, psychotherapist training, clinical psychologist training) primarily follow?"*) was used to obtain the theoretical

orientation of psychologists. The dependent variable “Attitude of Practitioners towards the implementation of EBMH” was assessed by combining 5 subquestions (Questions 18.1, 18.4-r, 18.5-r, 18.6, and 18.9-r) regarding openness to new practices, attitudes on the research-practice gap, and the value of evidence-based treatments and clinical experience. The Cronbach’s alpha obtained for the variable was  $\alpha = 0.477$ . While the internal consistency is on the lower side (Goforth, 2015), it was decided that the created variable would, nevertheless, be the best measure of attitude available from this data set; further reflection on the issue can be found in the “Limitations” section of the discussion.

### **Procedure**

The changes to the previous questionnaire were based on a thorough literature study, discussed within the bachelor thesis working group, and approved by the principal investigators of this study. Participants were recruited employing convenience sampling through LinkedIn posts, messages to personal contacts, and purposive sampling through emails to clinical psychologists to achieve a balance of theoretical schools in the sample. Participants were also asked to forward our study, making use of snowball sampling. Data collection was stopped after two weeks when the alternative goal of 350 participants was not reached.

### **Analysis Plan**

It was planned to conduct a two-way ANOVA (Analysis of Variance) in JASP (JASP Team, 2023) using Duration of Psychotherapy as one independent variable with three levels: short-term therapy, long-term therapy, and the option “It varies”. School of Therapy was used as the second independent variable with 7 levels: Cognitive-Behavioral, Psychodynamic, and Systemic Therapy, Neuropsychology, Person-centered, and Acceptance and Commitment Therapy. In the original questionnaire, the school of Analytical Psychotherapy was also an option, however, since only one respondent chose this option, this response was merged with

the group of psychodynamic therapists due to their close theoretical underpinning (Ratzek et al., 2020). To test the assumptions of an ANOVA, Normality, Homogeneity, and Equality of Variances of the independent variables were checked through Q-Q plots and Levene's Test. The interpretation of effect sizes was based on Serdar et al. (2021).

### **Changes to the Conducted Analyses**

Because of a low number of participants for certain therapeutic schools, conducting a two-way ANOVA was problematic. Alternatively, separate one-way ANOVAs for the main effects of Duration of Therapy and School Orientation on the Attitude of Practitioners towards EBMH were conducted. To test for an interaction effect between therapy duration and school orientation, all 7 school orientations were summarized into two bigger groups: basis for this grouping was the school's theoretical background in either behavioral psychology (CBT, ACT, and Neuropsychology because of its empirical, biological groundwork) or psychodynamic psychology (Psychodynamic, Systemic, and Person-centered Therapy). A two-way ANOVA was then conducted with Theoretical School Orientation as one categorical independent variable with two levels, Therapy Duration as the other categorical independent variable, and Attitude as the dependent outcome variable. The full JASP (JASP Team, 2023) R syntax for all conducted analyses can be found in Appendix B.

### **Results**

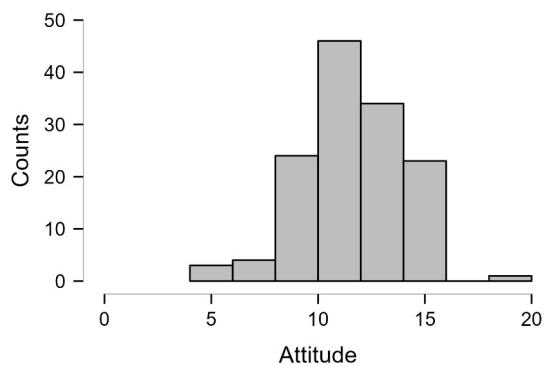
From the 231 recorded responses to the questionnaire, 95 were deleted because they they did not consent to participation in the study or to their data being processed (Q5 & Q6 in Appendix A), or when they did not match the target group of psychologists working in mental health care with the necessary education to officially practice therapy in any of the three countries surveyed (Q7 & Q10). Additionally, two responses were deleted when data needed for the analysis was omitted because the participants did not respond to the questions used as attitude measures (Q18).

**Descriptive Statistics**

Figure 1 shows the distribution of the continuous variable Attitude. The frequencies of the categorical variables are visualized in Figure 2 for Theoretical School Orientation ( $n = 100$  for CBT,  $n = 13$  for Psychodynamic,  $n = 8$  for Systemic,  $n = 2$  for Neuropsychology,  $n = 5$  for Person-centered,  $n = 7$  for ACT), Figure 3 for Therapy Duration ( $n = 57$  for short-term therapy,  $n = 36$  for long-term therapy,  $n = 42$  for “It varies”), and in Figure 4 for the grouped School Orientation ( $n = 109$  for Behavioral Therapy approaches,  $n = 29$  for Psychodynamic Therapy approaches). Table 1 shows the means and standard deviations as well as correlations of all variables.

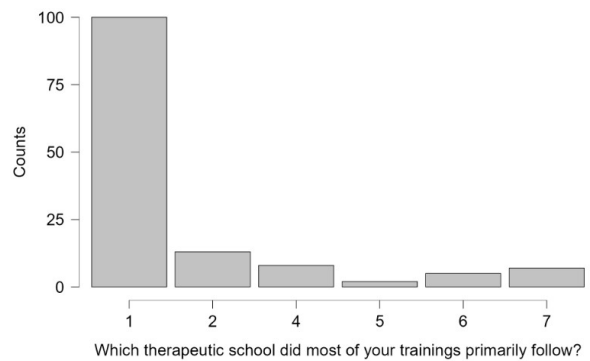
**Figure 1**

*Distribution of Attitude towards EBMH*



**Figure 2**

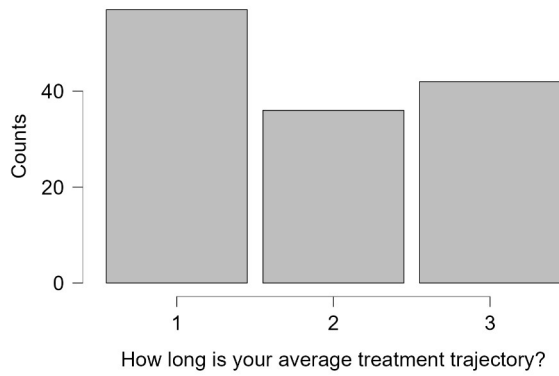
*Frequencies of School Orientations*



*Note.* 1 = CBT, 2 = Psychodynamic, 4 = Systemic, 5 = Neuropsychology, 6 = Person-centered, 7 = ACT.

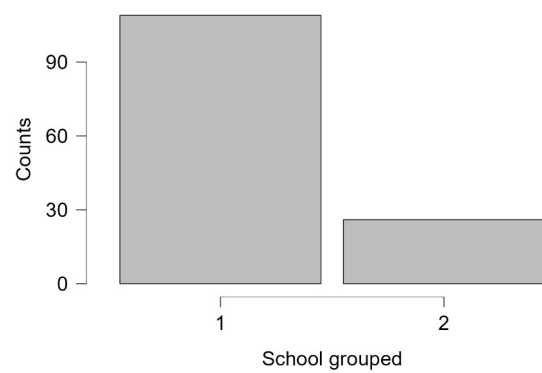
**Figure 3**

*Frequencies of Treatment Duration*



**Figure 4**

*Frequencies of Grouped School Orientation*



*Note.* 1 = Short-term Therapy, 2 = Long-term Therapy, 3 = “It varies”.

*Note.* 1 = Behavioral Therapy Schools, 2 = Psychodynamic Therapy Schools.

**Table 1**

*Descriptive Statistics and Pearson’s r Correlations for the Study Variables*

Pearson's Correlations

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4
1. Which therapeutic school did most of your trainings primarily follow?	135	1.83	1.73	—			
2. How long is your average treatment trajectory?	135	1.89	0.85	-0.04	—		
3. Attitude	135	12.08	2.41	-0.33***	0.07	—	
4. School grouped	135	1.83	1.73	1***	-0.04	-0.33***	—

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

*Note.* As variables 1, 2, and 4 are categorical, *M* and *SD* are not meaningful.

### Duration of Therapy and Attitude

In order to examine the assumptions for a one-way ANOVA testing the effects of Treatment Duration on practitioners' attitude towards EBMH, Levene's Test and a Q-Q plot were investigated. Levene's Test was nonsignificant ( $F(2, 132) = 2.09, p = .128$ ) and the Q-Q plot showed no significant pattern, therefore, there is no indication of violation of Normality or Homoscedasticity. The ANOVA (Table 2) showed a significant difference in attitude depending on the treatment length for at least two groups with an approximately medium effect size.

**Table 2**

*ANOVA for Treatment Duration and Attitude*

Cases	Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>	$\eta^2$
How long is your average treatment trajectory?	41.67	2	20.84	3.72	.027	.053
Residuals	738.43	132	5.59			

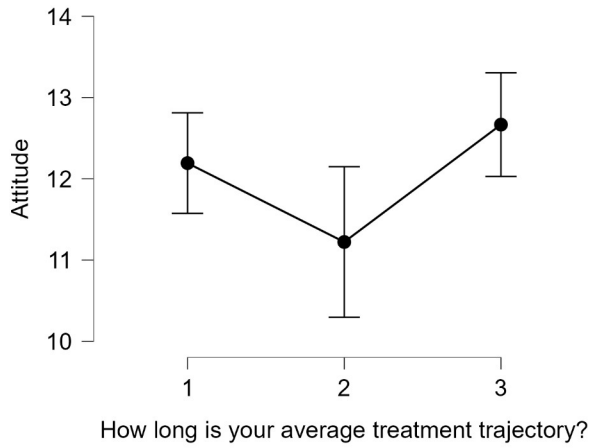
*Note.* Type III Sum of Squares.

Figure 5 shows that practitioners of long-term therapy scored lower on attitude towards EBMH than practitioners of short-term therapy. Furthermore, it shows that practitioners who indicated that the duration of their practiced therapy varies reported the highest positive attitude. Means and standard deviations are displayed in Table 3.



**Figure 5**

*Effects of Treatment Duration on Practitioners' Attitude towards EBMH*



**Table 3**

*Attitude Scores Throughout Treatment Duration Groups*

Average treatment trajectory	<i>M</i>	<i>SD</i>
1	12.19	2.33
2	11.22	2.74
3	12.67	2.04

*Note.* 1 = Short-term Therapy, 2 = Long-term Therapy, 3 = “It varies”.

A post hoc comparison (Table 4) showed that group two (“Long-term therapy”) and three (“It varies”) significantly differed in their group means, with practitioners of long-term therapy scoring significantly lower on attitude towards EMBH than practitioners whose treatment duration varies.

**Table 4***Post Hoc Comparisons of Therapy Duration Groups*

		Mean Difference	SE	t	ptukey
1	2	0.97	0.5	1.928	.135
	3	-0.47	0.48	-0.985	.588
2	3	-1.44	0.54	-2.689	.022 *

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\*  $p < .05$

*Note.* 1 = Short-term Therapy, 2 = Long-term Therapy, 3 = It varies. P-value adjusted for comparing a family of 3.

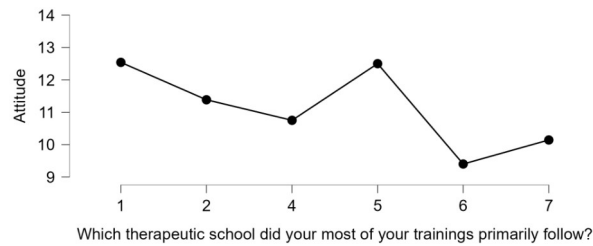
### School Orientation and Attitude

To examine the assumptions of Homoscedasticity and Normality for a one-way ANOVA testing the effects of School Orientation on practitioners' attitude towards EBMH, Levene's Test and a Q-Q plot were investigated. Levene's Test was nonsignificant ( $F(5, 129) = 0.76, p = .579$ ) and the Q-Q plot showed no significant pattern, therefore, there was no indication of violation. The results of the ANOVA showed a significant difference between at least two groups with a large effect size ( $F(5, 129) = 3.97, p = .002, \eta^2 = .133$ ).

Figure 6 visualizes the distribution of Attitude scores throughout the groups of theoretical schools and indicates that practitioners with an educational background in CBT report the highest positive attitude towards the implementation of EBMH, followed by Neuropsychology. Practitioners of Psychodynamic Therapy, on the other hand, showed a lower positive attitude, and Person-centered Therapists reported the lowest attitudes. All means and standard deviations are listed in Table 5.

**Figure 6**

*Effects of Therapy School on Practitioners' Attitude towards EBMH*



**Table 5**

*Attitude Scores Throughout the Groups of Theoretical Schools*

Theoretical School	<i>M</i>	<i>SD</i>
1	12.54	2.28
2	11.38	1.8
4	10.75	2.19
5	12.5	2.12
6	9.4	3.97
7	10.14	1.77

*Note.* 1 = CBT, 2 = Psychodynamic, 4 = Systemic, 5 = Neuropsychology, 6 = Person-centered, 7 = ACT.

A post hoc comparison (Table 6) demonstrated that only the groups CBT and Person-centered Psychotherapy differed significantly in their effect on Attitude. The group comparison between Acceptance and Commitment Therapy (ACT) and CBT showed a noticeable difference that approximated the significance level.

**Table 6***Post Hoc Comparisons of School Orientation Groups*

		Mean Difference	SE	<i>t</i>	<i>ptukey</i>
1	2	1.16	0.67	1.71	.526
	4	1.79	0.84	2.13	.28
	5	0.04	1.63	0.02	1
	6	3.14	1.05	2.99	.038*
	7	2.4	0.89	2.68	0.087
2	4	0.63	1.03	0.62	0.99
	5	-1.12	1.74	-0.64	0.988
	6	1.98	1.2	1.65	0.569
	7	1.24	1.07	1.16	0.856
4	5	-1.75	1.81	-0.98	0.928
	6	1.35	1.31	1.03	0.905
	7	0.61	1.18	0.51	0.996
5	6	3.1	1.92	1.62	0.588
	7	2.36	1.84	1.28	0.793
6	7	-0.74	1.34	-0.55	0.994

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\*  $p < .05$

*Note.* 1 = CBT, 2 = Psychodynamic, 4 = Systemic, 5 = Neuropsychology, 6 = Person-centered, 7 = ACT. P-value adjusted for comparing a family of 6.

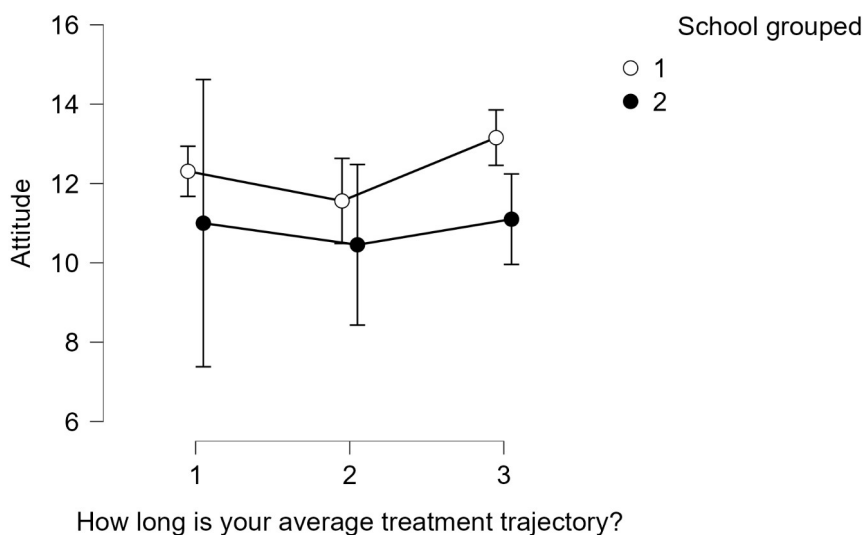
### Duration, School Orientation, and Attitude

A one-way ANOVA between the grouped schools and the Attitude variable showed that the psychodynamic practitioners scored significantly lower on attitude towards EBMH than behavioral clinicians with a moderate effect size ( $F(1, 133) = 9.58, p = .002, \eta^2 = .067$ ).

The two-way ANOVA revealed that the grouped schools variable and duration of therapy did not have a significant interaction effect on attitude ( $F(2, 129) = 0.35, p = .707, \eta^2 = .005$ ). The plot in Figure 7 shows no pattern indicative of a possible interaction effect.

**Figure 7**

*Effect of Treatment Duration on Practitioners' Attitude, Split for School Group*



*Note.* 1 = Behavioral Therapy Schools, 2 = Psychodynamic Therapy Schools.

### Discussion

This study investigated the relationship between the duration of the practiced psychotherapy, the theoretical school orientation of the practitioner, and the practitioner's attitude towards EBMH. The findings illustrate the connection between traits of the practiced psychotherapy and practitioners' attitudes:

In line with hypothesis H1, the results show a relation between the length of the practiced therapy and the practitioner's attitude towards the implementation of EBMH in their practice. Practitioners of long-term therapy scored significantly lower on attitude towards EBMH than practitioners who use both long- and short-term therapy. In relation to H2, the analysis also showed that clinicians practicing therapy with a psychodynamic background recorded a significantly lower attitude towards EBMH than practitioners with a behavioral background. When discriminating between the individual therapeutic schools, a significant difference was found between the attitudes of practitioners trained in CBT and practitioners trained in Person-centered Psychotherapy. All other therapy schools did not differ significantly. The explorative analysis conducted in the context of H3 indicated no interaction effect between Duration, Theoretical Orientation, and the practitioners' attitude towards EBMH. Future studies with higher power from utilizing a bigger, more varied sample might find stronger effects that offer more detailed information on the dynamics of the investigated relationship.

### **Implications**

The findings of the current study offer first indications of systematically lower attitudes in certain groups of therapists: practitioners of long-term therapy scored lowest on attitude towards EBMH out of all groups of treatment duration. While there is no previous literature specifically connecting treatment duration and attitude towards EBMH, the findings are in line with previous studies showing higher obstacles for RCTs on long-term therapy (Benecke et al., 2016, Brockmann et al., 2006). While the post hoc comparison showed no statistically significant group difference between groups of long- and short-term therapists, the difference to the significant group between long-term therapy and varying duration is not large. Taking this and the supportive prior literature into account, future research should further explore the relevance of varying treatment duration in practitioners' stances towards

EBMH. If future research confirms these findings, it has to be further investigated what the extend of a systematic bias in the current research might be and how it can be counteracted.

A surprising result was the highest recorded attitude in practitioners utilizing both long- and short-term therapy. A possible explanation is the connection that Carter (2006) draws: She argues that using “theoretical pluralism and technical eclecticism” (Carter, 2006, p. 65) as a tool to improve therapy effectiveness represents an important part of EBMH. While this lies beyond the scope of this paper, future research into the connection of eclecticism and Evidence-based Practices could, therefore, add further information that expands the understanding of the found relationship.

The relationship between theoretical therapeutic training and treatment approaches has been researched in prior literature (Higa-McMillan et al., 2015; Lilienfeld et al., 2013; Renger et al., 2020). Psychodynamic practitioners were found to perceive Evidence-based Practices as less important (Safran et al., 2011), while empirical and behavioral approaches showed a strong application of EBMH (Higa-McMillan et al., 2015), which our research findings supported. That CBT practitioners scored highest in attitude towards EBMH is reflected in the findings of Higa-McMillan and colleagues (2015), who found CBT practitioners were also most likely to implement evidence-based interventions in comparison to other theoretical orientations.

When comparing the different therapy schools, the comparison of CBT with practitioners of Person-centered Therapy, who reported the lowest attitudes, was the only group comparison with statistical significance. A possible explanation is the non-directiveness and client individuality valued in Person-centered Therapy (Renger et al., 2020), which contrasts strongly with CBT techniques as well as with the idea of manualized treatments encouraged in EBMH. The significant difference in attitude between these two groups, therefore, exemplifies the conflict between theoretical values and EBMH methods that some

schools hold. In light of this theory, it is interesting that practitioners of Acceptance and Commitment Therapy (ACT) scored second lowest on attitude. ACT is categorized as a behavioral approach, but has a strong focus on mindfulness and the therapeutic relationship (Hayes et al., 2012) - it would therefore be insightful to further look into the relationship between ACT and EBMH. Possibly, the low attitudes recorded could be explained by more relational values and techniques that are more strongly in contrast with EBMH and RCT research than the traditional CBT approach.

In summary, the findings show a lower attitude towards EBMH in practitioners of longer and more relational therapies. These results are relevant for the research-practice gap since prior literature has shown the connection between low attitudinal factors of practitioners and low EBMH application in their practice (Nelson & Steele, 2007; Rye et al., 2019). Our study cannot draw any causal or temporal implications, which is why it is still unknown if a low attitude toward EBMH is a precursor for limited EBMH application, a consequence caused by cognitive dissonance, or if attitude and practical application are related through other mediating or moderating factors. But beyond possible inferences of which therapist groups might be lower in EBMH application, the results suggest that a big part of therapists actually feels critical toward EBMH. As EBMH represents the most current psychological paradigm that is supposed to improve psychology by uniting research, practice, and clients, this implication can arguably have bigger consequences regarding the unity with which the field of psychology agrees on the best scientific method.

### ***Critique of current EBMH***

EBMH is supposed to be tripartite, equally considering client expertise and best available research in the context of client characteristics and preferences (APA, 2006). But a possible explanation for the low recorded attitudes, according to Berg (2019), is that the tripartitation is actually collapsed into a science-centered model in which the use of both



clinical expertise and client preferences is expected to be legitimized and shaped by research (for example, see Lilienfeld et al., 2013). Through this “scientocentrism” (Berg, 2019, p. 2), it has lost prominence that research should also be guided by the reality presenting in clinical practice.

This explanation is supported by the feedback that participants have left at the end of our study (Q21). Clinicians most commonly named the perception that EBMH research was not applicable to their practice reality as a reason against the use of EBMH. One participant remarked in the feedback:

I have the biggest issue with evidence-based interventions that are based on RCTs using DSM categories. The categories pretend to be homogeneous while they are, in fact, very heterogeneous. That makes the research results questionable. But I also get that one has to start somewhere with collecting evidence for psychological treatments.

Clinicians from our sample see the usefulness of the theory behind Evidence-based Mental Health, but the current research and the resulting guidelines do not feel applicable to their client group, either because they work with a special group of patients (forensic setting, eating disorder treatment) or because they think the research fails to capture the complexity of individual presentations. If the discipline of psychology aims for unification, all practitioners have to feel like the utility of their approaches is objectively explored with appropriate research methods and that EBMH is truly based on treatment effectiveness, clinical expertise, and client values. Another participant of our study commented:

In the last years, EBMH felt like a religion in the field [of psychology], but the reality is that it cannot always be applied. Every unique person can deviate from protocols,

but the health care system seems to push us more and more in the direction of manualized treatments. It is understandable since this approach is more measurable and therefore more attractive for the financial specialists. In practice, however, it gives therapists high administrative burdens, through which there is less time left for clients and additionally, clients are treated more on the basis of techniques (meaning what is written in the manuals) and less based on what [the client] says they need. The one, of course, does not exclude the other, but on the spectrum of manualized treatments versus an individual approach, practitioners feel they are being pushed towards protocols.

### ***Rethinking the Execution of EBMH***

While the attempted validation of treatment efficiency through research is central to the integrity of clinical treatment standards (Garfield, 1996), clinical expertise and client values have to be valued equally in the three-faced concept of EBMH. Regarding therapist expertise, even if research aims to eliminate all confounding variables, therapist variables cannot be separated from treatment effects in the therapeutic setting (Norcross & Lambert, 2018). In their study on treatment outcome variability, Wampold and Brown (2005) attributed 0% of treatment outcomes to the specific treatment method used, but estimated the influence of therapist effects on treatment outcome at around 5%. Looking at client values, implemented client wishes appear to be central in client participation, lower drop-out rates, and client improvement (Farrell & Deacon, 2016; Swift & Callahan, 2010); Swift and Callahan (2010) also found that clients prioritized a satisfactory therapeutic relationship over receiving empirically supported treatment. While this is a research-based validation of the three-faced model, it once again illustrates the need to value client preferences and clinical expertise.

## **Limitations**

It has to be acknowledged that our study has multiple limitations. First, participants were not evenly distributed across school orientations, which lead to a limited number of responses in fields such as Neuropsychology ( $n = 2$ ) or Person-centered Therapy ( $n = 5$ ). The generalizability of the findings is therefore limited as they may not accurately represent the population.

Additionally, the construct validity of the attitude variable can be improved upon: the current study was developed to explore possible obstacles to the implementation of EBMH, not to measure attitude towards the implementation of EBMH specifically. The consequence is a relatively low internal consistency for the variable, which was created from 5 question items based on face validity. Because further analysis showed that no removal of one item would have improved Cronbach's alpha significantly, it was decided that the created variable would be the most accurate measure of attitude available from this data. Nevertheless, since the current findings showed the relevance of practitioners' attitude, further research on this topic should aim for an improved conceptualization of attitude to increase the construct validity and therefore the quality of the collected data as well as resulting conclusions.

It is also important to note that this study aimed to include a varied sample of different theoretical schools and, for that purpose, accumulated participants from three countries with different healthcare systems and varying education in therapy approaches. However, this created the challenge of creating a questionnaire general enough to apply to all therapeutic systems, but specific enough to conduct good research. One participant, for example, remarked that the questions and phrasings did not fit the German therapy system well. This has to be taken into account when interpreting the results, and suggests that following research on this topic either should consider focusing on one specific country, or further look into the best way to generalize questions on the studied topic.

Finally, researching a broad topic like “Evidence-based Mental Health”, which is explained in different terms throughout the literature, creates inherent limitations. Some practitioners partaking in our study remarked that the term is vague in itself, making it difficult to answer all questions assiduously. It, therefore, has to be taken into account that the exact understanding of the term EBMH varies between practitioners (Fulcher-Rood et al., 2020) and some participants of this study might have responded with varying definitions of EBMH in mind. Nevertheless, we tried to limit confusion by providing a concise definition at the beginning of the study and no participant reported great difficulty with understanding the concept in the feedback.

### **Future Directions**

The results of this study in combination with the feedback of participants illustrate the importance of investigating the attitude of practitioners. The findings demonstrate systematically lower attitudes and imply a negative bias towards long-term and relational therapies in the evidence that is used to create guidelines and illustrate ideal practice. Through rigorously striving for standardization and eliminating confounds, whole schools of therapies are disadvantaged (Benecke et al., 2016) - in light of these shortcomings, the EBMH guidelines for practitioners need to be reevaluated critically: the first step is an awareness of these weaknesses within the base of EBMH validation. Both Garfield (1996) and Levant (2004) advise against overly strong recommendations made by the EBMH guidelines and the premature labeling of “validated” therapies. As the recommendations made by APA will influence healthcare access (Levant, 2004) as well as the training of future psychologists (Garfield, 1996), it is crucial that EBMH guidelines acknowledge and address the limited utility for practice that is criticized in the literature (Berg, 2019; Garfield, 1996; Levant, 2004; Safran et al., 2011) and in the feedback of our participants.

For closing the research-practitioner gap, future research should therefore actively explore the reasons behind these systematically lower attitudes across specific groups of therapists and confirm whether they are truly due to a negative bias towards these groups. If this is found to be true, this has implications of where improvement of the current paradigm has to begin: before developing further interventions aiming to increase EBMH education and application, EBMH will have to work on eradicating bias in their accepted research evidence to improve the gap between research and practice.

### **Conclusion**

The concept of Evidence-based Mental Health has been introduced in the field of psychology to ensure high treatment standards – however, a gap between research and practice has resulted in the limited application of EBMH. In this study, we investigated the relationship between length and theoretical basis of a practiced therapy and the attitude of clinicians towards the implementation of EBMH in their practice, which the results showed to be at least partially significant. The lower attitude towards EBMH in practitioners of psychodynamically oriented as well as long-term therapies that was found could be related to an evidential bias in the RCTs favored in the EBMH paradigm and imply a bias towards a certain kind of evidence and therapy approaches in the current EBMH guidelines. Future research should, therefore, further investigate this bias to ensure true tripartiality and counteract premature recommendations of certain treatments and trainings.

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## Appendix A

### Questionnaire

#### Q1 *\*Language\**

In which language would you like to continue the questionnaire?

In welke taal wilt u deze vragenlijst verderzetten?

In welcher Sprache möchten Sie den Fragebogen fortsetzen?

(English/Nederlands/Deutsch)

#### Q2 *\*Introduction\**

Welcome to our study and thank you for your interest!

You were invited to participate in this study because you work as a psychologist in mental health care. This study focuses on how psychotherapists/clinical psychologists use evidence-based mental health (EBMH) in their clinical practice. EBMH is derived from evidence-based medicine, which means the “conscientious, explicit, and judicious use of **current best evidence** in making decisions about the care of individual patients” (Sacket et al., 1996). Thus, in addition to patient preferences and clinical expertise, EBMH refers to the **integration of scientifically supported interventions** into treatment decisions. In this study, we investigate how the research evidence of EBMH is embedded in clinical practice and how this is influenced by different characteristics, such as thoughts, attitudes, and working environments.

More detailed information about the study is on the next page.

#### Q3 *\*Study information\**

### **INFORMATION ABOUT THE RESEARCH**

VERSION FOR PARTICIPANTS

**“SURVEYING PSYCHOLOGISTS WORKING IN MENTAL HEALTH CARE ON  
EVIDENCE-BASED MENTAL HEALTH PRACTICES”**

PSY-2223-S-0276

- **Why do I receive this information?**

- *You receive this information because you are a psychologist working in a mental health care setting and therefore invited to take part in our research.*
- *This study is being conducted by researchers of the University of Groningen (RUG): Drs. Nina Schwarzbach, Dr. Rink Hoekstra, Prof. Dr. Marieke Pijnenborg, and Prof. Dr. Theo Bouman. Students involved in this research are: Jane de Boer, Lina Hävecker, Robin Hoekstra, Lee Hornbogen and Aaron Landers.*
- *The starting date of this research project is 01-04-2023. The research project will end 30-07-2023.*

- **Do I have to participate in this research?**

- *Participation in the research is voluntary. However, your consent is needed. Therefore, please read this information carefully. Ask all the questions you might have, for example because you do not understand something. Only afterwards you decide if you want to participate. If you decide not to participate, you do not need to explain why, and there will be no negative consequences for you. You have this right at all times, including after you have consented to participate in the research.*

- **Why this research?**

- *The purpose of this study is to expand the knowledge about the gap between research and practice in a clinical psychotherapeutic setting. We are curious if/how practitioners of psychotherapy use ‘evidence-based mental health’ (EBMH), and how this is embedded in your professional practice and environment.*

- **What do we ask of you during the research?**

- *Before you start with the survey, we will ask you to give informed consent. Then the survey will start.*
- *The main survey will take **about 10-15 minutes**. In this survey we will first ask for some demographic information. Then the survey will contain questions about the use of scientific literature, related attitudes and skills, and how ‘evidence-based mental health’ is embedded in your professional practice and environment.*
- *There is no experimental manipulation in this study.*
- *There will be no financial compensation.*

- **What are the consequences of participation?**

- *By participating in this research, you will contribute to the scientific understanding of the gap between science and practice, especially the practitioners’ perspective. By this, you can contribute to advancing the communication of science and practice*
- *By participating in this research, you will also critically reflect on the gap between science and practice, which may widen understanding and lead to a more conscious use of research.*
- *You will also help Bachelor thesis students with learning how to conduct research.*

- *We don't expect any direct or indirect negative consequences for you after participating in this study.*
- **How will we treat your data?**
- *Besides data collection meant for scientific publication, the data is also used for educational purposes, namely a Bachelor Thesis project.*
- *The data that we use are quantitative.*
- *We will not ask for directly identifiable information. The only personal information that will be required of the participants are age and gender. Therefore, the data is not completely anonymous, but 'pseudoanonymous'.*
- *All researchers will have access to the data throughout the proces.*
- *We will share the data once our research is published, so that other researchers can profit from it. However, we will not disclose identifiable information, such as age and gender. Therefore, the published dataset is anonymous.*
- *Upon request, we might (after careful evaluation) share the whole dataset, if researchers provide a valid reason for needing the unpublished information.*
- *Because we do not want to create a link to personal information but we still want to provide a possibility to retract data, we decided to work with a code, created by the participant.*
- *With the code, participants have the right of access, rectification, and deletion of personal information. You have the right to do this before 30-07-2023.*
- *The full data will be stored according to the data management protocol of the Faculty of Behavioral and Social Sciences on the University drives.*
- **What else do you need to know?**
- *You can always ask questions about the study. This can be done by mailing the corresponding researcher (n.r.schwarzbach@rug.nl).*
- *Do you have questions/worries about your rights as a participant or the execution of the study? For this you can also contact the Ethics Committee Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl*
- *Do you have questions of how your personal data will be handled? For this you can contact the Data Protection Officer of the University of Groningen: privacy@rug.nl*

As a participant, you have the right to receive a copy of this study information.

**Q4** *\*Informed consent\**

## **INFORMED CONSENT**

**“SURVEYING PSYCHOLOGISTS WORKING IN MENTAL HEALTH CARE ON  
EVIDENCE-BASED MENTAL HEALTH PRACTICES”**

PSY-2223-S-0276

- I have read the provided information about the research project and had enough opportunities to ask questions.
- I have understood the purpose of this research and what is asked of me as well as what kind of negative consequences this research can have.
- I have been informed of my rights as a participant, I understand participation is voluntary and I have independently decided to take part.
- I understand that I have the right to withdraw at any time, without giving a reason and without it having any negative consequences.
- I understand how my data will be processed and protected.
- Below I am indicating what I am consenting to.

**Q5** Consent to participate in this study:

*Yes, agree to participate, and my agreement is valid until 30.07.2023/*

*No, I do not agree to participate*

**Q6** Consent for the processing of my personal data.

(Personal data refers to demographic information such as gender, work experience etc.. As explained before, this data is handled confidentially. We need this consent to proceed with the study.)

*Yes, I consent to the anonymized processing of my data as it is explained in the study information. I know that I can ask for my data to be deleted until the 30.07.2023. I can also ask my data to be deleted in case I discontinue participation in the study./*

*No, I am not consenting to the processing of my data.*

*\*Check question\**

**Q7** Do you work as a psychologist in mental health care? (Yes/No)

*\*If no, direct to the end of the survey. If yes, proceed\**

*\*Demographics\**

**Demographic questions:**

- **Q8** What is your age?

- **Q9** What is your current gender identity? (Check all that apply) (Male, Female, Trans male/trans man, Trans female/trans woman, Genderqueer/gender non-conforming, Different identity (please state): \_\_\_\_\_, don't want to say
- **Q10** What is your highest (academic) degree? (High school degree or equivalent, Bachelor's Degree or equivalent, Master's Degree or equivalent, PhD Degree or equivalent)
- **Q29** In what country do you work? (Netherlands, Germany, USA, Other)

**Practice questions:**

- **Q11** Indicate the degree to which your therapy/interventions include elements of the following movement (school).
  - Slider for CBT, Psychodynamic Psychotherapy, (Analytical Psychotherapy), Systemic Therapy, Neuropsychology, person-centered Psychotherapy, ACT, add option other: \_\_\_\_\_
- **Q12** If you would need to choose, which therapeutic movement (school) did most of your training (GZ, psychotherapist training, clinical psychologist training) primarily follow?
  - Forced choice between CBT, Psychodynamic Psychotherapy, (Analytical Psychotherapy), Systemic Therapy, Neuropsychology, person-centered Psychotherapy, ACT
- **Q13** How long is your average treatment trajectory?
 

(short-term therapy (up to 25 sessions or up to a year) / long-term therapy (more than 25 sessions or longer than a year) / It varies)
- **Q14** In which year did you graduate?
- **Q15** How many years of (practical) clinical experience do you have?
- **Q16** What is your current work setting (general hospital, general mental health institution, psychiatric hospital, specialized treatment institution (e.g. epilepsy center, sleep center), forensic institution, private practice, retirement institution, child/youth mental health institution)?

*\*EBMH\**

**Q17: Please rate the following statements: (5 point scale from 1=disagree totally – 5=agree totally)**

- 17.1 I am familiar with the concept of EBMH
- 17.2 EBMH is an essential approach in my clinical practice.

*\*Personal factors\**

**Q18: Please rate the following statements (If not applicable, leave the question empty):**  
**(5 point scale from 1=totally disagree – 5=agree totally)**

- 18.1 I am open to adjusting my practices when I encounter new scientific evidence.
- 18.2 My research knowledge is sufficient in order to understand the scientific literature.
- 18.3 My skills in the English language are sufficient to understand English scientific literature.
- 18.4 I think there is a gap between science and practice in clinical psychology.
- 18.5 I don't think clinical science accurately reflects clinical practice.
- 18.6 I think only evidence-based treatments should be used in clinical practice.
- 18.7 I want to use more evidence-based treatments in my practice.
- 18.8 I know how to use the databases to find scientific literature.
- 18.9 I think clinical experience is more valuable than clinical research in order to inform my treatment decisions.

*\*Contextual factors\**

**Q19: Please rate the following statements (If not applicable, leave the question empty):**  
**(5 point scale from 1=disagree totally – 5=agree totally)**

- 19.1 I am conducting scientific research.
- 19.2 In my direct work environment, my colleagues and I work together in order to keep us updated regarding the latest scientific evidence.
- 19.3 There is a collaborative atmosphere among me and my colleagues.
- 19.4 In my work environment, I feel comfortable to try (new) EBMH interventions.
- 19.5 The application and adherence to EBMH is a personal responsibility in my professional practice.
- 19.6 The application of EBMH is endorsed by my colleagues.



- 19.7 The application of EBMH is endorsed by my supervisor.

*\*Organizational factors\**

**Q20: Please rate the following statements (If not applicable, leave the question empty):**  
**(5 point scale from 1=disagree totally – 5=agree totally)**

- 20.1 My employer provides me with opportunities to learn new academic skills which make it easier for me to apply EBMH.

- 20.2 My employer provides me with practical support to get practical training in applying evidence-based treatments (e.g. by providing training in a specific intervention).

- 20.3 My current employer emphasizes the importance of applying EBMH.

- 20.4 My university education emphasized the importance of applying EBMH.

- 20.5 My employer supports me financially in order to educate myself on the newest scientific evidence.

- 20.6 My employer recognizes that part of my working time is necessary to educate myself on the newest scientific evidence.

- 20.7 My employer provides physical facilities (such as study rooms, libraries, working stations) to educate myself on the latest scientific evidence.

- 20.8 I get support from my workplace when I want to make use of an evidence-based treatment I have no prior experience with.

- 20.9 My employer recognized EBMH in its official policies.

- 20.10 My study and additional training prepared me well for my everyday practice.

**Q21** Is there anything else you would like us to know about this topic?

—

**Q22** Do you have any suggestions for improvement of this survey?

—

**Q23** *\*Code creation\**

As explained in the beginning of the survey, you have the right to retract your information until 30.06.2023. To protect your privacy, we did not gather personal information such as your name or email address, with which we could usually identify your data.

In order to know which data belongs to you in case you want to retract your data, we kindly ask you to create a code.

Please enter below a 7 digit code. We suggest making that code memorable. You could choose the day of your mother's birthday, the day of your own birthday, and the last three numbers of your phone number. If your mother's birthday is on 04.11.1960, your own birthday is on the 12.05.1992, and your phone number is 0912345667, your code would be 0412667. In case you forget your code, we will give you these hints to remember. (You can also choose any other 7 digit code of course!)

If you want your data not to be used in the study, an email to [n.r.schwarzbach@rug.nl](mailto:n.r.schwarzbach@rug.nl) stating that code.

**Q24** *\*End\**

This is the end of the questionnaire. In case you have any questions or remarks regarding this study, please feel free to contact [n.r.schwarzbach@rug.nl](mailto:n.r.schwarzbach@rug.nl). Thank you so much for your participation!

### Appendix B – R Syntax for JASP

*Note.* The R syntax code includes the descriptive statistics, correlations, and all ANOVAs that were used to analyze this sample. The R code for the unidimensional reliability test which was used to obtain Cronbach's alpha for the created variable "Attitude" was not available in the most current version of JASP (JASP Team, 2023).

```

jaspDescriptives::Descriptives(
  version = "0.17.2",
  formula = ~ `If you would need to choose, which therapeutic movement (school) did your most of
  your trainings (GZ, psychotherapist training, clinical psychologist training) primarily follow?` + `How
  long is your average treatment trajectory?` + Attitude + `School grouped`,
  distributionPlots = TRUE,
  frequencyTables = TRUE,
  heatmapStatisticDiscrete = "length",
  scatterPlotGraphTypeAbove = "histogram")

jaspRegression::Correlation(
  version = "0.17.2",
  significanceFlagged = TRUE,
  variables = list("If you would need to choose, which therapeutic movement (school) did your most of
  your trainings (GZ, psychotherapist training, clinical psychologist training) primarily follow?", "How
  long is your average treatment trajectory?", "Attitude", "School grouped"))

jaspAnova::Anova(
  version = "0.17.2",
  formula = Attitude ~ `How long is your average treatment trajectory?`,
  contrasts = list(list(contrast = "none", variable = "How long is your average treatment trajectory?")),
  descriptivePlotErrorBar = TRUE,
  descriptivePlotHorizontalAxis = "How long is your average treatment trajectory?",
  descriptives = TRUE,
  effectSizeEstimates = TRUE,
  homogeneityTests = TRUE,
  postHocSignificanceFlag = TRUE,
  postHocTerms = ~ `How long is your average treatment trajectory?`,
  qqPlot = TRUE)

jaspAnova::Anova(
  version = "0.17.2",

```

```

formula = Attitude ~ `If you would need to choose, which therapeutic movement (school) did your
most of your trainings (GZ, psychotherapist training, clinical psychologist training) primarily follow?`,
contrasts = list(list(contrast = "none", variable = "If you would need to choose, which therapeutic
movement (school) did your most of your trainings (GZ, psychotherapist training, clinical psychologist
training) primarily follow?")),
descriptivePlotHorizontalAxis = "If you would need to choose, which therapeutic movement (school)
did your most of your trainings (GZ, psychotherapist training, clinical psychologist training) primarily
follow?",
descriptives = TRUE,
effectSizeEstimates = TRUE,
homogeneityTests = TRUE,
postHocSignificanceFlag = TRUE,
postHocTerms = ~ `If you would need to choose, which therapeutic movement (school) did your most
of your trainings (GZ, psychotherapist training, clinical psychologist training) primarily follow?`,
qqPlot = TRUE)

```

```

jaspAnova::Anova(
version = "0.17.2",
formula = Attitude ~ `School grouped`,
contrasts = list(list(contrast = "none", variable = "School grouped")),
descriptivePlotErrorBar = TRUE,
descriptivePlotHorizontalAxis = "School grouped",
descriptives = TRUE,
effectSizeEstimates = TRUE,
homogeneityTests = TRUE,
qqPlot = TRUE)

```

```

jaspAnova::Anova(
version = "0.17.2",
formula = Attitude ~ `How long is your average treatment trajectory?` * `School grouped`,
contrasts = list(list(contrast = "none", variable = "How long is your average treatment trajectory?"),
list(contrast = "none", variable = "School grouped"), list(contrast = "none", variable = list("How long is
your average treatment trajectory?", "School grouped"))),
descriptivePlotErrorBar = TRUE,
descriptivePlotHorizontalAxis = "How long is your average treatment trajectory?",
descriptivePlotSeparateLines = "School grouped",
descriptives = TRUE,
effectSizeEstimates = TRUE,
homogeneityTests = TRUE,
qqPlot = TRUE)

```