Introduction to the Special Issue on Homework in Cognitive Behavioral Therapy: New Clinical Psychological Science

Nikolaos Kazantzis¹

Accepted: 30 January 2021 / Published online: 18 February 2021

© The Author(s), under exclusive licence to Springer Science+Business Media, LLC part of Springer Nature 2021

Abstract

This article introduces the Special Issue in *Cognitive Therapy and Research* that presents advances in clinical psychological science for homework in behavior and cognitive behavioral therapies (CBTs). Studies include sophisticated evaluations of homework adherence, moving beyond simplistic assessments of quantity and quality of completion to more complete assessments of engagement (i.e., perceived difficulty, obstacles, and helpfulness). Studies advance the clinical psychological science by examining therapist behavior as a predictor of homework adherence, by testing homework as a vehicle for specific treatment processes in behavior therapy (e.g., context engagement via exposure), and also by quantifying relational patterns within longitudinal data from mindfulness-based cognitive therapy. The Special Issue also includes two studies on mobile health delivery of CBT interventions and point to advances in gathering objective data on client engagement with homework.

Keywords Cognitive behavioral therapy · Homework · Adherence · Compliance

Homework has been incorporated in behavior and cognitive behavioral therapies (CBT) as a primary means of facilitating generalization and maintenance of skills (Beck et al. 1979; Beck 2011; Kazantzis et al. 2005). Given that homework, in essence, is the extension of the in-session work to the client's daily life through continuation of the technique from the session or some modification thereof, homework directly supports treatment processes in CBTs (Hofmann and Hayes 2018; Klepac et al. 2012; Mennin et al. 2013). However, more fundamental questions have been posed by researchers seeking to advance the science for this aspect of CBT process.

Acknowledging the limitations of low statistical power (see quantitative review in Kazantzis 2000), the typical study on homework has either sought to (a) examine causal effects using experimental methodology, by contrasting CBT with and without homework, or (b) examine correlations involving the quantity of homework completed. When aggregated by multiple research groups, across disorders, across clinical populations and types of homework, these studies provide robust evidence for both causal (Kazantzis et al. 2000) and

correlational effects (Kazantzis et al. 2016; Mausbach et al. 2010). The effect of adding homework to therapy is medium and significant ($d=0.53$; 95% CI 0.35–0.72, $p<0.0001$ in Kazantzis et al. 2010) and the linear association between homework compliance and outcome is small and significant ($r=0.26$; 95% CI 0.19–0.33 in Mausbach et al.). More recently, a focus has been placed on the assessment of quality of homework completed, in relation to outcome (Kazantzis et al. 2016). The articles in this Special Issue manage to achieve the impressive task of extending beyond these fundamental questions and draw upon advancements in clinical methods and technological advancements in psychotherapy delivery to examine more complex questions.

The effective facilitation of client engagement in homework is not straightforward; it is a process of CBT nested within a broader therapeutic relationship and demands a variety of therapist behaviors in order to skillfully design, plan, and then review homework. Further complexity can be acknowledged when we consider that the therapist is engaged in a moment-to-moment case conceptualization; drawing links between what the client is currently saying and what they have said in the past, taking into account the client's current CBT skills (e.g., access to cognitions and personal responsibility for change), their unique beliefs and etiological factors that explain psychopathology (e.g., core beliefs, assumptions, rules, schema, behavioral and

✉ Nikolaos Kazantzis
nkazantzis@isn.edu.au

¹ Cognitive Behavior Therapy Research Unit, Institute for Social Neuroscience, Melbourne, VIC 3079, Australia

relational patterns), while fluidly adjusting generic (e.g., working alliance) and CBT specific elements (i.e., collaboration, empiricism, Socratic dialogue) of the therapeutic relationship based on that evolving conceptualization (Kazantzis et al. 2017; Lorenzo-Luaces et al. 2015). This process has the potential to activate the client's negative core beliefs, and lead to a rupture in the working alliance (Okamoto and Kazantzis, in press). Despite the substantial role of the therapist, only a few studies have sought to consider the behavior the therapist as a predictor of engagement.

Studying Therapist Skill as a Predictor

Startup and Edmonds (1994) conducted an early study examining the behaviors of the therapist (i.e., occurrence of behavior) as a predictor of homework adherence, but were unable to demonstrate a clear link, possibly due to the measures available to identify presence and degree of therapist skill. In a subsequent study by Bryant et al. (1999), data gathered by trained independent observers using a modification of the Cognitive Therapy Rating Scale (Young and Beck 1980) showed an association between therapist skill in *reviewing* homework and adherence in CBT for depression, findings that were replicated in the context of anxiety (Weck et al. 2013). Therapist skill in *assigning* homework has also been associated with homework adherence in multiple studies (Conklin et al. 2017; Jungbluth and Shirk 2013; Ryum et al. 2010).

The articles in this Special Issue of *Cognitive Therapy and Research* reflect the latest scientific work on the role of therapist skill as a predictor of homework adherence. The paper by Yew et al. (2021) considered whether client appraisals of homework, and a broader concept of adherence, engagement (i.e., taking into account client perceptions of the difficulty and obstacles in attempting the homework) served as mediators of relations involving therapist skill/ competence. The paper by Haller and Watzke (2021) examined associations involving the frequency of therapist behaviors associated with homework adherence and depressive symptoms in telephone delivered CBT.

New Data on Homework-Outcome Relations

The paper by Wheaton and Chen (2021) focuses on the role of homework as a vehicle for exposure in treating obsessive compulsive disorder. Their paper provides a useful account of how homework facilitates a treatment process of context engagement and offers some useful recommendations for future research on the basis of their findings.

The paper by ter Avest et al. (2021) examines homework in the context of mindfulness-based cognitive therapy and

makes a novel contribution by examining client symptom profile in relation to homework adherence at follow-up assessment points.

Employing Advances in Technology to Advance Clinical Psychological Science for Homework

Early efforts to obtain objective data on client homework adherence were unsuccessful and hampered by the technology available at the time. For example, Hoelscher et al. (1984) attempted to obtain objective data on clients' level of relaxation practice by including a timer in an audio cassette player, and because the device was an obviously modified piece of equipment participants were suspicious and this resulted in unreliability of resultant adherence data. Other studies have experienced similar technological challenges, such as in Neimeyer et al. (2008) where lightly glued pages of a book were used as the measure of adherence (i.e., once opened).

In 2021, technology provides an ethical and far less invasive means of attempting to obtain objective assessments of homework adherence (Aizenstros et al. in press). The paper by Kraepelien et al. (2021) provides an example of how homework adherence assessment can be enhanced, both in terms of the frequency and focus of assessment. Their study employed weekly adherence assessments and sought to examine client ratings of the helpfulness of the homework.

Two studies examined mobile health delivery of CBT. The paper by Bunnell et al. (2021) involved interviews with clients and trainers to examine barriers to the successful implementation of homework in youth mental health treatment as well as the potential for mobile solutions to overcome those barriers. The paper by Callan et al. (2021) outlines an initial development and testing of a mobile mental health smartphone application delivering CBT interventions for depression, a central relationship studied was the extent of app use and symptom reduction.

Finally, an in-depth discussion of the Special Issue's contributions is provided by Dobson (2021). Findings from the papers presented from the issue along with opportunities for future research are tied together in this final compelling piece.

Concluding Comments

Homework has been extensively studied in the context of behavior and cognitive-behavior therapies over the past several decades. Theoretical and methodological advances in psychotherapy have occurred during this period and clarity regarding cognitive and behavioral determinants of

homework adherence have emerged. As illustrated by papers in this Special Issue, opportunities exist to refine the assessment of homework adherence to include client appraisals in a more complete assessment of the concept of engagement in CBT.

The role of therapist skill, and the broader therapist–client interaction also provides a rich territory for future scientific enquiry. New data have come to light; studies in this Special Issue have examined specific portions of therapist skill in reviewing and assigning homework, and further work is needed to examine the complex interplay between specific skills in using homework, case conceptualization (given that task beliefs serve as determinants of engagement), and more global skills in facilitating a therapeutic relationship in behavior and CBTs. Although a comprehensive model of how therapist behavior, nested within a broader therapeutic relationship, is yet to be published and tested at the time of this writing, the papers in this Special Issue provide encouragement about the current advances in clinical psychological science.

Compliance with Ethical Standards

Conflict of Interest Further to the signed Conflict-of-Interest Disclosure Forms submitted by the author on this manuscript, the author reported being the Australian delegate for the International Association of Cognitive Therapy, which has a strategic partnership with the Academy of Cognitive Therapy; being a consultant to the Australian Psychological Society Institute; serving on the advisory board, being a member of the faculty, and fees from the Beck Institute for Cognitive Behavior Therapy and Research; receiving compensation from Springer Nature; receiving royalties from Springer Nature, Guilford, and Routledge.

Informed Consent No human subjects were involved in this article.

Research Involving Human and Animal Rights This article does not contain any studies with human participants performed by any of the authors. In addition, the attribution of authorship on this manuscript has also been carefully considered and is being made in a manner that is consistent with ethical research practice.

References

- Aizenstros, A., Bakker, D., Hofmann, S. G., Curtiss, J., & Kazantzis, N. (in press). Engagement with smartphone-delivered behavioral activation interventions: A study of the MoodMission smartphone application. *Behavioral and Cognitive Psychotherapy*.
- Beck, A. T., Rush, A. J., Shaw, B., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.
- Beck, J. S. (2011). *Cognitive therapy for challenging problems: What to do when the basics don't work*. New York: Guilford.
- Bryant, M. J., Simons, A. D., & Thase, M. E. (1999). Therapist skill and patient variables in homework compliance: Controlling an uncontrolled variable in cognitive therapy outcome research. *Cognitive Therapy and Research*, 23(4), 381–399. <https://doi.org/10.1023/A:1018703901116>.
- Bunnell, B. E., Nemeth, L. S., Lenert, L. A., Kazantzis, N., Deblinger, E., Higgins, K. A., & Ruggiero, K. J. (2021). Barriers associated with the implementation of homework in youth mental health treatment and potential mobile health solutions. *Cognitive Therapy and Research*. <https://doi.org/10.1007/s10608-020-10090-8>.
- Callan, J. A., Sigle, G. J., Day, A., Thase, M. E., Kazantzis, N., Devito Dabbs, A. D., et al. (2021). CBTMobileWork: Development and testing of a mobile mental health application using patient-centered design. *Cognitive Therapy and Research*, this issue.
- Conklin, L. R., Strunk, D. R., & Cooper, A. A. (2017). Therapist behaviors as predictors of immediate homework engagement in cognitive therapy for depression. *Cognitive Therapy & Research*. <https://doi.org/10.1007/s10608-017-9873-6>.
- Dobson, K. S. (2021) Conclusions from the *Cognitive Therapy & Research* special issue on homework. *Cognitive Therapy & Research*, this issue.
- Haller, E., & Watzke, B. (2021). The role of homework engagement, homework-related therapist behaviors, and their association with depressive symptoms in telephone-based CBT for depression. *Cognitive Therapy & Research*. <https://doi.org/10.1007/s10608-020-10136-x>.
- Hoelscher, T. J., Lichstein, K. L., & Rosenthal, T. L. (1984). Objective vs subjective assessment of relaxation compliance among anxious individuals. *Behaviour Research and Therapy*, 22, 187–193.
- Hofmann, S. G., & Hayes, S. C. (2018). The future of intervention science: Process-based therapy. *Clinical Psychological Science*, 7(1), 37–50. <https://doi.org/10.1177/2167702618772296>.
- Jungbluth, N. J., & Shirk, S. R. (2013). Promoting homework adherence in cognitive-behavioral therapy for adolescent depression. *Journal of Clinical Child & Adolescent Psychology*, 42(4), 545–553. <https://doi.org/10.1080/15374416.2012.743105>.
- Kazantzis, N. (2000). Power to detect homework effects in psychotherapy outcome research. *Journal of Consulting and Clinical Psychology*, 68, 166–170. <https://doi.org/10.1037/0022-006X.68.1.166>.
- Kazantzis, N., Dattilio, F. M., & Dobson, K. S. (2017). *The therapeutic relationship in cognitive behavior therapy*. New York: Guilford.
- Kazantzis, N., Deane, F. P., & Ronan, K. R. (2000). Homework assignments in cognitive and behavioral therapy: A meta-analysis. *Clinical Psychology: Science and Practice*, 7, 189–202. <https://doi.org/10.1093/clipsy.7.2.189>.
- Kazantzis, N., Deane, F. P., Ronan, K. R., & L'Abate, L. (Eds.). (2005). *Using homework assignments in cognitive behavioral therapy*. New York: Routledge.
- Kazantzis, N., Whittington, C. J., & Dattilio, F. M. (2010). Meta-analysis of homework effects in cognitive and behavioral therapy: A replication and extension. *Clinical Psychology: Science and Practice*, 17, 144–156.
- Kazantzis, N., Whittington, C. J., Zelencich, L., Norton, P. J., Kyrios, M., & Hofmann, S. G. (2016). Quantity and quality of homework compliance: A meta-analysis of relations with outcome in cognitive behavior therapy. *Behavior Therapy*, 47, 755–772. <https://doi.org/10.1016/j.beth.2016.05.002>.
- Klepac, R. K., Ronan, G. F., Andrasik, F., Arnold, K. D., Belar, C. D., Berry, S. L., et al. (2012). Guidelines for cognitive behavioral training within doctoral psychology programs in the United States: Report of the Inter-Organizational Task Force on Cognitive and Behavioral Psychology Doctoral Education. *Behavior Therapy*, 43(4), 687–697. <https://doi.org/10.1016/j.beth.2012.05.002>.
- Kraepelien, M., Blom, K., Jernelöv, S., & Kaldö, V. (2021). Weekly self-ratings of treatment involvement and their relation to symptom reduction in internet cognitive behavioral therapy for insomnia. *Cognitive Therapy & Research*. <https://doi.org/10.1007/s10608-020-10151-y>.

- Lorenzo-Luaces, L., German, R. E., & DeRubeis, R. J. (2015). It's complicated: The relation between cognitive change procedures, cognitive change, and symptom change in cognitive therapy for depression. *Clinical Psychology Review, 41*, 3–15. <https://doi.org/10.1016/j.cpr.2014.12.003>.
- Mausbach, B. T., Moore, R., Roesch, S., Cardenas, V., & Patterson, T. L. (2010). The relationship between homework compliance and therapy outcomes: An updated meta-analysis. *Cognitive Therapy & Research, 34*, 429–438. <https://doi.org/10.1007/s10608-010-9297-z>.
- Mennin, D. S., Ellard, K. K., Fresco, D. M., & Gross, J. J. (2013). United we stand: Emphasizing commonalities across cognitive-behavioral therapy. *Behavior Therapy, 44*, 234–248. <https://doi.org/10.1016/j.beth.2013.02.004>.
- Neimeyer, R. A., Kazantzis, N., Kassler, D. M., Baker, K. D., & Fletcher, R. (2008). Group cognitive behavior therapy for depression: Outcomes predicted by willingness to engage in homework, compliance with homework, and cognitive restructuring skill acquisition. *Cognitive Behavior Therapy, 37*, 199–215. <https://doi.org/10.1080/16506070801981240>.
- Okamoto, A., & Kazantzis, N. (in press). Alliance rupture repairs in cognitive therapy. *Journal of Clinical Psychology*.
- Ryum, T., Stiles, T. C., Svartberg, M., & McCullough, L. (2010). The effects of therapist competence in assigning homework in cognitive therapy with cluster C personality disorders: Results from a randomized controlled trial. *Cognitive and Behavioral Practice, 17*(3), 283–289. <https://doi.org/10.1016/j.cbpra.2009.10.005>.
- Startup, M., & Edmonds, J. (1994). Compliance with homework assignments in cognitive-behavioral psychotherapy for depression: Relation to outcome and methods of enhancement. *Cognitive Therapy & Research, 18*, 567–579.
- ter Avest, M., Greven, C. U., Huijbers, M. J., Wilderjans, T. F., Speckens, A. E. M., & Spinhoven, P. (2021). Prospective associations between home practice and depressive symptoms in mindfulness-based cognitive therapy for recurrent depression: A 15 months follow-up study. *Cognitive Therapy & Research*. <https://doi.org/10.1007/s10608-020-10108-1>.
- Weck, F., Richtberg, S., Esch, S., Höfling, V., & Stangier, U. (2013). The relationship between therapist competence and homework compliance in maintenance cognitive therapy for recurrent depression: Secondary analysis of a randomized trial. *Behavior Therapy, 44*(1), 162–172. <https://doi.org/10.1016/j.beth.2012.09.004>.
- Wheaton, M. G., & Chen, S. C. (2021). Homework completion in treating obsessive-compulsive disorder with exposure and ritual prevention: A review of the empirical literature. *Cognitive Therapy and Research*. <https://doi.org/10.1007/s10608-020-10125-0>.
- Yew, R. Y., Dobson, K. S., Zypher, M., & Kazantzis, N. (2021). Mediators and moderators of homework-outcome relations in CBT for depression: A study of engagement, therapist skill, and client factors. *Cognitive Therapy and Research*. <https://doi.org/10.1007/s10608-019-10059-2>.
- Young, J. E., & Beck, A. T. (1980). *Cognitive Therapy Scale: Rating manual*. Unpublished manuscript. Philadelphia, PA: University of Pennsylvania.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.