cpe.psychopen.eu | ISSN 2625-3410 | September 2024 | Volume 6 | Issue 3 |

CLINICAL PSYCHOLOGY IN EUROPE

The Official Academic Journal of the
European Association of Clinical Psychology
and Psychological Treatment

PsychOpen GOLD

CLINICAL PSYCHOLOGY IN EUROPE

The Official Academic Journal of the
European Association of Clinical Psychology and Psychological Treatment

Editors-in-Chief

Winfried Rief
Division of Clinical Psychology and Psychological Treatment
Department of Psychology
Philipps-University of Marburg
Marburg, Germany
email: rief@uni-marburg.de

&

Cornelia Weise
Clinical Psychology and Behavioral Health Technology
Department of Psychology
Friedrich-Alexander-Universität Erlangen-Nürnberg
Erlangen, Germany
email: cornelia.weise@fau.de

Section Editors

Colette Hirsch
EACLIPT-Board | London, UK

Anton-Rupert Laireiter
Vienna, Austria

Tania Lincoln
Hamburg, Germany

Jolanda Meeuwissen
Utrecht, Netherlands

Omer Van den Bergh
Leuven, Belgium

Editorial Board

Gerhard Andersson
EACLIPT-Board | Linköping, Sweden

Claudi Bockting
EACLIPT-Board | Amsterdam, Netherlands

Cristina Botella
Castelló de la Plana, Spain

Per Carlbring
Stockholm, Sweden

Trudie Chalder
London, UK

Roman Cieślak
EACLIPT-Board | Warsaw, Poland

David Clark
Oxford, UK

Ioana Alina Cristea
Cluj-Napoca, Romania

Pim Cuijpers
Amsterdam, Netherlands

Daniel David
Cluj-Napoca, Romania

Céline Douilliez
EACLIPT-Board | Louvain-La-Neuve, Belgium

Anke Ehlers
Oxford, UK

Thomas Ehring
Munich, Germany

Giovanni Fava
Bologna, Italy

Jens Gaab
Basel, Switzerland

Martin Hautzinger
Tübingen, Germany

Dirk Hermans
Leuven, Belgium

Stefan Hofmann
Boston, USA

Emily Holmes
Stockholm, Sweden

Jutta Joormann
New Haven, USA

Maria Karekla
University of Cyprus, Cyprus

Andreas Maercker
EACLIPT-Board | Zurich, Switzerland

Robert Masten
Ljubljana, Slovenia

Lance McCracken
Uppsala, Sweden

Thomas Probst
Krems, Austria

Bernhard Strauß
Jena, Germany

Claus Vögele
Luxembourg, Luxembourg

PsychOpen GOLD

CLINICAL PSYCHOLOGY
IN EUROPE

September 2024 | Volume 6 | Issue 3

Contents

Editorial

Why We Need a Stronger Focus on Women’s Health in Clinical Psychology and Psychological Treatment

Cornelia Weise & Carola Hajek Gross

In this editorial, we discuss how gender-specific approaches in clinical psychology can bridge the gap in women’s healthcare through innovative, integrated care models.

Research Articles

Does Practice Make Perfect? The Effects of an Eight-Week Manualized Deliberate Practice Course with Peer Feedback on Patient-Rated Working Alliance in Adults: A Pilot Randomized Controlled Trial

Håkan Lagerberg, James F. Boswell, Michael J. Constantino, Gerhard Andersson, Per Carlbring

Contrary to expectations, an eight-week deliberate practice course failed to improve patient-rated alliance among cognitive behavioral therapists, underscoring the necessity for further studies.

The Effects of Mindfulness-Focused Internet-Based Cognitive Behavioral Therapy on Elevated Levels of Stress and Symptoms of Exhaustion Disorder: A Randomized Controlled Trial

Kristofer Vernmark, Timo Hursti, Victoria Blom, Robert Persson Asplund, Elise Nathanson, Linda Engelro, Ella Radvogin, Gerhard Andersson

The combination of ICBT and mindfulness has the potential to decrease symptoms of stress and exhaustion and increase perceived mindfulness. Training mindfulness leads to better effects.

Longitudinal associations of experiential and reflective dimensions of meaning in life with psychopathological symptoms

Albert Anoschin, Michael K. Zürn, Carina Remmers

Experiencing meaning in life may contribute to future psychological well-being even in the presence of depressive symptoms. Reflection about meaning has no such effect.

Impulsive buying and delay of gratification among adults with ADHD

Sverrir Einarsson, Baldur Sigurðsson, Sigurlín Kjartansdóttir, Páll Magnússon, Jón Sigurðsson

The ability to defer gratification mediates the effect of ADHD symptoms on impulsive buying.

Systematic Review and Meta-analyses

A Systematic Review of Evidence-Based Cognitive and/or Behavioural Interventions Targeting Mental Health in the LGBTQ+ Community

Carina Tudor-Sfetea, Raluca Topciu

Since literature on evidence-based mental health support for LGBTQ+ individuals is limited, more work around affirmative approaches, consistency in methodology, mechanisms of change and intersectionality is needed.

PsychOpen GOLD is a publishing service by
Leibniz Institute for Psychology Information (ZPID), Germany.
www.leibniz-psychology.org

PsychOpen GOLD

Latest Developments

Politics and Education

Clinical Psychology in Europe

PsychOpen GOLD

Editorial

Why We Need a Stronger Focus on Women's Health in Clinical Psychology and Psychological Treatment

Cornelia Weise [1] §, Carola Hajek Gross [2] §

[1] *Clinical Psychology and Behavioral Health Technology, Department of Psychology, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany.* **[2]** *Division of Clinical Psychology and Psychotherapy, Department of Psychology, Philipps-University of Marburg, Marburg, Germany.*

§ *These authors contributed equally to this work.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e15683, https://doi.org/10.32872/cpe.15683

Published (VoR): 2024-09-30

Corresponding Author: Cornelia Weise, Clinical Psychology and Behavioral Health Technology, Department of Psychology, Friedrich-Alexander-Universität Erlangen-Nürnberg, Nägelsbachstraße 49b, 91052 Erlangen, Germany. E-mail: cornelia.weise@fau.de

Despite advances in healthcare, women's health issues—both physical and mental—remain underrepresented, underserved, and often misunderstood. The field of "gender medicine" highlights that many diseases manifest differently across various genders[1] (Mauvais-Jarvis et al., 2020). Yet these differences are frequently neglected, leading to suboptimal care and increased health risks for women. A striking example is cardiovascular disease: women are significantly more likely to die from heart attacks than men, partly because their symptoms, such as nausea, fatigue, and back pain, are easily overlooked compared to the classic chest pain seen in men (Mousavi et al., 2023; van Oosterhout et al., 2020). Moreover, women are often underrepresented in medical clinical trials, and even when included, the unique impacts of therapies on women are often overlooked (Kalathoor et al., 2024; Vitale et al., 2017). This bias reflects a broader issue: medicine often treats men as the default, neglecting the specific needs of women. While clinical psychology exhibits a more balanced gender representation, the bias in medicine carries over, when psychological perspectives are applied to women's medical issues.

---

1) For the purposes of this paper, 'women' refers to individuals with a uterus.

Women Face Unique Health Challenges That Significantly Impact Their Mental Health

Several women-specific factors increase the risk of mental health disorders, with reproductive events, gender-based violence, socioeconomic factors, and hormonal fluctuations being prominent examples. Reproductive events such as miscarriage, infertility, or fear of childbirth often cause intense emotional distress, contributing to anxiety and depressive symptoms (e.g., Cuenca, 2023). Likewise, perinatal post-traumatic stress disorder is often overlooked or inadequately managed despite evidence that trauma-informed maternity care can drastically improve outcomes for affected women (Horsch et al., 2024). Gender-based violence, including sexual assault and domestic abuse, have a profound impact on mental health and often lead to trauma-related disorders (e.g., Sediri et al., 2020). Socioeconomic challenges, such as the significantly higher poverty risk among single mothers (Hübgen, 2020; Lu et al., 2020) contribute to chronic stress and burnout, further elevating the risk of anxiety and depression (Soares et al., 2007). Fluctuations in hormonal balance, such as those occurring during the menstrual cycle, pregnancy, or menopause, can exacerbate or trigger psychological complaints (Albert & Newhouse, 2019; Behrman & Crockett, 2023; Nolan & Hughes, 2022). Premenstrual dysphoric disorder (PMDD) is one example where hormonal changes during the menstrual cycle can lead to severe depressive and anxiety symptoms. Hormonal fluctuations also affect stress-response systems, including cortisol and alpha-amylase levels (Hantsoo et al., 2023; Helpman, 2023) and are closely linked to other conditions such as endometriosis or polycystic ovary syndrome (PCOS). Those affected experience both debilitating physical symptoms (e.g. chronic pain), and significant emotional distress (Chen et al., 2021; Dutkiewicz et al., 2024; Silva et al., 2024). This dual burden often restricts participation in social, family and working life, exacerbating psychological distress and potentially resulting in financial strain, particularly for women juggling caregiving responsibilities (Della Corte et al., 2020). The COVID-19 pandemic further intensified these burdens, as many women faced disrupted routines, increased caregiving responsibilities, and limited access to healthcare services (Di Blasi et al., 2021). Despite their prevalence and substantial economic burden, these conditions often remain underdiagnosed or untreated (Azziz et al., 2005; Ruszała et al., 2022).

A Critical Need for Gender-Specific Treatment Approaches

Women's mental and physical health are deeply interconnected, necessitating treatment strategies based on a biopsychosocial understanding of their unique needs (Engert et al., 2020). Recent research indicates that psychotherapeutic interventions can alter biological markers, underscoring the potential for gender-sensitive approaches to enhance outcomes for female patients (Laufer et al., 2018). By integrating both psychological and physiological factors into treatment, we can more effectively address the full scope of women's health conditions. For instance, our recent intervention for endometriosis, rooted in cognitive-behavioral therapy (CBT) and a biopsychosocial framework, has been well-received by patients, who appreciate the focus on psychological distress associated with the chronic condition (Schubert et al., 2022).

Barriers to Effective Psychotherapeutic Support

Despite the clear need for gender-sensitive mental health care, several barriers prevent women from receiving adequate support. This is often due to a lack of awareness of the psychological impacts of their physical symptoms, or the fear that their distress will be dismissed (Salk et al., 2017). Compounding this issue, many healthcare providers are not adequately trained to identify and address gender-specific health concerns, creating significant gaps in care. Endometriosis provides a striking example of this problem: Symptoms are frequently trivialized with menstrual pain often dismissed as "normal". This misconception contributes to an alarming delay in diagnosis – an average of 10 years in German-speaking countries (Hudelist et al., 2012). Such delays are particularly concerning because prolonged unmanaged pain can lead to central sensitization, where the nervous system becomes hypersensitive to pain stimuli, making treatment more complex and less effective (Hudelist et al., 2012; Mechsner, 2022). Failure to address the psychological aspects of chronic conditions like endometriosis represents a missed opportunity to alleviate suffering and modulate the pain experience. While some promising multidisciplinary programs have been developed (e.g.; Cunningham et al., 2024; Weise et al., 2019), they remain underutilized.

Towards a Gender-Sensitive Approach in Clinical Psychology

To improve women's health outcomes, clinical psychology must broaden its scope and address the unique mental health needs of women, particularly in relation to physical health conditions. This calls for stronger interdisciplinary cooperation between psychotherapists and medical practitioners, such as gynecologists and endocrinologists (Nagel et al., 2013). Medical professionals need training in gender-specific health to identify early signs of mental distress and facilitate referrals. Psychotherapists should develop expertise in conditions like endometriosis and PMDD, as well as in understanding the impact of hormonal changes across life stages on mental health.

Research suggests that synchronizing psychological interventions with menstrual cycle phases could enhance their effectiveness, given the influence of estradiol and progesterone (Nillni et al., 2021). However, the limited number of studies highlight the need for further research. Additionally, incorporating psychophysiological assessments (e.g., cortisol and oxytocin levels) could help refine psychotherapeutic approaches to better align with women's stress-responses (Fischer & Zilcha-Mano, 2022).

Evidence-based treatments such as cognitive-behavioral therapy (CBT) have proven effective in reducing the psychological burden of chronic physical illnesses (e.g., Chalder et al., 2023; Weise et al., 2016). However, these interventions are still scarce in the field of women's health and not widely accessible, particularly within resource-constrained public health systems (Hansen et al., 2023). Expanding such integrated interventions will improve care by ensuring more holistic and personalized treatment.

Despite the potential of integrated care models, particularly in the field of behavioral medicine, many women face significant barriers to timely mental health care. Time constraints, caregiving duties, and the stigma surrounding mental health issues often prevent women from seeking support. Addressing these barriers requires more flexibility in clinical psychology, such as offering flexible schedules, remote psychotherapy, individualized interventions based on the biopsychosocial model, or improved access to online interventions. Policymakers must also foster research in gender-specific health care to ensure treatments that address the needs of diverse genders. With growing awareness and emerging innovative approaches (e.g.; Cunningham et al., 2024; Weise et al., 2019), there is significant potential to improve women's mental health.

Funding: The authors have no funding to report.

Acknowledgments: The authors wish to thank Nadine Then for her valuable support during the literature review.

Competing Interests: Cornelia Weise is Editor-in-Chief of Clinical Psychology in Europe.

References

Albert, K. M., & Newhouse, P. A. (2019). Estrogen, stress, and depression: Cognitive and biological interactions. *Annual Review of Clinical Psychology, 15*(1), 399–423. https://doi.org/10.1146/annurev-clinpsy-050718-095557

Azziz, R., Marin, C., Hoq, L., Badamgarav, E., & Song, P. (2005). Health care-related economic burden of the polycystic ovary syndrome during the reproductive life span. *The Journal of Clinical Endocrinology and Metabolism, 90*(8), 4650–4658. https://doi.org/10.1210/jc.2005-0628

Behrman, S., & Crockett, C. (2023). Severe mental illness and the perimenopause. *BJPsych Bulletin.* Advance online publication. https://doi.org/10.1192/bjb.2023.89

Chalder, T., Patel, M., Hotopf, M., Moss-Morris, R., Ashworth, M., Watts, K., David, A. S., McCrone, P., Husain, M., Garrood, T., James, K., & Landau, S. (2023). Efficacy of therapist-delivered transdiagnostic CBT for patients with persistent physical symptoms in secondary care: A randomised controlled trial. *Psychological Medicine, 53*(2), 486–496. https://doi.org/10.1017/S0033291721001793

Chen, H., Vannuccini, S., Capezzuoli, T., Ceccaroni, M., Mubiao, L., Shuting, H., Wu, Y., Huang, H., & Petraglia, F. (2021). Comorbidities and quality of life in women undergoing first surgery for endometriosis: Differences between Chinese and Italian population. *Reproductive Sciences, 28*(8), 2359–2366. https://doi.org/10.1007/s43032-021-00487-5

Cuenca, D. (2023). Pregnancy loss: Consequences for mental health. *Frontiers in Global Women's Health, 3*, Article 1032212. https://doi.org/10.3389/fgwh.2022.1032212

Cunningham, A. C., Prentice, C., Peven, K., Wickham, A., Bamford, R., Radovic, T., Klepchukova, A., Fomina, M., Cunningham, K., Hill, S., Hantsoo, L., Payne, J., Zhaunova, L., & Ponzo, S. (2024). Efficacy of the Flo App in improving health literacy, menstrual and general health, and well-being in women: Pilot randomized controlled trial. *JMIR mHealth and uHealth, 12*, Article e54124. https://doi.org/10.2196/54124

Della Corte, L., Di Filippo, C., Gabrielli, O., Reppuccia, S., La Rosa, V. L., Ragusa, R., Fichera, M., Commodari, E., Bifulco, G., & Giampaolino, P. (2020). The burden of endometriosis on women's lifespan: A narrative overview on quality of life and psychosocial wellbeing. *International Journal of Environmental Research and Public Health, 17*(13), Article 4683. https://doi.org/10.3390/ijerph17134683

Di Blasi, M., Gullo, S., Mancinelli, E., Freda, M. F., Esposito, G., Gelo, O. C. G., Lagetto, G., Giordano, C., Mazzeschi, C., Pazzagli, C., Salcuni, S., & Lo Coco, G. (2021). Psychological distress associated with the COVID-19 lockdown: A two-wave network analysis. *Journal of Affective Disorders, 284*, 18–26. https://doi.org/10.1016/j.jad.2021.02.016

Dutkiewicz, E., Rachoń, D., Dziedziak, M., Kowalewska, A., & Moryś, J. (2024). Depression, higher level of tension induction, and impaired coping strategies in response to stress in women with PCOS correlate with clinical and laboratory indices of hyperandrogenism and not with central obesity and insulin resistance. *Archives of Women's Mental Health.* Advance online publication. https://doi.org/10.1007/s00737-024-01500-x

Engert, V., Grant, J. A., & Strauss, B. (2020). Psychosocial factors in disease and treatment – A call for the biopsychosocial model. *JAMA Psychiatry, 77*(10), 996–997. https://doi.org/10.1001/jamapsychiatry.2020.0364

Fischer, S., & Zilcha-Mano, S. (2022). Why does psychotherapy work and for whom? Hormonal answers. *Biomedicines, 10*(6), Article 1361. https://doi.org/10.3390/biomedicines10061361

Hansen, K. E., Brandsborg, B., Kesmodel, U. S., Forman, A., Kold, M., Pristed, R., Donchulyesko, O., Hartwell, D., & Vase, L. (2023). Psychological interventions improve quality of life despite persistent pain in endometriosis: Results of a 3-armed randomized controlled trial. *Quality of Life Research, 32*(6), 1727–1744. https://doi.org/10.1007/s11136-023-03346-9

Hantsoo, L., Jagodnik, K. M., Novick, A. M., Baweja, R., Di Scalea, T. L., Ozerdem, A., McGlade, E. C., Simeonova, D. I., Dekel, S., Kornfield, S. L., Nazareth, M., & Weiss, S. J. (2023). The role of the hypothalamic-pituitary-adrenal axis in depression across the female reproductive lifecycle:

Current knowledge and future directions. *Frontiers in Endocrinology, 14*, Article 1295261. https://doi.org/10.3389/fendo.2023.1295261

Helpman, L. (2023). On the stress of being a woman: The synergistic contribution of sex as a biological variable and gender as a psychosocial one to risk of stress-related disorders. *Neuroscience and Biobehavioral Reviews, 150*, Article 105211. https://doi.org/10.1016/j.neubiorev.2023.105211

Horsch, A., Garthus-Niegel, S., Ayers, S., Chandra, P., Hartmann, K., Vaisbuch, E., & Lalor, J. (2024). Childbirth-related posttraumatic stress disorder: Definition, risk factors, pathophysiology, diagnosis, prevention, and treatment. *American Journal of Obstetrics and Gynecology, 230*(3), S1116–S1127. https://doi.org/10.1016/j.ajog.2023.09.089

Hübgen, S. (2020). Understanding lone mothers' high poverty in Germany: Disentangling composition effects and effects of lone motherhood. *Advances in Life Course Research, 44*, Article 100327. https://doi.org/10.1016/j.alcr.2020.100327

Hudelist, G., Fritzer, N., Thomas, A., Niehues, C., Oppelt, P., Haas, D., Tammaa, A., & Salzer, H. (2012). Diagnostic delay for endometriosis in Austria and Germany: Causes and possible consequences. *Human Reproduction, 27*(12), 3412–3416. https://doi.org/10.1093/humrep/des316

Kalathoor, S., Ghazi, S., Otieno, B., Babcook, M. A., Chen, S., Nidhi, N., Bae, J., Pierre-Charles, J., Breathett, K., Mazimba, S., Johnson, A., Brewer, L., Mohammed, S., Carter, R. R., Bonsu, J. M., Ferdousi, M., Kola-Kehinde, O., McLaughlin, E., Brammer, J., . . . Addison, D. (2024). Representation of women in clinical trials supporting FDA-approval of contemporary cancer therapies. *International Journal of Cancer.* Advance online publication. https://doi.org/10.1002/ijc.35110

Laufer, S., Engel, S., Knaevelsrud, C., & Schumacher, S. (2018). Cortisol and alpha-amylase assessment in psychotherapeutic intervention studies: A systematic review. *Neuroscience and Biobehavioral Reviews, 95*, 235–262. https://doi.org/10.1016/j.neubiorev.2018.09.023

Lu, Y.-C., Walker, R., Richard, P., & Younis, M. (2020). Inequalities in poverty and income between single mothers and fathers. *International Journal of Environmental Research and Public Health, 17*(1), Article 135. https://doi.org/10.3390/ijerph17010135

Mauvais-Jarvis, F., Merz, N. B., Barnes, P. J., Brinton, R. D., Carrero, J. J., DeMeo, D. L., De Vries, G. J., Epperson, C. N., Govindan, R., Klein, S. L., Lonardo, A., Maki, P. M., McCullough, L. D., Regitz-Zagrosek, V., Regensteiner, J. G., Rubin, J. B., Sandberg, K., & Suzuki, A. (2020). Sex and gender: Modifiers of health, disease, and medicine. *Lancet, 396*(10250), 565–582. https://doi.org/10.1016/S0140-6736(20)31561-0

Mechsner, S. (2022). Endometriosis, an ongoing pain – Step-by-step treatment. *Journal of Clinical Medicine, 11*(2), Article 467. https://doi.org/10.3390/jcm11020467

Mousavi, R. A., Lamm, G., Will, M., Schwarz, K., & Mascherbauer, J. (2023). Sex differences in the management and outcome of acute coronary syndrome – Still an issue of equal treatment? *Wiener Klinische Wochenschrift, 135*(23-24), 663–666. https://doi.org/10.1007/s00508-023-02302-4

Nagel, J. D., Koch, A., Guimond, J. M., Glavin, S., & Geller, S. (2013). Building the women's health research workforce: Fostering interdisciplinary research approaches in women's health. *Global Advances in Health and Medicine, 2*(5), 24–29. https://doi.org/10.7453/gahmj.2013.049

Nillni, Y. I., Rasmusson, A. M., Paul, E. L., & Pineles, S. L. (2021). The impact of the menstrual cycle and underlying hormones in anxiety and PTSD: What do we know and where do we go from here? *Current Psychiatry Reports, 23*(2), Article 8. https://doi.org/10.1007/s11920-020-01221-9

Nolan, L. N., & Hughes, L. (2022). Premenstrual exacerbation of mental health disorders: A systematic review of prospective studies. *Archives of Women's Mental Health, 25*(5), 831–852. https://doi.org/10.1007/s00737-022-01246-4

Ruszała, M., Dłuski, D. F., Winkler, I., Kotarski, J., Rechberger, T., & Gogacz, M. (2022). The state of health and the quality of life in women suffering from endometriosis. *Journal of Clinical Medicine, 11*(7), Article 2059. https://doi.org/10.3390/jcm11072059

Salk, R. H., Hyde, J. S., & Abramson, L. Y. (2017). Gender differences in depression in representative national samples: Meta-analyses of diagnoses and symptoms. *Psychological Bulletin, 143*(8), 783–822. https://doi.org/10.1037/bul0000102

Schubert, K., Lohse, J., Kalder, M., Ziller, V., & Weise, C. (2022). Internet-based cognitive behavioral therapy for improving health-related quality of life in patients with endometriosis: Study protocol for a randomized controlled trial. *Trials, 23*(1), Article 300. https://doi.org/10.1186/s13063-022-06204-0

Sediri, S., Zgueb, Y., Ouanes, S., Ouali, U., Bourgou, S., Jomli, R., & Nacef, F. (2020). Women's mental health: Acute impact of COVID-19 pandemic on domestic violence. *Archives of Women's Mental Health, 23*(6), 749–756. https://doi.org/10.1007/s00737-020-01082-4

Silva, F. P., Yela, D. A., de Barros Meneguetti, M., Torelli, F., Gibran, L., & Benetti-Pinto, C. L. (2024). Assessment of quality of life, psychological aspects, and sexual function of women with endometriosis according to pain and infertility: A cross sectional study. *Archives of Gynecology and Obstetrics, 309*(6), 2741–2749. https://doi.org/10.1007/s00404-024-07464-8

Soares, J. J., Grossi, G., & Sundin, O. (2007). Burnout among women: Associations with demographic/socio-economic, work, life-style and health factors. *Archives of Women's Mental Health, 10*(2), 61–71. https://doi.org/10.1007/s00737-007-0170-3

van Oosterhout, R. E. M., de Boer, A. R., Maas, A. H. E. M., Rutten, F. H., Bots, M. L., & Peters, S. A. E. (2020). Sex differences in symptom presentation in acute coronary syndromes: A systematic review and meta-analysis. *Journal of the American Heart Association, 9*(9), Article e014733. https://doi.org/10.1161/JAHA.119.014733

Vitale, C., Fini, M., Spoletini, I., Lainscak, M., Seferovic, P., & Rosano, G. M. (2017). Under-representation of elderly and women in clinical trials. *International Journal of Cardiology, 232*, 216–221. https://doi.org/10.1016/j.ijcard.2017.01.018

Weise, C., Kaiser, G., Janda, C., Kues, J. N., Andersson, G., Strahler, J., & Kleinstäuber, M. (2019). Internet-based cognitive-behavioural intervention for women with premenstrual dysphoric disorder: A randomized controlled trial. *Psychotherapy and Psychosomatics, 88*(1), 16–29. https://doi.org/10.1159/000496237

Weise, C., Kleinstäuber, M., & Andersson, G. (2016). Internet-delivered cognitive-behavior therapy for tinnitus: A randomized controlled trial. *Psychosomatic Medicine, 78*(4), 501–510. https://doi.org/10.1097/PSY.0000000000000310

Clinical Psychology in Europe

PsychOpen GOLD

Research Articles

Does Practice Make Perfect? The Effects of an Eight-Week Manualized Deliberate Practice Course With Peer Feedback on Patient-Rated Working Alliance in Adults: A Pilot Randomized Controlled Trial

Håkan Lagerberg[1], James F. Boswell[2], Michael J. Constantino[3], Gerhard Andersson[4,5,6], Per Carlbring[1]

[1] *Department of Psychology, Stockholm University, Stockholm, Sweden.* **[2]** *Department of Psychology, University at Albany, State University of New York, Albany, NY, USA.* **[3]** *Department of Psychological and Brain Sciences, University of Massachusetts, Amherst, MA, USA.* **[4]** *Department of Behavioural Sciences and Learning, Linköping University, Linköping, Sweden.* **[5]** *Department of Biomedical and Clinical Sciences, Linköping University, Linköping, Sweden.* **[6]** *Department of Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e12353, https://doi.org/10.32872/cpe.12353

Received: 2023-07-06 • **Accepted:** 2024-04-24 • **Published (VoR):** 2024-09-30

Handling Editor: Winfried Rief, Philipps-University of Marburg, Marburg, Germany

Corresponding Author: Per Carlbring, Department of Psychology, Stockholm University, 106 91 Stockholm, Sweden. Phone: +46 8 16 39 20. E-mail: Per.carlbring@psychology.su.se

Abstract

Background: Deliberate Practice (DP), which underscores the importance of expert mentorship, personalized learning objectives, feedback, and repetition, has been suggested as a method to enhance the effectiveness of therapists.

Method: The study tested the efficacy of an eight-week, structured, group-based online course, enriched with peer feedback, for 37 Cognitive Behavioral Therapists. The goal was to assess whether this intervention could boost the quality of therapist-patient alliances, as compared to a control group. To measure this, therapists had their patients anonymously fill out the Session Alliance Inventory both before and after the course. The trial encompassed 120 patient alliance ratings at baseline and 64 at the post-course measurement. The DP course was comprised of a 75-minute remote video workshop each week for eight weeks, supplemented by related study materials. Each workshop focused on a specific skill, such as responding to client resistance, and included 55 minutes of concentrated role-play activities, providing ample opportunities for repetition and feedback.

Results: Using a linear mixed model we did not find an effect on patient alliance ratings. However, we observed a trend (p = .054) indicating that the DP group decreased their alliance ratings (Cohen's d = -0.40), while the control group demonstrated an increase in their scores (d = 0.49).
Conclusion: This pilot study did not find support for DP leading to better patient-rated alliance compared to a waitlist control. However, the study had several methodological limitations. Further and more rigorous investigation of the effects of DP on patient outcomes is recommended.

Keywords

deliberate practice, working alliance, cognitive behavioural therapy, professional development, psychotherapy outcomes, therapist effects

Highlights

- An eight-week deliberate practice course did not significantly improve patient-rated therapeutic alliance.
- An unexpected trend showed that deliberate practice training decreased alliance ratings, while the control group showed improvement.
- Peer feedback without expert mentorship may limit the effectiveness of deliberate practice courses.
- Further research on deliberate practice's effects is needed, focusing on individualized learning objectives and expert mentorship.

Background

Contrary to what might be expected, emerging evidence indicates that therapists do not necessarily improve their psychotherapeutic outcomes with increased experience, defined as accumulation of time in routine clinical practice. For example, in a large-scale longitudinal therapist professional development study using data from more than 150 therapists and 6,500 patients, Goldberg et al. (2016) found that therapists overall became slightly less effective over time.

Consequently, establishing new tools for developing expertise over time appears to be in the interest of the field of psychotherapy. To this end, Deliberate Practice (DP) is emerging as a tool for psychotherapists to continually improve their therapy outcomes (Boswell et al., 2020; Miller et al., 2020; Rousmaniere et al., 2017; Wampold et al., 2019). The effectiveness of DP in the acquisition and refinement of skill has been demonstrated in athletics and music (Ericsson & Pool, 2016), and is now being applied to therapist development. Miller et al. (2017) summarized four central elements of DP for psychotherapists: 1) a focused and systematic effort to improve performance pursued over an extended period; 2) involvement and guidance from a coach/teacher/mentor; 3) immediate and ongoing feedback; and 4) successive refinement and repetition via solo practice outside of performance.

One proposed method of applying DP with therapists is to practice therapy skills using vignette-based role-play (Vaz & Rousmaniere, 2022). To this end, a series of practice manuals for different psychotherapy orientations have been published, including emotion-focused therapy (Goldman et al., 2021), cognitive behavioral therapy (CBT; Boswell & Constantino, 2021), motivational interviewing (Manuel et al., 2022), systemic family therapy (Blow et al., 2023), and child and adolescent psychotherapy (Bate et al., 2022). The manuals include method-specific skills (e.g., working with cognitions in the case of CBT) and several method-non-specific skills (e.g., responding to client resistance). Each skill is described, and skill criteria are provided, with the manuals' emphasis placed on client vignettes for therapists to role-play and actively work with feedback from expert supervisors or other trained peers. To our knowledge, the effects of these manuals on therapy outcomes have not yet been empirically investigated.

Although the research on the role of DP in psychotherapy is still in its infancy, some progress has been made. Chow et al. (2015) found that the time spent engaged in DP activities predicted therapist-level treatment outcomes across 1,632 patients and 17 therapists. However, the variance explained by DP was extremely small (0.3%) and the retrospective DP self-rating instrument used has been criticized because it relies on therapists' retrospective recall and the ability of therapists to accurately differentiate DP from other forms of practice (Clements-Hickman & Reese, 2020). The study did not report participants theoretical orientation. Also, Janse et al. (2023) were not able to replicate the findings in the previously mentioned study. In an experimental study, Westra et al. (2021) found that participants randomized to a DP workshop were significantly more likely to respond effectively to client resistance when compared to participants in a traditional workshop, both at post-workshop and at a three-month follow up. However, the study involved simulated patients and did not include any real patient data. Participants reported several primary theoretical orientations.

Hill et al. (2020) reported a single-case study on seven psychodynamically oriented doctoral students who participated in an eight-hour workshop and four individual DP training sessions with in-between session homework. They found that the DP training improved the students' self-ratings of their knowledge of the practiced skills, emotional self-regulation, countertransference, and working alliance. However, there was no significant effect on the client-rated working alliance. Perlman et al. (2020) completed a randomized controlled trial where therapists who participated in a DP workshop scored higher on facilitative interpersonal skills than therapists who underwent a traditional workshop (Anderson et al., 2009). The therapists reported several primary theoretical orientations. Interpersonal skills were measured using an instrument that has been found to predict therapy outcome (Anderson et al., 2016). In line with previous research, the study involved simulated patients and did not include real patient data which could be viewed as a limitation. Goldberg et al. (2016) completed a study at a Canadian health agency that applied DP and routine outcome monitoring (Lambert & Harmon, 2018) over seven years, including over 5,000 patients and 135 therapists. The intervention achieved an increased effectiveness, as per the routine outcome tool, of $d = 0.035$ per year, reflecting a compounded increase of $d = 0.25$ over seven years. However, the study had no control condition and combined routine outcome monitoring with DP, preventing us from isolating the effects of DP.

In conclusion, although DP has been demonstrated to have a positive effect on some factors related to patient outcomes (including simulated patients), there is, to date, paucity of evidence that DP directly influences patient-rated outcomes. This was also the conclusion of the systematic review of the research on DP, conducted by Nurse et al. (2024). In their review, they emphasize the lack of studies investigating the impact of DP on client outcomes as a main limitation in the literature and encourage studies exploring the impact of DP on client outcomes in actual practice settings. For example, the study by Hill et al. (2020) found that after DP, therapists increased their self-rated efficacy and therapist rated alliance but found no increase in patient-rated alliance.

The current study attempted to bridge this gap in the literature, using working alliance as a patient-rated outcome. There is robust evidence for a moderate correlation between alliance and therapy outcome ($r = .28$, Flückiger et al., 2018). For many years, whether alliance leads to symptom reduction or vice versa has been up to debate. However, a recent meta-analysis found empirical evidence that alliance and symptom reduction have a reciprocal relationship, predicting each other, at least in the early stages of treatment (Flückiger et al., 2020). Also, working alliance has been suggested as one of the mechanisms through which DP could improve therapy outcome (Miller et al., 2020).

In the current study design, using working alliance ratings enabled the researchers to collect within-therapist data at the pre- and post-measure, while collecting cross-sectional data on the patient-level. In order to use symptom outcomes, longitudinal within-patient data would have been necessary, which was not in the scope of the current study. The current design made it possible to recruit therapists from a multitude of psychotherapy settings, increasing the ecological validity. The authors recognize that in this study, working alliance acts as a proxy for patient therapy outcomes, and see this as a major limitation. However, we believe that this study is a step forward for the research literature on DP in moving towards patient-level data. Given the recently published DP manuals which allow for the use of standardized and approved working materials and methods, the present pilot study examined whether patients of therapists who participated in an eight-week DP course improved their patient alliance ratings compared to patients of therapists in a waitlist control group. Based on the results of Perlman et al. (2020) and Westra et al. (2021), along with the literature on skill development and DP for therapists, we expected that the DP group would improve their patient-rated alliance measures compared to the waitlist control group.

Method

Study Design

The pilot study used a randomized parallel-arm controlled trial design, allocating the therapists to either receive the DP course or a waitlist control group. The study was conducted in Sweden, and therapists and patients were recruited nationally during January 2022. The study was approved by the Swedish Ethical Review Authority (ID: 2021-05913-01).

Outcome Measurements and Data Collection

Therapeutic alliance was the primary outcome measure assessed using the Session Alliance Inventory (SAI; Falkenström et al., 2015). The SAI is a brief patient-rated instrument consisting of six items that measure the client's experience of the alliance during the past session on a scale from 0 ("Not at all") to 5 ("Completely"). The SAI is a shortened version of the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), which is a common instrument for measuring therapeutic alliance. The SAI correlates highly with the WAI ($r = .91$; Falkenström et al., 2015) but takes much less time to complete, potentially resulting in fewer missing data. In the current study, we observed an internal consistency of $\alpha = .87$ at the baseline measurement and $\alpha = .85$ for the post-measure.

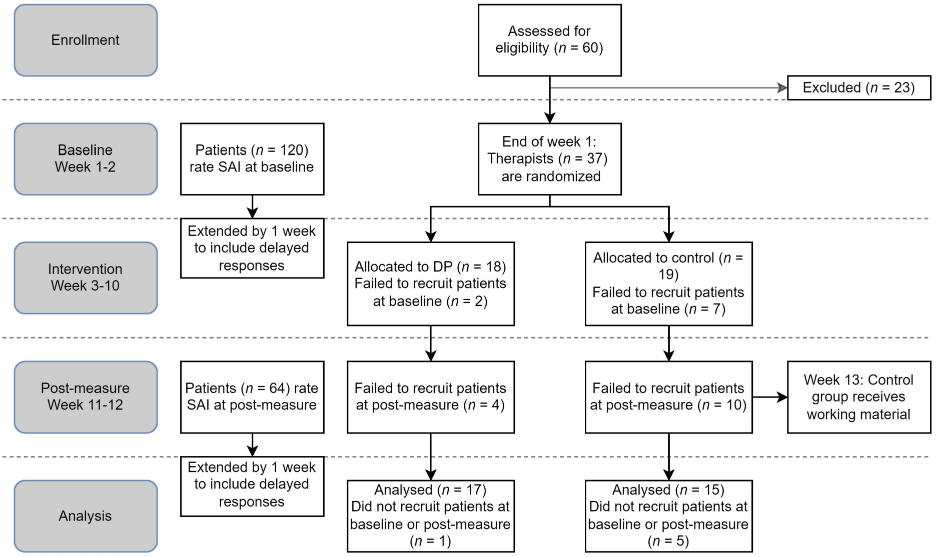
Procedure and Participants

Swedish CBT-therapists interested in receiving DP training were recruited through professional online forums and the listserv for members of the Swedish Association for CBT and the Swedish Association for Behaviour Therapy. The inclusion criteria were having received a Swedish undergraduate diploma in CBT (involving approximately a minimum of four years of full-time studies and 2 years of clinical practice), currently providing individual CBT for adult patients, being able to commit to 75 minutes of DP weekly for the duration of the program, and being able to recruit patients for the study.

A total of 60 therapists initially applied (see Figure 1), of which 37 were included and subsequently randomized. Of the 23 excluded participants, 15 did not complete the initial submission form or did not confirm their participation, and eight did not meet the inclusion criteria, including not having the required credentials, not having enough time or enough clients. See Table 1 for the therapists' sociodemographic information and professional backgrounds. Since the therapists worked in different organizations, therapy was delivered in a number of settings, both privately and community financed. The therapists were asked to report previous experience with DP. In the DP-group, one therapist reported previous experience with Feedback-Informed Treatment and having attended a conference on DP. One other therapist had attended a single lecture on DP. In the waitlist, one reported having attended a workshop in DP, one reported no training but significant interest in DP and one reported having a supervisor who was influenced by DP.

Figure 1

Study Procedure



Patient recruitment took place during a two-week period before and after the DP course. All therapists were instructed to recruit all of their patients who fulfilled the inclusion criteria: at least 18 years of age and receiving individual CBT. The therapists were told to briefly describe and supply the patients with written information about the study and to obtain informed consent. The therapists were told to clarify that participation was completely anonymous and voluntary, that the decision to participate or not would not have any consequences for the patient, and that the therapist would not be able to access their patients' ratings or even see if the patient joined the study. Video and telephone sessions were included but text-based or internet-only delivered treatments were excluded.

Patients who agreed to participate in the study used a web link or QR code to access the research platform Iterapi (Vlaescu et al., 2016), where they read about the study and provide informed consent for anonymous participation. They then completed the SAI and submitted their therapist's name. For privacy and ethical reasons, no information about the patients was recorded.

Table 1

Sociodemographic Background for the Therapists at Baseline

Sample characteristics	Deliberate practice (*n* = 18)	Waiting list (*n* = 19)	Total (*n* = 37)
Gender, *n* (%)			
Female	13 (68.4)	15 (78.9)	28 (75.7)
Male	5 (26.3)	4 (21.1)	9 (24.3)
Age			
M (*SD*)	40 (12.5)	44.7 (9.0)	42.4 (10.9)
Min-Max	26 – 64	26 – 58	26 – 64
Years clinical experience			
M (*SD*)	10.3 (9.2)	11.8 (6.2)	11.1 (7.8)
Min-Max	1 – 26	1 – 22	1 – 26
Treatment sessions/week at baseline			
M (*SD*)	17.2 (12.3)	18.2 (7.9)	17.7 (10.1)
Min-Max	1 – 45	5 – 30	1 – 45
Therapy setting, *n* (%)[a]	***n* = 19**	***n* = 20**	***n* = 39**
Primary Care	4 (21.1)	5 (25.0)	9 (23.1)
Psychiatry	6 (31.6)	4 (20.0)	10 (25.6)
Private Practice	5 (26.3)	6 (30.0)	11 (28.2)
Privately owned clinic	4 (21.1)	4 (20.0)	8 (20.5)
Other	0 (0)	1 (5.0)	1 (2.6)

[a] Participants working in multiple organizations have been counted multiple times. The percentages are calculated based on the number of work contexts, not the number of individuals.

Therapists were instructed to collect data from every patient they had a therapy session with, irrespective of diagnosis, how long the patient had been in therapy, or if they had or had not previously participated in the study. This means that some patients may have participated multiple times during the same measurement period, and that some participated only during baseline, some only during post-measure and some at both measurement points. Because the patients participated anonymously, we were not able to follow the patients over time—only the therapists.

The patient recruitment procedure resulted in the researchers having no information about the diagnosis status, severity, previous therapy experience or demographic data from the patients. This was partially for privacy and ethical reasons, but also a careful decision to prioritize making participation extremely brief, allowing for as many participations as possible. Exploration of the effects of these variables was not in the scope of the current study.

After the first week of recruiting patients, the therapists were randomized to a DP course (n = 18) or waiting list (n = 19). For the allocation of participants, a fellow MSc student who was not involved in the study used Random.org, a web-based automated randomization service. Once the recruitment period was terminated, the DP group entered the DP course.

When all the data had been collected, we observed that a significant number of SAI ratings had been reported during the week after both measurement periods. We interpreted this as patients remembering to participate the week after they were formally invited, and thus extended both data collection periods by one week to include the delayed patient ratings. Because of this delay, it is possible that some of these patient-ratings were completed after the therapist had participated in up to two DP-sessions.

Deliberate Practice Course

The DP course was inspired by *Deliberate Practice in Cognitive Behavior Therapy* (Boswell & Constantino, 2021) and was facilitated by the first author of this paper, a master's student in Stockholm University's clinical psychologist program. Throughout the DP course, the facilitator consulted a certified DP coach who was a licensed psychologist and psychotherapist. The DP coach cofacilitated one of the DP sessions. The participants had online access to translated working materials for each session, consisting of a brief introduction to the skill being practiced, skill criteria, and client vignettes. The work material was produced by Boswell and Constantino (2021). In line with Westra et al. (2021) and Perlman et al. (2020), we designed the DP course to be group-based for two reasons. First, we wanted to recruit enough therapists to perform statistical analyses. Second, a group-based format improves the affordability of and access to expert mentors. Accordingly, the DP course was offered online in its entirety using digital meeting software and an online platform. Each of the eight weekly sessions was 75 minutes long and consisted of a short introduction to the skill to be practiced, followed by 55 minutes of role-plays and concluded with a few minutes to reflect. During the role-plays, the participants were divided into groups of two or three in separate breakout rooms. They took turns playing the roles of client, therapist, and observer. The client role-played the vignettes, and the therapists attempted to give an authentic response in line with the skill criteria being practiced. See Table 2 for the vignettes and example responses from the working manual. The participants did not have access to example responses during the practice sessions, as we assumed that this would have hampered the authenticity of their responses. After this, the observer and the client gave feedback to the therapist based on the skill criteria and their own observations. After receiving the feedback, the process was repeated, maximizing repetition and feedback exposure for the therapist.

Table 2

Examples of Client Vignettes and Example Therapist Responses (Boswell & Constantino, 2021)

Skill	Client Vignette	Example Therapist Response
Working with behaviours	[*frustrated*] I don't know why I keep blowing up at people. I just do.	Let's try to understand this together. Understanding your response in context can help us achieve some clarity. Let's start with a recent example and try to identify what was happening just before the "blow up".
Responding to client resistance	[*pessimistic*] I know I agreed to this approach, and I understand what we're trying to do here, but I'm starting to doubt it's a good fit.	I'm so glad you told me this, as your outlook on therapy is central to it working. Let's shift gears for a moment, put aside our agenda, and just discuss what has or has not felt like a fit for you. How does that sound?

Each role-play was very brief and was terminated after the therapist had given their response to the vignette. This approach of using very short sessions is a hallmark of DP role-play (Vaz & Rousmaniere, 2022), as it better allows for detailed feedback and repetition compared to longer, improvised dialogues. Between role-plays, the therapist completed a reaction rating of how challenging they had perceived the vignette. This rating guided the choice to make the next role-play easier or more difficult. For this reason, all vignettes were assigned difficulty levels. Also, the participants were instructed in methods to decrease or increase the difficulty of the vignettes, such as by modulating their level of affect. The groups worked with each vignette until they felt they had exhausted it, between one and six repetitions. The participants switched roles to allow all participants to practice during every session. The facilitator alternated between the groups, giving them feedback and support and answering questions.

The manual published by Boswell and Constantino (2021) instructs facilitators that the role-plays should be completed by two trainees and one supervisor with training in DP, where the supervisor is the one giving feedback. This study used peer feedback instead, allowing for a much larger number of participants, at the potential expense of the feedback quality and the facilitator's ability to model responses. To ensure the study's focus and feasibility within an eight-week timeframe, a deliberate selection of skills was necessary from the comprehensive set outlined in the manual by Boswell and Constantino (2021), which details 10 core skills for effective CBT practice. Given the pilot nature of this study and the constraints associated with an intensive, focused training program, we prioritized skills that we hypothesized would have the most immediate impact on enhancing the therapist-patient working alliance - our study's primary outcome measure. Consequently, we included seven skills, with particular emphasis on "responding to therapeutic alliance ruptures" by allocating two sessions to this area. This emphasis aligns with literature suggesting the pivotal role of managing alliance ruptures in therapy outcomes.

The skills "explaining the treatment rationale for CBT", "negotiating a session agenda", and "adherence flexibility" were excluded. While these skills are fundamental to CBT and contribute to comprehensive therapist training, our decision to exclude them was twofold. First, it was based on the practical need to adapt the extensive content of the manual to a manageable scope that could be effectively covered within the limited duration of our intervention. Second, considering the advanced training level of participating therapists and the study's specific focus on the working alliance, these skills were assessed to be less immediately relevant to the pilot study's objectives. This strategic exclusion allowed for a concentrated exploration of the selected skills, facilitating depth of learning and practice within the study's timeframe.

This selection process reflects a strategic decision-making framework aimed at optimizing training effectiveness by focusing on skills with direct implications for our research objectives, within the practical constraints of an eight-week training program. Such decisions are essential for the design of focused, feasible, and impactful training interventions in research settings.

Waitlist Control Group

Therapists that were randomized to the waitlist control group were informed that they had been allocated to the waitlist control group and that they would receive the study material at the end of the data-collection period. No blinding or control intervention was used. After the second data-collection, they received text and video-based material from the DP course curriculum.

Analyses

Linear mixed models (LMMs) were chosen for the analysis. LMMs allow for missing data points without listwise exclusion, allowing the principles of *intention to treat* to be followed. However, LMMs assume that the data are missing at random, which is a potential weakness. The modeling was performed in IBM SPSS Statistics for Macintosh, ver. 27.0, using the MIXED command. A restricted maximum likelihood was used as the sample was small (Luke, 2017). Fixed variables in the final fitted model were the main effects of time and group, as well as the interaction effect of time (pre- and post-measurement) and group (randomization to DP or waiting list). The covariance structure was set to unstructured. Assumptions were tested and data were found to be suitable for the planned analyses.

Results

The therapists had difficulty recruiting patients for the study. Of the 37 therapists, 29 managed to collect data during baseline, whereas only 23 collected data at post-measure. Failure to collect data was greater in the control group; at baseline, seven (36.8%) participants failed to recruit any patients, growing to 10 (52.6%) at post-measure. The DP group had fewer therapists who failed to recruit any patients: two (11.1%) at baseline and four (22.2%) at post-measure.

During the baseline measurement, a total of 128 session-level patient-reported alliance ratings were obtained for the 29 therapists with baseline data. Of these, we were unable to match eight ratings to a therapist, resulting in a mean of 4.14 ratings per therapist. At post-measure, only 71 session-level patient-reported alliance ratings were collected for the 23 therapists with post-measure data, of which seven ratings could not be matched to a therapist, resulting in a mean of 2.78 ratings per therapist. The variance between therapists was significant; during baseline, therapists collected between 1–12 ratings, and the corresponding number for the post-measure was 1–14.

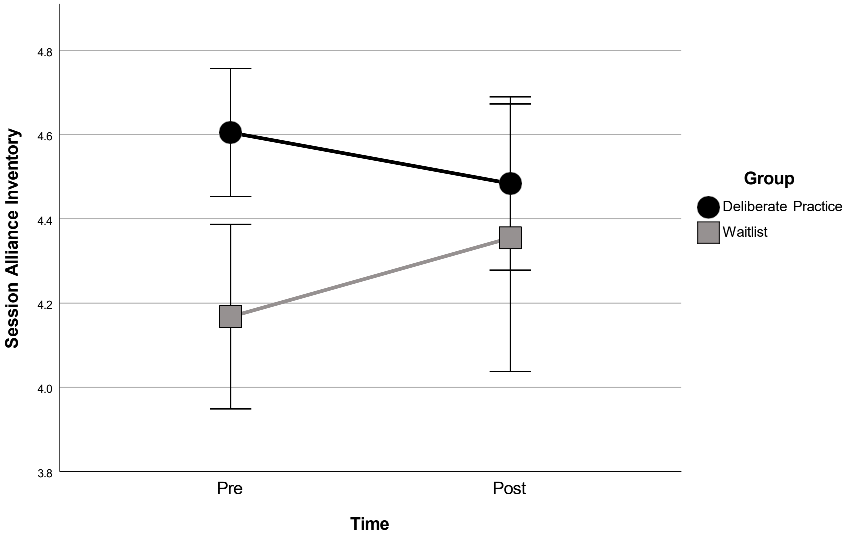
Results from the LMM showed that the interaction effect of time and group was not statistically significant ($F_{1,19.336} = 4.208$, $p = .054$). However, we also conducted a visual inspection of the data and explored within-group effect sizes to better understand potential training effects. Visual inspection of Figure 2 and pairwise comparisons revealed that allocation to DP had a decreasing effect on patient-rated alliances, while allocation to the waiting list had an increasing effect on SAI scores. The within-group effect sizes were moderate but in opposite directions for both conditions ($d = -0.40$ for the DP group and $d = 0.49$ for the control group).

Discussion

This pilot study tested whether an eight-week role-play-based online course in DP for CBT therapists would increase therapist-level therapeutic alliance quality in a naturalistic psychotherapy setting. The LMM did not find a significant effect of randomization to the DP course ($p = .054$). Contrary to expectations, we observed a trend ($p = .054$) indicating that the average patient-rated alliance in the DP group decreased ($d = -0.40$) whereas the waiting list's average patient-rated alliance increased ($d = 0.49$). The study had several limitations, such as missing data, risk that the therapists were biased in their recruitment of patients, and considerable attrition. The results should be interpreted with caution. To our knowledge, this is the first empirical study on DP for therapists to report potential negative effects. However, DP is a broad term, and this study only tested one specific approach to performing DP. The conclusions may not apply to the full manual or to other methods of executing DP. Therapy works through a multitude of mechanisms that are still not well understood (Cuijpers & Cristea, 2016). This fact, combined with

Figure 2

Change in Composite Scores on the Session Alliance Inventory at Baseline and Post-Measurement



Note. Error bars represent 95% CI.

the methodological issues previously mentioned, cause us to believe that speculation on specific mechanisms as to why the DP-groups alliance ratings did not improve, although thought-provoking, is of lesser importance, instead, the discussion will focus on confounders for future studies. In the DP course, expert mentorship was not applied which is a central tenet of DP (Ericsson et al., 1993; Miller et al., 2017). However, the original definition referred to “a teacher in a domain with a well-developed knowledge about effective methods for improving aspects of performance” (Ericsson & Harwell, 2019, p. 5). Currently, uncertainty exists as to whether psychotherapy can be defined as such a domain, as evidenced by Goldberg et al. (2016). Nevertheless, the current study relied on peer feedback rather than expert mentorship. The mentor’s primary tasks in this format were to give brief feedback and to help the participants stay in the optimal learning zone by adjusting the difficulty—not too easy, not too difficult. The participants did not have any training in these specific DP coaching skills. The results of the study may indicate that an expert mentor is required for this form of DP to be effective, thus impeding the prospect of scaling up DP courses by increasing the ratio of participants to mentors.

A second tenet of DP is individualized learning goals (Ericsson et al., 1993). This study used standardized vignettes and skills, adjusting the vignettes' difficulty levels based on the previously described reaction ratings completed by the participants. Participants may have spent time practicing skills at which they were already adept, resulting in no change, or practicing skills that were too difficult, which could lead to shame and withdrawal from the exercise and, ultimately, reduced self-efficacy. Assessments of skills and weaknesses made by an expert or through other means may be crucial for the development of expertise through DP. The chosen skills may have been too demanding, leading to some of the aforementioned adverse effects.

Surprisingly, the control group increased their alliance ratings. Asymmetrical dropout could reflect underlying differences between therapists, such as interest in DP or caseload and thus caused a selection bias. Furthermore, therapists in the control group, as in the DP group, may have been biased in some other way when recruiting patients.

The finding that a manualized DP course with peer feedback led to no change in patient-rated alliances is noteworthy. Therapy is a complex interpersonal process where the same actions can lead to wildly different results, while DP is a reductionistic activity that was developed for mechanistic tasks, such as playing the instruments or typing (Clements-Hickman & Reese, 2020). There is growing evidence that the variance in expertise or performance explained by DP may vary greatly by domain (Hambrick et al., 2016). Although the study by Chow et al. (2015) is frequently cited as an argument for the importance of DP, DP only explained 0.3% of the variance in performance, which paradoxically bolsters the argument that DP may play a smaller role in psychotherapist improvement than in other domains. Previous studies have identified that specific psychotherapy-related skills can be trained through DP (Perlman et al., 2020; Westra et al., 2021), but it remains uncertain whether these relatively simple skills translate to actual symptom improvement in patients.

DP is an attractive method because it initially seems very logical: "Practice makes perfect." However, the criteria for the original definition of DP are difficult to attain (Ericsson & Harwell, 2019), and practice that does not meet these criteria may not yield the same effects as DP. At the same time, excessively strict boundaries around DP may impede innovation and advancements specific to the setting of psychotherapy (Nurse et al., 2024). We argue that the DP course applied in the present study is an example of attempting to scale up DP by standardizing and reducing its complexity. Future attempts to confirm or disconfirm the effectiveness of DP in the psychotherapy domain should adhere to the original definition and/or to particular modes of application (e.g., more individualized focus, or reliance on an expert supervisor rather than a peer). As Goodyear and Rousmaniere (2017, p. 84) wrote, "Practice makes permanent, though not necessarily perfect."

The current study had several limitations. In the following section, limitations will be reviewed.

The therapists recruited their own patients. Estimates suggest that SAI-ratings were collected for about 10% of sessions during baseline and for about 6% during post-measure. This introduces a risk of bias. However, the data were collected anonymously via an encrypted website, and since no personal information was collected regarding the client, identification was impossible, reducing the risk that patients would inflate their alliance ratings due to social desirability. We do not have any data to explain the small percentage of recruited patients but speculate that it was caused by forgetfulness or lack of motivation on the therapists' end, which would explain the drop in participation at the post-measure, as well as the control group recruiting fewer patients. There was asymmetrical attrition in the studied population due to difficulties recruiting patients. Especially in the control group, five (26.3%) participants failed to recruit any patients during baseline or post-measure. Furthermore, some therapists only recruited a single client, potentially causing issues with the LMM.

The study used patient-rated alliance as the primary variable. Preferably, a patient-rated symptom scale would have been used, as it is possible that DP works through mechanisms other than alliance. This choice is further discussed in the introduction of the current article. The authors encourage future research to use symptom rating scales. Of course, this necessitates using longitudinal within-patient data, which was unfortunately not possible with the current data set, where patients for privacy and ethical reasons, participated completely anonymously. Within-patient data would enable researchers to use more powerful statistical analyses, such as multilevel modelling. Also, it was not possible to include session number in the analysis, a factor that predicts alliance (Meier & Feeley, 2022). We suggest that future studies include within-patient data.

A recent meta-analytical finding is that alliance measures are prone to moderate to large ceiling effects. There is a current debate as to whether these ceiling effects are caused by methodological issues or theoretical factors (Meier & Feeley, 2022). It is unclear as to what effect this may have had on the current study.

The manual used was not explicitly focused on therapy alliance, but rather on overall therapist effectiveness. It is possible that a DP manual that more explicitly focused on alliance would have had a greater impact on this variable. However, several chapters focused specifically on alliance-related therapist behaviors.

The study used a waitlist control group. In clinical psychological research this has been shown to inflate effect sizes of treatment groups (Patterson et al., 2016). However, in this study the patients did not have to wait, only the therapists, so it is unclear whether the natural worsening effects that have been observed would apply. It could however explain the greater attrition in the wait-list control. A superior control condition would have been a placebo course as was employed in the excellent study by Westra et al. (2021).

Finally, longitudinal data tends to be underpowered when only two time points are used. Follow-up data would have increased the power of the study.

Conclusions

This pilot study did not find a significant effect of a CBT-focused online group and manual-based DP course with peer-feedback on patient-rated alliance. However, a non-significant negative effect of DP on patients' alliance ratings was observed. Although the study had multiple limitations such as considerable asymmetrical attrition, missing data and risk of bias in the data collection, we found the results surprising enough to publish. The current study is also a step forward towards studying direct client outcomes, which has been missing in the literature on DP (Nurse et al., 2024), and may serve as a foundation for future research. As DP is becoming an increasingly popular tool for therapist development, testing the effectiveness of the method is crucial. The authors conclude that future research should adhere more strictly to the original definition of DP and include patient outcomes.

Funding: The authors have no funding to report.

Acknowledgments: We thank all therapists and patients who volunteered their time and efforts in this study. We are especially grateful to Elisabet Rosén for generously allowing the first author to consult her during the DP course.

Competing Interests: James F. Boswell and Michael J. Constantino are the authors of the book "Deliberate Practice in Cognitive Behavioral Therapy".

Ethics Statement: This study was approved by the Swedish Ethical Review Authority (ID: 2021-05913-01). Prior to the start of the study, informed consent was obtained from all participants, emphasizing their right to withdraw at any point without consequence.

Preregistration: This study was not pre-registered. The hypotheses, methodology, and analyses were developed before data collection; however, they were not officially recorded on a public preregistration platform prior to the commencement of the study. Despite this, we have made efforts to conduct this research with transparency, scientific rigor, and integrity.

Reporting Guidelines: The methodology, results, and interpretation of this study have been shaped and rigorously guided by the Consolidated Standards of Reporting Trials (CONSORT) guidelines, enhancing the transparency, reliability, and replicability of our research findings.

Data Availability: Although the principles of Open Science guide our work, the sensitive nature of the data collected in this study precludes its open online availability. However, we fully support scholarly inquiry and collaboration. Researchers interested in accessing the data may contact us directly. Measures to protect participant privacy will be maintained during any data sharing.

References

Anderson, T., McClintock, A. S., Himawan, L., Song, X., & Patterson, C. L. (2016). A prospective study of therapist facilitative interpersonal skills as a predictor of treatment outcome. *Journal of Consulting and Clinical Psychology, 84*(1), 57–66. https://doi.org/10.1037/ccp0000060

Anderson, T., Ogles, B. M., Patterson, C. L., Lambert, M. J., & Vermeersch, D. A. (2009). Therapist effects: Facilitative interpersonal skills as a predictor of therapist success. *Journal of Clinical Psychology, 65*(7), 755–768. https://doi.org/10.1002/jclp.20583

Bate, J., Prout, T. A., Rousmaniere, T., & Vaz, A. (2022). *Deliberate practice in child and adolescent psychotherapy*. American Psychological Association. https://doi.org/10.1037/0000288-000

Blow, A. J., Seedall, R. B., Miller, D. L., Rousmaniere, T., & Vaz, A. (2023). *Deliberate practice in systemic family therapy*. American Psychological Association. https://doi.org/10.1037/0000301-000

Boswell, J. F., & Constantino, M. J. (2021). *Deliberate practice in cognitive behavioral therapy*. American Psychological Association.

Boswell, J. F., Constantino, M. J., & Goldfried, M. R. (2020). A proposed makeover of psychotherapy training: Contents, methods, and outcomes. *Clinical Psychology: Science and Practice, 27*(3), Article e12340. https://doi.org/10.1111/cpsp.12340

Chow, D. L., Miller, S. D., Seidel, J. A., Kane, R. T., Thornton, J. A., & Andrews, W. P. (2015). The role of deliberate practice in the development of highly effective psychotherapists. *Psychotherapy, 52*(3), 337–345. https://doi.org/10.1037/pst0000015

Clements-Hickman, A. L., & Reese, R. J. (2020). Improving therapists' effectiveness: Can deliberate practice help? *Professional Psychology: Research and Practice, 51*(6), 606–612. https://doi.org/10.1037/pro0000318

Cuijpers, P., & Cristea, I. A. (2016). How to prove that your therapy is effective, even when it is not: A guideline. *Epidemiology and Psychiatric Sciences, 25*(5), 428–435. https://doi.org/10.1017/S2045796015000864

Ericsson, K. A., & Harwell, K. W. (2019). Deliberate practice and proposed limits on the effects of practice on the acquisition of expert performance: Why the original definition matters and recommendations for future research. *Frontiers in Psychology, 10*, Article 2396. https://doi.org/10.3389/fpsyg.2019.02396

Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3), 363–406. https://doi.org/10.1037/0033-295X.100.3.363

Ericsson, K. A., & Pool, R. (2016). *Peak: Secrets from the new science of expertise*. Houghton Mifflin Harcourt.

Falkenström, F., Hatcher, R. L., Skjulsvik, T., Larsson, M. H., & Holmqvist, R. (2015). Development and validation of a 6-item working alliance questionnaire for repeated administrations during psychotherapy. *Psychological Assessment, 27*(1), 169–183. https://doi.org/10.1037/pas0000038

Flückiger, C., Del Re, A. C., Wampold, B. E., & Horvath, A. O. (2018). The alliance in adult psychotherapy: A meta-analytic synthesis. *Psychotherapy, 55*(4), 316–340. https://doi.org/10.1037/pst0000172

Flückiger, C., Rubel, J., Del Re, A. C., Horvath, A. O., Wampold, B. E., Crits-Christoph, P., Atzil-Slonim, D., Compare, A., Falkenström, F., Ekeblad, A., Errázuriz, P., Fisher, H., Hoffart, A., Huppert, J. D., Kivity, Y., Kumar, M., Lutz, W., Muran, J. C., Strunk, D. R., . . . Barber, J. P. (2020). The reciprocal relationship between alliance and early treatment symptoms: A two-stage individual participant data meta-analysis. *Journal of Consulting and Clinical Psychology, 88*(9), 829–843. https://doi.org/10.1037/ccp0000594

Goldberg, S. B., Rousmaniere, T., Miller, S. D., Whipple, J., Nielsen, S. L., Hoyt, W. T., & Wampold, B. E. (2016). Do psychotherapists improve with time and experience? A longitudinal analysis of outcomes in a clinical setting. *Journal of Counseling Psychology, 63*(1), 1–11. https://doi.org/10.1037/cou0000131

Goldman, R. N., Vaz, A., & Rousmaniere, T. (2021). *Deliberate practice in emotion-focused therapy.* American Psychological Association.

Goodyear, R. K., & Rousmaniere, T. (2017). Helping therapists to each day become a little better than they were the day before. In T. Rousmaniere, R. K. Goodyear, S. D. Miller, & B. E. Wampold (Eds.), *The cycle of excellence: Using deliberate practice to improve supervision and training* (pp. 67-95). Wiley-Blackwell.

Hambrick, D. Z., Macnamara, B. N., Campitelli, G., Ullén, F., & Mosing, M. A. (2016). Beyond born versus made: A new look at expertise. In B. H. Ross (Ed.), *The psychology of learning and motivation* (pp. 1-55). Elsevier Academic Press.

Hill, C. E., Kivlighan, D. M., III, Rousmaniere, T., Kivlighan, D. M., Jr., Gerstenblith, J. A., & Hillman, J. W. (2020). Deliberate practice for the skill of immediacy: A multiple case study of doctoral student therapists and clients. *Psychotherapy, 57*(4), 587–597. https://doi.org/10.1037/pst0000247

Horvath, A. O., & Greenberg, L. S. (1989). Development and validation of the Working Alliance Inventory. *Journal of Counseling Psychology, 36*(2), 223–233. https://doi.org/10.1037/0022-0167.36.2.223

Janse, P. D., Bakker-Brehm, D. T., Geurtzen, N., Scholing, A., & Hutschemaekers, G. J. (2023). Therapists' self-assessment of time spent on learning activities and its relationship to treatment outcomes: A replication study. *Journal of Clinical Psychology, 79*(4), 1070–1081. https://doi.org/10.1002/jclp.23459

Lambert, M. J., & Harmon, K. L. (2018). The merits of implementing routine outcome monitoring in clinical practice. *Clinical Psychology: Science and Practice, 25*(4), Article e12268. https://doi.org/10.1111/cpsp.12268

Luke, S. G. (2017). Evaluating significance in linear mixed-effects models in R. *Behavior Research Methods, 49*(4), 1494–1502. https://doi.org/10.3758/s13428-016-0809-y

Manuel, J. K., Ernst, D., Vaz, A., & Rousmaniere, T. (2022). *Deliberate practice in motivational interviewing*. American Psychological Association. https://doi.org/10.1037/0000297-000

Meier, S. T., & Feeley, T. H. (2022). Ceiling effects indicate a possible threshold structure for working alliance. *Journal of Counseling Psychology, 69*(2), 235–245. https://doi.org/10.1037/cou0000564

Miller, S. D., Hubble, M. A., & Chow, D. (2017). Professional development: From oxymoron to reality. In T. Rousmaniere, R. K. Goodyear, S. D. Miller, & B. E. Wampold (Eds.), *The cycle of excellence: Using deliberate practice to improve supervision and training* (pp. 23-47). Wiley-Blackwell.

Miller, S. D., Hubble, M. A., & Chow, D. (2020). *Better results: Using deliberate practice to improve therapeutic effectiveness.* American Psychological Association.

Nurse, K., O'shea, M., Ling, M., Castle, N., & Sheen, J. (2024). The influence of deliberate practice on skill performance in therapeutic practice: A systematic review of early studies. *Psychotherapy Research.* Advance online publication. https://doi.org/10.1080/10503307.2024.2308159

Patterson, B., Boyle, M. H., Kivlenieks, M., & Van Ameringen, M. (2016). The use of waitlists as control conditions in anxiety disorders research. *Journal of Psychiatric Research, 83*, 112–120. https://doi.org/10.1016/j.jpsychires.2016.08.015

Perlman, M. R., Anderson, T., Foley, V. K., Mimnaugh, S., & Safran, J. D. (2020). The impact of alliance-focused and facilitative interpersonal relationship training on therapist skills: An RCT of brief training. *Psychotherapy Research, 30*(7), 871–884. https://doi.org/10.1080/10503307.2020.1722862

Rousmaniere, T., Goodyear, R. K., Miller, S. D., & Wampold, B. E. (2017). *The cycle of excellence: Using deliberate practice to improve supervision and training.* Wiley Blackwell.

Vaz, A., & Rousmaniere, T. (2022). *Clarifying deliberate practice for mental health training.* https://drive.google.com/file/d/1MFdWU-fRl-2EKN2rdvFsExPcJ8-O0C_A/view

Vlaescu, G., Alasjö, A., Miloff, A., Carlbring, P., & Andersson, G. (2016). Features and functionality of the Iterapi platform for internet-based psychological treatment. *Internet Interventions, 6*, 107–114. https://doi.org/10.1016/j.invent.2016.09.006

Wampold, B. E., Lichtenberg, J. W., Goodyear, R. K., & Tracey, T. J. (2019). Clinical expertise. In S. Dimidjian (Ed.), *Evidence-based practice in action: Bridging clinical science and intervention* (pp. 152-166). The Guilford Press.

Westra, H. A., Norouzian, N., Poulin, L., Coyne, A., Constantino, M. J., Hara, K., Olson, D., & Antony, M. M. (2021). Testing a deliberate practice workshop for developing appropriate responsivity to resistance markers. *Psychotherapy, 58*(2), 175–185. https://doi.org/10.1037/pst0000311

Clinical Psychology
in Europe

PsychOpen GOLD

Research Articles

The Effects of Mindfulness-Focused Internet-Based Cognitive Behavioral Therapy on Elevated Levels of Stress and Symptoms of Exhaustion Disorder: A Randomized Controlled Trial

Kristofer Vernmark[1], Timo Hursti[2], Victoria Blom[3],
Robert Persson Asplund[1,3], Elise Nathanson[2], Linda Engelro[2], Ella Radvogin[4],
Gerhard Andersson[1,5,6]

[1] *Department of Behavioural Sciences and Learning, Linköping University, Linköping, Sweden.* **[2]** *Department of Psychology, Uppsala University, Uppsala, Sweden.* **[3]** *The Swedish School of Sport and Health Sciences, Stockholm, Sweden.* **[4]** *Psykologpartners AB, Linköping, Sweden.* **[5]** *Department of Biomedical and Clinical Sciences, Linköping University, Linköping, Sweden.* **[6]** *Department of Clinical Neuroscience, Karolinska Institute, Stockholm, Sweden.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e12899, https://doi.org/10.32872/cpe.12899

Received: 2023-09-29 • **Accepted:** 2024-05-06 • **Published (VoR):** 2024-09-30

Handling Editor: Winfried Rief, Philipps-University of Marburg, Marburg, Germany

Corresponding Author: Kristofer Vernmark, Department of Behavioural Sciences and Learning, Campus Valla, I-huset, 3:430, 581 83, Linköping, Sweden. Phone: +46733211074. E-mail: Kristofer.vernmark@liu.se

Abstract

Background: Internet-based Cognitive Behavior Therapy (ICBT) and mindfulness interventions are commonly used to treat elevated levels of stress. There are however few high-quality studies that examine ICBT with integrated mindfulness components for symptoms of stress and exhaustion, and the role of mindfulness exercises in digital treatment.

Method: The aim of the present study was to evaluate if a mindfulness-focused ICBT-program could reduce symptoms of stress and exhaustion, and increase quality of life, in a randomized controlled trial including 97 self-referred participants between 18 and 65 years who experienced elevated levels of stress.

Results: The intervention group had significantly reduced symptoms of stress and exhaustion, and increased quality of life, compared to the control group. Compared with the controls, participants in the intervention group showed a significant improvement with moderate to large effects on the primary outcome measure perceived stress ($d = 0.79$), and the secondary outcomes, exhaustion ($d = 0.65$), and quality of life ($d = 0.40$). Participants in the ICBT group also increased their level of mindfulness (d = 0.66) during the program. The amount of mindfulness training was significantly associated with an increased level of mindfulness, which in turn was significantly associated with reduced stress symptoms.

Conclusions: Mindfulness-focused ICBT can be an effective method to reduce stress-related mental health problems and the amount of mindfulness training seems to be of importance to increase the level of experienced mindfulness after treatment.

Keywords

CBT, ICBT, stress, mindfulness, exhaustion, internet-based

Highlights

- Combining mindfulness with ICBT is effective when treating individuals with elevated stress.
- Mindfulness-based ICBT can decrease symptoms of exhaustion and increase quality of life.
- The amount of mindfulness training during treatment has an impact on self-rated mindfulness.
- Increased mindfulness is associated with decreased levels of stress.

Perceived stress is conceptualized as an individual’s feelings or thoughts about how much stress one is experiencing at a given point in time or during a period of time. To experience stress is a fundamental feature of human beings and can be an adaptive response to various stressors in everyday life. Stress becomes an issue when the body is forced to mobilize energy for an extended period of time without sufficient recovery. During the last decades, rapid advancements in society have transformed how we live, work, and interact, resulting in higher exposure to mental strain (Atroszko et al., 2020). Elevated stress over longer periods of time can have a negative impact on daily life and is associated with other physical and psychological problems such as anxiety, impaired sleep, depression, and exhaustion (Cohen et al., 2007; Grossi et al., 2015). Increased levels of stress are also associated with a negative impact on quality of life (Parsaei et al., 2020), a wider construct of self-perceived satisfaction with important life areas such as work, friendship, creativity, and leisure, that should be measured separately from other mental health symptoms (Lindner et al., 2016). Consequently, stress-related health issues have increasingly been recognized as a significant health issue with prevalence ranging between 4% and 16% (Glise et al., 2010; Höglund et al., 2020). Even though the most common diagnostic manuals ICD-11 and DSM-V contain definitions and categorizations such as post-traumatic stress, acute stress reaction and adjustment disorder, there is still a lack of consensus and well-defined terminology related to stress induced problems that are associated with relational conflicts, economic hardship, or work-related stressors. Another diagnosis close to stress-related disorders is Exhaustion Disorder (ED), which is similar to the concept of clinical burnout (van Dam, 2021). It is characterized by severe mental and physical fatigue, in combination with lack of initiative and endurance. Mental and physical effort in daily activities lead to long recovery periods and it is a common cause for workplace sick leave in Sweden (Lindsäter et al., 2022). Prolonged exposure to stress has direct effects on people's well-being and leads to immense costs for society (Grossi et al., 2015; Hassard et al., 2018; Kivimäki & Steptoe, 2018; Melchior et al., 2007). Despite these well-known and detrimental consequences, a majority of all individuals suffering from stress and other mental health-related disorders, remain untreated (Ebert et al., 2016). This calls for further development and evaluation of interventions that are accessible, cost-effective, and have the potential in reducing stress.

Two established methods for the treatment of mental health problems are Cognitive Behavior Therapy (CBT) and Mindfulness interventions. CBT is considered an evidence-based and cost-effective treatment method for common mental health problems that is often provided individually in face-to-face settings (Bhattacharya et al., 2023; Butler et al., 2006; Myhr & Payne, 2006). It incorporates behavioral and cognitive strategies with the addition of homework assignments between sessions (Wenzel et al., 2016). To this date it is the most researched psychotherapy method, although its effects for stress related problems have been less studied (Nakao et al., 2021). Mindfulness has its roots in Buddhist traditions and can be described as the psychological process of purposefully focusing attention on experiences occurring in the present moment (Kabat-Zinn, 2003). The ability to be mindful is considered a skill that can be trained through practice (Bishop et al., 2004) and mindfulness-based interventions are commonly used to increase wellbeing and treat mental health problems (Sverre et al., 2023). There are also correlational studies examining the role of mindfulness in relation to stress and quality of life (Javaid et al., 2023), some of which are showing that higher levels of present moment awareness and mindful attention can lead to lower levels of perceived stress and increased wellbeing (Hepburn et al., 2021). Further examinations of the amount and duration of mindfulness training and its effects on dispositional mindfulness scale measurements are also warranted (Quaglia et al., 2016).

There is a growing body of evidence to support the efficacy of stress management interventions (SMI) in different populations and on a wide range of outcomes, such as perceived stress, burnout, recovery, and quality of life (Bhui et al., 2012). SMIs based on CBT, have yielded the largest effect sizes (Cohen's $d = 1.16$), followed by mindfulness and relaxation-based interventions (Cohen's $d = 0.50$; Richardson & Rothstein, 2008). Common components in stress-focused CBT vary but interventions commonly include a rationale about stress and how to manage stressors, relaxation techniques, coping and activation techniques, cognitive restructuring, problems solving, and skills training in assertiveness and time management (Ghazavi et al., 2016).

Mindfulness-based stress reduction, focusing on mindfulness techniques (e.g., directed attention to bodily sensations, thoughts, feelings, and daily activities) has been found to reduce stress symptoms in non-clinical and clinical samples (Chiesa & Serretti, 2009; Shapiro et al., 2005; Smith et al., 2008) as well as in employees (Janssen et al., 2018) and students (Deshpande et al., 2023). Mindfulness has shown similar effects as CBT and pharmacological treatment for stress symptoms (Khoury et al., 2013). Mindfulness has also been incorporated into modern third-wave cognitive behavior therapy approaches, such as Acceptance and Commitment Therapy (ACT; Hayes, 2016), where it is used together with other concepts such as values and acceptance, aimed at increasing psychological flexibility and quality of life. There is data showing that incorporating value-based action in mindfulness interventions could enhance the effects of mindfulness (Christie et al., 2017). Previous trials (e.g., Michel et al., 2014) have also suggested that mindfulness could be an effective segmentation strategy to promote work–life balance for employees struggling with stress-related rumination and psychological preoccupation with work concerns. Although studied separately, few studies have examined the combined effects of integrated CBT and mindfulness-based stress reduction interventions.

Internet-based CBT (ICBT) is a well-established treatment format that offers increased access to effective psychological interventions for a wide range of mental health problems (Andersson, Titov, et al., 2019). Since one of the first studies on internet-based stress interventions (Zetterqvist et al., 2003) a growing body of literature has provided evidence of the efficacy in various populations (Andersson, Carlbring, et al., 2019). It has several advantages compared to face-to-face CBT, including being cost-effective by consuming less therapist time and reducing waiting times (Catarino et al., 2023), as well as being less emotionally stressful and bringing variety to a therapist's daily work (Weineland et al., 2020). The effects are long-lasting (Andersson et al., 2018) and similar to face-to-face treatment (Hedman-Lagerlöf et al., 2023). Meta-analyses have yielded small to moderate effects on outcomes of perceived stress, burnout, exhaustion, depression, and anxiety (Heber et al., 2016; Svärdman et al., 2022). Subgroup analyses have revealed greater improvement in guided interventions (Heber et al., 2017) and recent trials have suggested that ICBT stress interventions could have long-lasting effects (12 months post-treatment) and accelerate recovery and return to work (Asplund et al., 2023).

There are examples of studies on other disorders that have added mindfulness components in ICBT-programs (Carlbring et al., 2013) but to our knowledge few studies have evaluated the full integration of CBT and mindfulness components delivered in a concise internet-based format for perceived stress and symptoms of exhaustion. There is also a need for further knowledge about the association between the amount and length of mindfulness training in shorter treatment programs, and if increased mindfulness is associated with lower levels of perceived stress. The aim of the present study was to evaluate a six-week mindfulness-focused ICBT program for stress and its effects on stress, exhaustion, quality of life, and mindfulness, and the impact of mindfulness training in reducing stress and increasing experienced mindfulness. We hypothesized that the internet-based recovery program would produce greater improvements in perceived stress (primary outcome) compared with a waitlist control group. We also hypothesized that the intervention group would differ with regard to stress-related exhaustion and quality of life. Finally, we hypothesized that the ICBT mindfulness training would be associated with increased mindfulness levels and reduction in perceived stress.

Method

Design

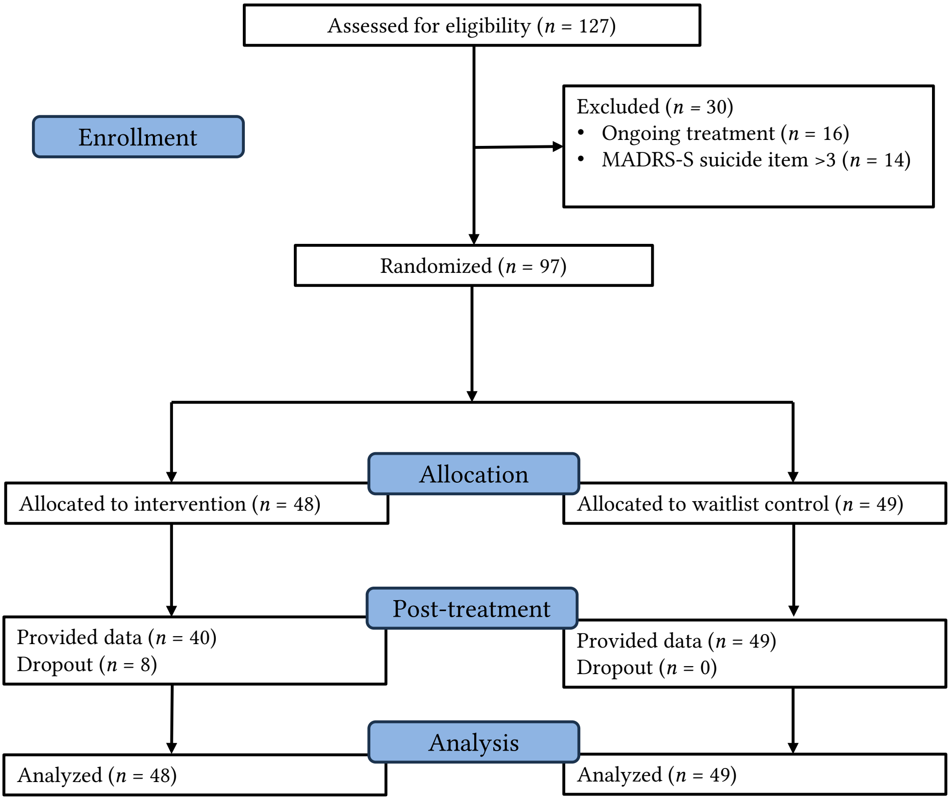
In this randomized controlled trial, participants were randomized to an internet-based mindfulness-focused ICBT program or a waitlist control group (WLC). The study followed Consolidated Standards of Reporting Trials (CONSORT) guidelines (Schulz et al., 2010) and was conducted between January 2017 and March 2017. Estimates of sample size were based on calculations in previous controlled trials on ICBT for stress (Ly et al., 2014) where a minimum of 66 participants was needed to achieve a power of 0.80 and detect an effect size of $d = 0.50$ (α level = .05). Self-report outcome measures were collected at pre- and post-treatment (six weeks). Participants who met the study criteria and provided informed consent were allocated randomly by an independent researcher using an online random generator (www.randomizer.org). Participants were randomized to either intervention or to a waitlist control condition. In addition to the pre- and post-assessment, participants reported the intensity of their mindfulness training every week. The study was part of a larger project investigating ICBT for stress and ethical approval was obtained from the local ethics committee (Reference No. 353-31).

Participants and Recruitment

Participants were recruited by self-referral. Information was distributed by information on websites and social media and by emailing student health centers and human resource staff in some organizations. Those interested in participating were invited to contact the research team by email to receive further information about the study and a link leading to a website with information about the study. Following the link enabled the possibility to give informed consent and answer questions for screening purposes as well as the forms included in the pre-treatment assessment. The questionnaire also included questions about if participants had been diagnosed with exhaustion disorder or another psychiatric diagnose in routine care. Exclusion criteria were ongoing alcohol or drug abuse, ongoing psychological treatment, and a rating of 3 or higher on item 9 (life desire) on the Montgomery Åsberg Depression Rating Scale (MADRS-S; Svanborg & Åsberg, 2001), indicating suicidal ideation. Of the 127 persons completing this phase, 30 were excluded mainly due to ongoing treatment or suicidal ideation. The flowchart of the study is displayed in Figure 1. Individuals with suicidal ideation that were excluded from the study were informed about appropriate help within the Swedish health care system. Participants did not receive any compensation for their participation in the study.

Figure 1

Flow Diagram of Participants in the Study



In total 97 persons from different parts of Sweden were included. Inclusion criteria were an age between 18 and 65 years, fluency in Swedish, basic computer skills, and the subjective experience of elevated levels of stress. The sample consisted predominantly of females with a mean age around forty years. Roughly one out of four participants reported that they had been diagnosed with stress-induced exhaustion disorder and among other self-reported diagnoses, depression was most prevalent. More detailed demographic information about the sample is shown in Table 1. During the intervention phase eight participants (8.2%) in the treatment group dropped out and none in the control group.

Table 1

Demographic Characteristics of Participants at Pre-Treatment

Baseline characteristics	**Intervention group (*n* = 48)**		**Control group (*n* = 49)**	
	M	***SD***	***M***	***SD***
Age	38.33	11.13	42.22	10.78
	n	*%*	***n***	*%*
Sex				
Female	41	85	42	86
Male	7	15	7	14
Comorbidity[a]				
Exhaustion disorder	12	25	14	29
Depression	8	17	7	14
Depression and GAD	5	10	6	12
Sleep disorder	1	2	1	2
Bipolarity and Panic disorder	1	2	0	0
Occupation				
Student	9	19	3	6
Full-time employee	23	48	32	65
Part-time employee	6	13	6	12
Job seeker	1	2	1	2
Student and employee	3	6	4	8
Sick leave (full time)	4	8	2	4
Sick leave (part time)	2	4	2	4
Level of education				
Elementary school	0	0	1	2
Upper secondary education, 1-2 years	0	0	4	8
Upper secondary education, 3-4 years	14	30	10	20
University- or college education, 3 years or less	9	18	8	16
University- or college education, >3 years or more	25	52	26	53
Country region				
Northern Sweden	8	17	16	33
Central Sweden	24	50	20	40
Southern Sweden	13	27	11	22
Overseas	3	6	2	4

[a] Self-rating in pre-treatment questionnaire of being diagnosed in routine care.

Primary Outcome Measure

The Perceived Stress Scale (PSS; Cohen et al., 1983) was used as primary outcome measure to assess the level of experienced stress. The PSS measures the degree to which situations in one's life are being perceived as stressful. The version used in the study had 14 items which focus on perceived stress during the last month. Individual scores can range from 0 to 56 with higher scores indicating higher perceived stress. The Swedish version of PSS-14 has shown to have good internal consistency (α = .84 – .90; Eklund et al., 2014). Versions of the scale are commonly used in research studies and it has been shown to be responsive to psychological treatment in internet-based interventions for stress (Svärdman et al., 2022; Zetterqvist et al., 2003). While normative population data for Sweden is unavailable, studies conducted in other countries have indicated mean scores ranging between 20.93 and 25.63 for the PSS-14 in various non-clinical sample groups (González-Ramírez et al., 2013).

Secondary Outcome Measures

Karolinska Exhaustion Disorder Scale (KEDS; Besèr et al., 2014) was used to assess exhaustion related consequences of prolonged stress. KEDS is designed to measure symptoms typical in exhaustion disorder, such as exhaustion, cognitive problems, poor sleep and reduced tolerance to further stress. The scale has 9 items, and each item is answered on a 7-point scale (0 – 6). Verbal descriptions are given to answering alternatives 0, 2, 4, and 6. The maximum score is 54 while the cut-off score for incidence of exhaustion disorder is 19. KEDS has good overall psychometric properties including excellent internal consistency (Cronbach's alpha, α = .94). Further, KEDS is able to discriminate between exhaustion, depression and anxiety (Besèr et al., 2014).

Brunnsviken Brief Quality of Life (BBQ; Lindner et al., 2016) is a self-rating scale for assessment of subjective quality of life. It consists of 12 statements within six areas of life considered relevant for the experience of quality of life. All items are answered on a 5-point scale (0 = don't agree at all to 4 = agree completely), but for a given area of life, satisfaction is rated first and then the importance of the area. Afterwards, scores for satisfaction and importance within respective area are multiplied. The maximum score is 96 implying a high level. The psychometric evaluation of the scale suggests good concurrent and convergent validity. Internal consistency is adequate (Cronbach's alpha, α = .76) and test-retest reliability is high (ICC = .82).

The Five Facets Mindfulness Questionnaire – Swedish version (FFMQ-SWE; Baer et al., 2008; Lilja et al., 2011) has been developed to assess the level of mindfulness. FFMQ-SWE has 29 items distributed on five subscales: Nonreactivity to inner experience, Observing, Acting with awareness, Describing and Nonjudging of experience. The items are rated on a 5-grade likert scale (1 = never or very seldom to 5 = always). The internal consistency for the global scale is good (Cronbach's alpha, α = .81). and it also has a high content validity (Lilja et al., 2011).

Montgomery Åsberg Depression Rating Scale (MADRS-S; Svanborg & Åsberg, 1994) is a widely used self-rating scale measuring depression. In this study, only item nine was used to allow exclusion due to suicidal ideation or low level of life desire.

In addition to the evaluation of treatment effects, the participants' experience considering the functionality of the internet treatment system was assessed by The System Usability Scale (SUS; Brooke, 1996). SUS is a 10-item scale composed of 10 statements scored on a 5-point scale with a final score ranging from 0 to 100. A higher score on the scale indicates better usability of a given product or service. A large empirical evaluation of SUS (Bangor et al., 2008) provided support for the validity of the scale as well as guidelines for the interpretation of the results. A Swedish version of the scale have existed and been used since 2011. There are currently no publications on the Swedish version, but translations to other languages have shown retained psychometric properties and conceptual equivalence (Hvidt et al., 2020).

The Intervention

The treatment program, *Stresshjälpen,* was developed by the private Swedish psychology company Psykologpartners. It contains CBT-components for the treatment of stress-related problems such as psychoeducation about stress, functional analysis of stressful situations, strategies for self-care and healthy habits, time-management strategies, how to handle perfectionism and setting up a plan for setbacks. Mindfulness components and weekly mindfulness exercises are integrated into the treatment from module two and onwards. The modules and their content are further described in Table 2. The intervention is delivered through six online modules containing text, video, audio, and free-form text input boxes. In the beginning of each new module, participants were asked to reflect upon the previous module and how they managed the homework assignments. To keep track of the participants' mood and motivational level, a few short questions in the end of each module were included covering quality of life, stress, compliance with the treatment and sleep problems.

The two therapists had access to the treatment content in advance and could familiarize themselves with the material. Therapists also underwent a two-day training program in internet-based CBT and had regular supervision with an ICBT-proficient clinical psychologist during the whole study. The study participants were instructed to complete one module per week, and they had access to the treatment website for eight weeks. Two-factor authentication was used for logging in and accessing the material. The communication between the therapists and the participants took place via a secure messaging function in the portal. Once a week the participants received a message with comments on their previous work and further instructions. Therapists aimed to motivate participants, validate and reinforce functional behavior, answer questions and solve problems. Participants who had not been logged in for a longer period were reminded by email or telephone.

Table 2

Description of the Content in Stresshjälpen

Module	Content
Module 1 – What is stress?	• Psychoeducation about stress • Stressful situations • Reactions in stressful situations • Homework: map current experiences of stress and coping strategies, and a 7-day diary with ratings of stress level
Module 2 – Functional analysis and mindfulness	• Functional analysis of stressful situations • Introduction to mindfulness • Homework: functional analysis and mindfulness exercises
Module 3 – Mindfulness and values	• Mindfulness • Values and valued living • Homework: values in specified life domains and mindfulness exercises
Module 4 – Self-care	• Committed action • Healthy habits: sleep, exercise, and healthy eating • Mindfulness to create healthy habits • Homework: change an important habit
Module 5 – Time-management and setting boundaries	• Time-management strategies • Values, functional analysis and strategies for setting boundaries • Homework: setting boundaries and mindfulness exercises
Module 6 – Maintaining treatment effects	• How to handle perfectionism • Summarize the treatment: lessons learned, obstacles and important behaviors • Create a maintenance plan and a plan for setbacks • Valued living

Procedure

There was no face-to-face contact between therapists and participants and all activities were conducted online. The intervention was delivered through a website and the assessments were done via an encrypted website. The randomization via randomizer.org resulted in 48 participants in the intervention group and 49 in the waitlist control group. The treatment started in January 2017 and continued to March 2017. After the post-assessment, participants in the control group were offered the online treatment.

All data analyses were carried out using IBM SPSS Statistics v.29 software. Pretreatment differences on demographic and outcome variables were analyzed with *t*-test and chi^2-test. Intention to treat (ITT) was employed by using multiple imputation to handle missing data including 20 imputations, as recommended by Enders (Enders, 2017). Analysis of Covariance (ANCOVA) was used with pre-treatment scores as covariates for all the self-report measures to investigate treatment effects (Vickers & Altman, 2001). Effect sizes with Cohen's *d* with confidence intervals were calculated based on the post-treatment imputed means. The relationship between mindfulness training (assessed weekly) and the change in the level of mindfulness from pre- to post-treatment was analyzed using Spearman's Rho, due to the skewed distribution of the number of training sessions and the total duration of training. The association between changes in mindfulness levels and experienced stress was analyzed using the Pearson correlation coefficient.

Results

Baseline Differences, Ratings of Usability, and Adherence

There were no differences between the study groups at the pretreatment considering demographic or outcome variables. The overall rating for the internet treatment system assessed by SUS was 86 points which is considered excellent (Bangor et al., 2008).

The average number of completed modules in the intervention group was 4.7 of six modules (*SD* = 2.26, range 0-6) and 71% (*n* = 34) of the participants completed all modules. The self-estimated number of times engaging in mindfulness sessions during the course of treatment was 18.7 (*SD* = 14.52, range 0-62) and the self-estimated time in minutes engaging in mindfulness was 73.68 minutes (*SD* = 78.76, range 0-376).

Treatment Effects

Means and standard deviations including ANCOVA *F*-values and effect sizes are presented in Table 3. A large between-group effect size was found at posttreatment, *d* = 0.79, 95% CI [0.36, 1.23], on the primary outcome PSS-14 measuring perceived levels of stress. The secondary outcome measure KEDS assessing exhaustion-related symptoms demonstrated a similar change. The ANCOVA was statistically significant with a moderate effect size of *d* = 0.65, 95% CI [0.24, 1.06]. For the BBQ measuring quality of life the ANCOVA was statistically significant, but with a smaller effect size of *d* = 0.40, 95% CI [0.03, 0.81]. Regarding the FFMQ-SWE measuring mindfulness there was an effect in favor of the treatment group with a moderate effect size of *d* = 0.66, 95% CI [0.26, 1.07]. The reported increase in the level of mindfulness was positively correlated with both the number of training sessions (*rho* = .38, *p* = .016) and the total duration of training (*rho* = .31, *p* = .049). There was also a significant negative correlation between reported changes in the level of mindfulness and experienced level of stress, respectively. Those achieving a higher level of mindfulness reported a larger decrease in their stress level ($r = .36$, $p = .023$).

Table 3

Means (M), Standard Deviations (SD), Effect Sizes (Cohen's d), and ANCOVA Results for Stress, Exhaustion, Quality of Life, and Mindfulness Measures in Treatment (n = 48) and Control (n = 49) Groups

Measure / Group	Pre *M*	Pre *SD*	Post *M*	Post *SD*	Cohen's *d*	ANCOVA *F*(1, 96)
PSS					0.79	28.4***
Treatment	33.09	6.66	23.46	8.98		
Control	33.96	6.24	29.82	7.04		
KEDS					0.65	25.3***
Treatment	26.06	8.94	18.33	9.17		
Control	27.45	8.14	23.95	7.93		
BBQ					0.40	6.4*
Treatment	44.90	18.22	54.37	19.89		
Control	42.82	16.78	46.80	17.27		
FFMQ-SWE					0.66	19.9***
Treatment	83.79	12.00	93.18	9.60		
Control	84.12	9.40	86.10	11.42		

Note. ANCOVA = analysis of covariance; PSS = Perceived Stress Scale; KEDS = Karolinska Exhaustion Disorder Scale; BBQ = Brunnsviken Brief Quality of Life; FFMQ-SWE = Five Facets of Mindfulness, Swedish version.
$^{*}p < .05$. $^{***}p < .001$.

Discussion

The present study evaluated the effects of a mindfulness-focused ICBT program on elevated stress- and exhaustion symptoms, and quality of life. The study also investigated the effect of the number of mindfulness sessions and the total amount of training with regard to changes in the level of mindfulness, as well as the association between changes in the level of mindfulness and symptoms of stress. The study results show that the treatment group reduced their perceived levels of stress, such as experiences of not having control and feelings of being overloaded, significantly more than the waitlist control group. This is in line with previous research on CBT-based stress management (Richardson & Rothstein, 2008), mindfulness interventions (Khoury et al., 2013), and results from other ICBT-studies, showing that digital interventions for stress related problems can be effective with moderate to large effect sizes (Svärdman et al., 2022). Results also showed that the intervention group had significant effects in comparison with the control group on symptoms of exhaustions, such as memory, ability to concentrate and fatigue. In Sweden, exhaustion disorder accounts for more instances of long-term sick leave than any other diagnose and there is a limited amount of treatment research and limited evidence (Lindsäter et al., 2022) The findings in this study adds to the literature showing that ICBT interventions have the potential to influence work related outcomes such as levels of exhaustion (Asplund et al., 2023) and can be a cost-effective treatment option (Lindsäter et al., 2019). We also investigated if the treatment program would increase quality of life compared to the waitlist control group, which it did. The significant small to moderate effect on quality of life is in line with the effects usually obtained in CBT-studies on this measure (Kolovos et al., 2016).

Despite the short period of time for the intervention, participants in the treatment group increased their level of mindfulness significantly compared to the waitlist during the program. This is interesting as mindfulness is known to take long time and much effort to practice before effects can be shown (Brand et al., 2012). We found that the amount of mindfulness training, both number of sessions and total length, was significantly associated with increased self-reported mindfulness. This finding is confirmed by meta-analytic evidence showing that training in mindfulness can affect the dimensions of mindfulness captured by FFMQ (Quaglia et al., 2016). It should be mentioned that there could be a methodological problem as the measure of amount of mindfulness practice was self-estimated and could be influenced by social desirability.

We also found that the level of mindfulness was significantly associated with reduced levels of perceived stress symptoms. This may be because individuals who improve their ability to have a non-reactive approach to inner experiences, and the ability to observe and describe the present situation in a non-judging manner, experience less stress symptoms. This is in line with previous literature (Chiesa & Serretti, 2009; Shapiro et al., 2005; Smith et al., 2008) showing an effect of mindfulness techniques on reduced level of perceived stress symptoms in a clinical as well as a non-clinical population. Nevertheless, due to the absence of information regarding the direction of this association, it is equally plausible that reduced stress symptoms heighten individuals' awareness of their internal context.

Compared to other internet-based treatment programs, the intervention used in this study was less text-driven, shorter in length (length and number of modules) and developed to be interactive and motivating to work with for participants. There is indicative evidence that more condensed internet-based interventions are equally as effective (Karlsson-Good et al., 2023) and it could also be that the user experience had an effect on motivation and the use of treatment content, which is supported by the fact that the overall rating of the user experience was considered excellent by participants (Bangor et al., 2008). This topic needs to be further investigated, as the use of technology for increased effect and compliance in digital interventions are still under-researched (Balcombe & Leo, 2022; Wildeboer et al., 2016).

The limitations and strengths in the present study should be mentioned. First, there were no follow-up measurement. Thus, long-term effects were not measured which should be valuable to investigate in future studies. However, the robust design of RCT and the high number of individuals who completed the program are strengths in the study. The study also has high generalizability to the clinical population as the inclusion criteria for individuals recruited in the study were broad and there were no exclusions of individuals due to comorbidity. A possible limitation is the inclusion of a subclinical population as there are no norms available for PSS-14 and we did not exclude participants based on a certain lower threshold on the scale, although the data from this sample shows that the participants experienced elevated levels of perceived stress and exhaustion comparable to what is seen in other studies (Asplund et al., 2018). Other limitations are the possibility of selection bias using an open recruitment strategy and that we have no information on the direction of the associations being studied and they should therefore be interpreted with caution.

The present randomized controlled study provides knowledge that a mindfulness-focused ICBT stress program can reduce perceived stress and symptoms of exhaustion, and also increase quality of life and the experience of mindfulness. This shows that short internet-based interventions combining CBT and mindfulness have the potential to lessen the burden of stress-related problems.

Funding: The authors have no funding to report.

Acknowledgments: The authors would like to thank Psykologpartners for providing the ICBT-program *Stresshjälpen* that was used in this study.

Competing Interests: Ella Radvogin and Kristofer Vernmark were employed by Psykologpartners at the time of the study.

Ethics Statement: The study protocol was approved by the local ethics board (Reference No. 353-31).

Preregistration: The trial was not preregistered.

Reporting Guidelines: The study followed Consolidated Standards of Reporting Trials (CONSORT) guidelines.

Data Availability: Data, material and analysis methods from the trial can be made available for other researchers upon request.

References

Andersson, G., Carlbring, P., Titov, N., & Lindefors, N. (2019). Internet interventions for adults with anxiety and mood disorders: A narrative umbrella review of recent meta-analyses. *Canadian Journal of Psychiatry, 64*(7), 465–470. https://doi.org/10.1177/0706743719839381

Andersson, G., Rozental, A., Shafran, R., & Carlbring, P. (2018). Long-term effects of internet-supported cognitive behaviour therapy. *Expert Review of Neurotherapeutics, 18*(1), 21–28. https://doi.org/10.1080/14737175.2018.1400381

Andersson, G., Titov, N., Dear, B. F., Rozental, A., & Carlbring, P. (2019). Internet-delivered psychological treatments: From innovation to implementation. *World Psychiatry, 18*(1), 20–28. https://doi.org/10.1002/wps.20610

Asplund, R. P., Asplund, S., von Buxhoeveden, H., Delby, H., Eriksson, K., Gerhardsson, M. S., Palm, J., Skyttberg, T., Torstensson, J., Ljótsson, B., Carlbring, P., & Andersson, G. (2023). Work-focused versus generic internet-based interventions for employees with stress-related disorders: Randomized controlled trial. *Journal of Medical Internet Research, 25*, Article e34446. https://doi.org/10.2196/34446

Asplund, R. P., Dagöö, J., Fjellström, I., Niemi, L., Hansson, K., Zeraati, F., Ziuzina, M., Geraedts, A., Ljótsson, B., Carlbring, P., & Andersson, G. (2018). Internet-based stress management for distressed managers: Results from a randomised controlled trial. *Occupational and Environmental Medicine, 75*(2), 105–113. https://doi.org/10.1136/oemed-2017-104458

Atroszko, P. A., Demetrovics, Z., & Griffiths, M. D. (2020). Work addiction, obsessive-compulsive personality disorder, burn-out, and global burden of disease: Implications from the ICD-11. *International Journal of Environmental Research and Public Health, 17*(2), Article 660. https://doi.org/10.3390/ijerph17020660

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., Walsh, E., Duggan, D., & Williams, J. M. G. (2008). Construct validity of the Five Facet Mindfulness Questionnaire in meditating and nonmeditating samples. *Assessment, 15*(3), 329–342. https://doi.org/10.1177/1073191107313003

Balcombe, L., & Leo, D. D. (2022). Human-computer interaction in digital mental health. *Informatics, 9*(1), Article 14. https://doi.org/10.3390/informatics9010014

Bangor, A., Kortum, P. T., & Miller, J. T. (2008). An empirical evaluation of the System Usability Scale. *International Journal of Human-Computer Interaction, 24*(6), 574–594. https://doi.org/10.1080/10447310802205776

Besèr, A., Sorjonen, K., Wahlberg, K., Peterson, U., Nygren, Å., & Åsberg, M. (2014). Construction and evaluation of a self rating scale for stress-induced exhaustion disorder, the Karolinska Exhaustion Disorder Scale. *Scandinavian Journal of Psychology, 55*(1), 72–82. https://doi.org/10.1111/sjop.12088

Bhattacharya, S., Goicoechea, C., Heshmati, S., Carpenter, J. K., & Hofmann, S. G. (2023). Efficacy of cognitive behavioral therapy for anxiety-related disorders: A meta-analysis of recent literature. *Current Psychiatry Reports, 25*(1), 19–30. https://doi.org/10.1007/s11920-022-01402-8

Bhui, K. S., Dinos, S., Stansfeld, S. A., & White, P. D. (2012). A synthesis of the evidence for managing stress at work: A review of the reviews reporting on anxiety, depression, and absenteeism. *Journal of Environmental and Public Health, 2012*, Article 515874. https://doi.org/10.1155/2012/515874

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230–241. https://doi.org/10.1093/clipsy.bph077

Brand, S., Holsboer-Trachsler, E., Naranjo, J. R., & Schmidt, S. (2012). Influence of mindfulness practice on cortisol and sleep in long-term and short-term meditators. *Neuropsychobiology, 65*(3), 109–118. https://doi.org/10.1159/000330362

Brooke, J. (1996). SUS: A "quick and dirty" usability scale. In P. Jordan, B. Thomas, & B. Weerdmeester (Eds.), *Usability evaluation in industry* (pp. 189–194). Taylor & Francis.

Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioral therapy: A review of meta-analyses. *Clinical Psychology Review, 26*(1), 17–31. https://doi.org/10.1016/j.cpr.2005.07.003

Carlbring, P., Hägglund, M., Luthström, A., Dahlin, M., Kadowaki, Å., Vernmark, K., & Andersson, G. (2013). Internet-based behavioral activation and acceptance-based treatment for depression: A randomized controlled trial. *Journal of Affective Disorders, 148*(2–3), 331–337. https://doi.org/10.1016/j.jad.2012.12.020

Catarino, A., Harper, S., Malcolm, R., Stainthorpe, A., Warren, G., Margoum, M., Hooper, J., Blackwell, A. D., & Welchman, A. E. (2023). Economic evaluation of 27,540 patients with mood and anxiety disorders and the importance of waiting time and clinical effectiveness in mental healthcare. *Nature Mental Health, 1*(9), 667–678. https://doi.org/10.1038/s44220-023-00106-z

Chiesa, A., & Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: A review and meta-analysis. *Journal of Alternative and Complementary Medicine, 15*(5), 593–600. https://doi.org/10.1089/acm.2008.0495

Christie, A. M., Atkins, P. W. B., & Donald, J. N. (2017). The meaning and doing of mindfulness: The role of values in the link between mindfulness and well-being. *Mindfulness, 8*(2), 368–378. https://doi.org/10.1007/s12671-016-0606-9

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Journal of the American Medical Association, 298*(14), 1685–1687. https://doi.org/10.1001/jama.298.14.1685

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Deshpande, A. G., Johnson, J. R., Casta, A. M., Marien, M. S., & Reiff, M. (2023). The impact of a mindfulness-based stress reduction program on university students' mental health: A mixed-methods evaluation. *Journal of American College Health.* Advance online publication. https://doi.org/10.1080/07448481.2023.2198028

Ebert, D. D., Lehr, D., Heber, E., Riper, H., Cuijpers, P., & Berking, M. (2016). Internet- and mobile-based stress management for employees with adherence-focused guidance: Efficacy and mechanism of change. *Scandinavian Journal of Work, Environment & Health, 42*(5), 382–394. https://doi.org/10.5271/sjweh.3573

Eklund, M., Bäckström, M., & Tuvesson, H. (2014). Psychometric properties and factor structure of the Swedish version of the Perceived Stress Scale. *Nordic Journal of Psychiatry, 68*(7), 494–499. https://doi.org/10.3109/08039488.2013.877072

Enders, C. K. (2017). Multiple imputation as a flexible tool for missing data handling in clinical research. *Behaviour Research and Therapy, 98*, 4–18. https://doi.org/10.1016/j.brat.2016.11.008

Ghazavi, Z., Rahimi, E., Yazdani, M., & Afshar, H. (2016). Effect of cognitive behavioral stress management program on psychosomatic patients' quality of life. *Iranian Journal of Nursing and Midwifery Research, 21*(5), 510–515. https://doi.org/10.4103/1735-9066.193415

Glise, K., Hadzibajramovic, E., Jonsdottir, I. H., & Ahlborg, G. (2010). Self-reported exhaustion: A possible indicator of reduced work ability and increased risk of sickness absence among human service workers. *International Archives of Occupational and Environmental Health, 83*(5), 511–520. https://doi.org/10.1007/s00420-009-0490-x

González-Ramírez, M. T., Rodríguez-Ayán, M. N., & Hernández, R. L. (2013). The Perceived Stress Scale (PSS): Normative data and factor structure for a large-scale sample in Mexico. *The Spanish Journal of Psychology, 16*, Article E47. https://doi.org/10.1017/sjp.2013.35

Grossi, G., Perski, A., Osika, W., & Savic, I. (2015). Stress-related exhaustion disorder – Clinical manifestation of burnout? A review of assessment methods, sleep impairments, cognitive disturbances, and neuro-biological and physiological changes in clinical burnout. *Scandinavian Journal of Psychology, 56*(6), 626–636. https://doi.org/10.1111/sjop.12251

Hassard, J., Teoh, K. R. H., Visockaite, G., Dewe, P., & Cox, T. (2018). The cost of work-related stress to society: A systematic review. *Journal of Occupational Health Psychology, 23*(1), 1–17. https://doi.org/10.1037/ocp0000069

Hayes, S. C. (2016). Acceptance and commitment therapy, relational frame theory, and the third wave of behavioral and cognitive therapies – Republished article. *Behavior Therapy, 47*(6), 869–885. https://doi.org/10.1016/j.beth.2016.11.006

Heber, E., Ebert, D. D., Lehr, D., Cuijpers, P., Berking, M., Nobis, S., & Riper, H. (2017). The benefit of web- and computer-based interventions for stress: A systematic review and meta-analysis. *Journal of Medical Internet Research, 19*(2), Article e32. https://doi.org/10.2196/jmir.5774

Heber, E., Lehr, D., Ebert, D. D., Berking, M., & Riper, H. (2016). Web-based and mobile stress management intervention for employees: A randomized controlled trial. *Journal of Medical Internet Research, 18*(1), Article e21. https://doi.org/10.2196/jmir.5112

Hedman-Lagerlöf, E., Carlbring, P., Svärdman, F., Riper, H., Cuijpers, P., & Andersson, G. (2023). Therapist-supported Internet-based cognitive behaviour therapy yields similar effects as face-to-face therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis. *World Psychiatry, 22*(2), 305–314. https://doi.org/10.1002/wps.21088

Hepburn, S.-J., Carroll, A., & McCuaig, L. (2021). The relationship between mindful attention awareness, perceived stress and subjective wellbeing. *International Journal of Environmental Research and Public Health, 18*(23), Article 12290. https://doi.org/10.3390/ijerph182312290

Höglund, P., Hakelind, C., & Nordin, S. (2020). Severity and prevalence of various types of mental ill-health in a general adult population: Age and sex differences. *BMC Psychiatry, 20*, Article 209. https://doi.org/10.1186/s12888-020-02557-5

Hvidt, J. C. S., Christensen, L. F., Sibbersen, C., Helweg-Jørgensen, S., Hansen, J. P., & Lichtenstein, M. B. (2020). Translation and validation of the System Usability Scale in a Danish mental health setting using digital technologies in treatment interventions. *International Journal of Human-Computer Interaction, 36*(8), 709–716. https://doi.org/10.1080/10447318.2019.1680922

Janssen, M., Heerkens, Y., Kuijer, W., van der Heijden, B., & Engels, J. (2018). Effects of Mindfulness-Based Stress Reduction on employees' mental health: A systematic review. *PLoS One, 13*(1), Article e0191332. https://doi.org/10.1371/journal.pone.0191332

Javaid, Z. K., Mahmood, K., & Ali, A. A. (2023). Mediating role of mindfulness between quality of life and workplace stress among working women: Quality of life and workplace stress among working women. *Journal of Workplace Behavior, 4*(1), 68–80. https://charisma-jwb.com/index.php/jwb/article/view/170https://doi.org/10.25215/0604.079

Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*(2), 144–156. https://doi.org/10.1093/clipsy.bpg016

Karlsson-Good, M., Kaldo, V., Lundberg, L., Kraepelien, M., Anthony, S. A., & Holländare, F. (2023). Increasing the accessibility to internet-based cognitive behavioural therapy for depression: A single-blind randomized controlled trial of condensed versus full-text versions. *Internet Interventions, 34*, Article 100678. https://doi.org/10.1016/j.invent.2023.100678

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Chapleau, M.-A., Paquin, K., & Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review, 33*(6), 763–771. https://doi.org/10.1016/j.cpr.2013.05.005

Kivimäki, M., & Steptoe, A. (2018). Effects of stress on the development and progression of cardiovascular disease. *Nature Reviews Cardiology, 15*(4), 215–229. https://doi.org/10.1038/nrcardio.2017.189

Kolovos, S., Kleiboer, A., & Cuijpers, P. (2016). Effect of psychotherapy for depression on quality of life: Meta-analysis. *The British Journal of Psychiatry, 209*(6), 460–468. https://doi.org/10.1192/bjp.bp.115.175059

Lilja, J. L., Frodi-Lundgren, A., Hanse, J. J., Josefsson, T., Lundh, L.-G., Sköld, C., Hansen, E., & Broberg, A. G. (2011). Five Facets Mindfulness Questionnaire—Reliability and Factor structure: A Swedish version. *Cognitive Behaviour Therapy, 40*(4), 291–303. https://doi.org/10.1080/16506073.2011.580367

Lindner, P., Frykheden, O., Forsström, D., Andersson, E., Ljótsson, B., Hedman, E., Andersson, G., & Carlbring, P. (2016). The Brunnsviken Brief Quality of Life Scale (BBQ): Development and psychometric evaluation. *Cognitive Behaviour Therapy, 45*(3), 182–195. https://doi.org/10.1080/16506073.2016.1143526

Lindsäter, E., Axelsson, E., Salomonsson, S., Santoft, F., Ljótsson, B., Åkerstedt, T., Lekander, M., & Hedman-Lagerlöf, E. (2019). Cost-effectiveness of therapist-guided internet-based cognitive behavioral therapy for stress-related disorders: Secondary analysis of a randomized controlled trial. *Journal of Medical Internet Research, 21*(9), Article e14675. https://doi.org/10.2196/14675

Lindsäter, E., Svärdman, F., Wallert, J., Ivanova, E., Söderholm, A., Fondberg, R., Nilsonne, G., Cervenka, S., Lekander, M., & Rück, C. (2022). Exhaustion disorder: Scoping review of research on a recently introduced stress-related diagnosis. *BJPsych Open, 8*(5), Article e159. https://doi.org/10.1192/bjo.2022.559

Ly, K. H., Asplund, K., & Andersson, G. (2014). Stress management for middle managers via an acceptance and commitment-based smartphone application: A randomized controlled trial. *Internet Interventions, 1*(3), 95–101. https://doi.org/10.1016/j.invent.2014.06.003

Melchior, M., Caspi, A., Milne, B. J., Danese, A., Poulton, R., & Moffitt, T. E. (2007). Work stress precipitates depression and anxiety in young, working women and men. *Psychological Medicine, 37*(8), 1119–1129. https://doi.org/10.1017/S0033291707000414

Michel, A., Bosch, C., & Rexroth, M. (2014). Mindfulness as a cognitive–emotional segmentation strategy: An intervention promoting work–life balance. *Journal of Occupational and Organizational Psychology, 87*(4), 733–754. https://doi.org/10.1111/joop.12072

Myhr, G., & Payne, K. (2006). Cost-effectiveness of cognitive-behavioural therapy for mental disorders: Implications for public health care funding policy in Canada. *Canadian Journal of Psychiatry, 51*(10), 662–670. https://doi.org/10.1177/070674370605101006

Nakao, M., Shirotsuki, K., & Sugaya, N. (2021). Cognitive–behavioral therapy for management of mental health and stress-related disorders: Recent advances in techniques and technologies. *BioPsychoSocial Medicine, 15*(1), Article 16. https://doi.org/10.1186/s13030-021-00219-w

Parsaei, R., Roohafza, H., Feizi, A., Sadeghi, M., & Sarrafzadegan, N. (2020). How different stressors affect quality of life: An application of multilevel latent class analysis on a large sample of industrial employees. *Risk Management and Healthcare Policy, 13*, 1261–1270. https://doi.org/10.2147/RMHP.S256800

Quaglia, J. T., Braun, S. E., Freeman, S. P., McDaniel, M. A., & Brown, K. W. (2016). Meta-analytic evidence for effects of mindfulness training on dimensions of self-reported dispositional mindfulness. *Psychological Assessment, 28*(7), 803–818. https://doi.org/10.1037/pas0000268

Richardson, K. M., & Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology, 13*(1), 69–93. https://doi.org/10.1037/1076-8998.13.1.69

Schulz, K. F., Altman, D. G., Moher, D., & Group, C. (2010). CONSORT 2010 Statement: Updated guidelines for reporting parallel group randomised trials. *BMC Medicine, 8*(1), Article 18. https://doi.org/10.1186/1741-7015-8-18

Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management, 12*(2), 164–176. https://doi.org/10.1037/1072-5245.12.2.164

Smith, B. W., Shelley, B. M., Dalen, J., Wiggins, K., Tooley, E., & Bernard, J. (2008). A pilot study comparing the effects of mindfulness-based and cognitive-behavioral stress reduction. *Journal of Alternative and Complementary Medicine, 14*(3), 251–258. https://doi.org/10.1089/acm.2007.0641

Svanborg, P., & Åsberg, M. (1994). A new self-rating scale for depression and anxiety states based on the Comprehensive Psychopathological Rating Scale. *Acta Psychiatrica Scandinavica, 89*(1), 21–28. https://doi.org/10.1111/j.1600-0447.1994.tb01480.x

Svanborg, P., & Åsberg, M. (2001). A comparison between the Beck Depression Inventory (BDI) and the self-rating version of the Montgomery Åsberg Depression Rating Scale (MADRS). *Journal of Affective Disorders, 64*(2–3), 203–216. https://doi.org/10.1016/S0165-0327(00)00242-1

Svärdman, F., Sjöwall, D., & Lindsäter, E. (2022). Internet-delivered cognitive behavioral interventions to reduce elevated stress: A systematic review and meta-analysis. *Internet Interventions, 29*, Article 100553. https://doi.org/10.1016/j.invent.2022.100553

Sverre, K. T., Nissen, E. R., Farver-Vestergaard, I., Johannsen, M., & Zachariae, R. (2023). Comparing the efficacy of mindfulness-based therapy and cognitive-behavioral therapy for depression in head-to-head randomized controlled trials: A systematic review and meta-analysis of equivalence. *Clinical Psychology Review, 100*, Article 102234. https://doi.org/10.1016/j.cpr.2022.102234

van Dam, A. (2021). A clinical perspective on burnout: Diagnosis, classification, and treatment of clinical burnout. *European Journal of Work and Organizational Psychology, 30*(5), 732–741. https://doi.org/10.1080/1359432X.2021.1948400

Vickers, A. J., & Altman, D. G. (2001). Analysing controlled trials with baseline and follow up measurements. *BMJ, 323*(7321), Article 1123. https://doi.org/10.1136/bmj.323.7321.1123

Weineland, S., Ribbegårdh, R., Kivi, M., Bygdell, A., Larsson, A., Vernmark, K., & Lilja, J. L. (2020). Transitioning from face-to-face treatment to iCBT for youths in primary care – Therapists' attitudes and experiences. *Internet Interventions, 22*, Article 100356. https://doi.org/10.1016/j.invent.2020.100356

Wenzel, A., Dobson, K. S., & Hays, P. A. (2016). Introduction. In *Cognitive behavioral therapy techniques and strategies* (pp. 3–14). https://doi.org/10.1037/14936-001

Wildeboer, G., Kelders, S. M., & van Gemert-Pijnen, J. E. W. C. (2016). The relationship between persuasive technology principles, adherence and effect of web-based interventions for mental health: A meta-analysis. *International Journal of Medical Informatics, 96*, 71–85. https://doi.org/10.1016/j.ijmedinf.2016.04.005

Zetterqvist, K., Maanmies, J., Ström, L., & Andersson, G. (2003). Randomized controlled trial of internet-based stress management. *Cognitive Behaviour Therapy, 32*(3), 151–160. https://doi.org/10.1080/16506070302316

EACLIPT

Clinical Psychology in Europe (CPE) is the official journal of the European Association of Clinical Psychology and Psychological Treatment (EACLIPT).

leibniz-psychology.org

PsychOpen GOLD is a publishing service by Leibniz Institute for Psychology (ZPID), Germany.

Clinical Psychology in Europe

PsychOpen GOLD

Research Articles

Longitudinal Associations of Experiential and Reflective Dimensions of Meaning in Life With Psychopathological Symptoms

Albert Anoschin[1], Michael K. Zürn[2], Carina Remmers[1]

[1] *Department of Psychology, Institute for Mental Health and Behavioral Medicine, HMU Health and Medical University Potsdam, Potsdam, Germany.* **[2]** *Nuremberg Institute for Market Decisions (NIM), Nuremberg, Germany.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e11381, https://doi.org/10.32872/cpe.11381

Received: 2023-02-14 • **Accepted:** 2024-05-06 • **Published (VoR):** 2024-09-30

Handling Editor: Cornelia Weise, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

Corresponding Author: Albert Anoschin, HMU Health and Medical University Potsdam, Schiffbauergasse 14, 14467 Potsdam, Germany. E-mail: albert.anoschin@hmu-potsdam.de

Supplementary Materials: Data, Materials, Preregistration [see Index of Supplementary Materials]

Abstract

Background: Rather than being rooted in deliberate reflection, the experience of meaning has been shown to evolve from intuitive processes (Heintzelman & King, 2013b, https://doi.org/10.1007/978-94-007-6527-6_7). Accordingly, experiential and reflective dimensions of meaning in life can be distinguished (Hill et al., 2019, https://doi.org/10.1080/09515070.2018.1434483). In this preregistered study, we explored how these dimensions are longitudinally associated with psychopathological symptoms. We expected that experiencing more meaning would predict fewer depressive symptoms and fewer personality functioning impairments six months later, whereas reflecting about meaning would predict more psychopathological symptoms.

Method: A German-speaking sample of N = 388 completed self-report measures assessing meaning in life, depression, and personality functioning at baseline and six months later.

Results: Controlling for depression at baseline, elevated levels of experiencing meaning in life predicted a decrease in depressive symptoms. Experiencing meaning did not predict personality functioning impairments six months later. However, exploratory analyses with a larger sample tentatively showed that experiencing meaning in life predicted less impairments in personality functioning. Evidence supporting the hypothesized association between reflection and future depression as well as future personality functioning impairments was discerned through exploratory analyses. Generalizability of results to clinical care settings is limited due to the studied non-clinical sample. No causal conclusions can be drawn from the data because the study employed an observational design with two assessment points.

Conclusion: Experiencing meaning in life emerged as a potential protective factor against future psychopathological symptoms, whereas exploratory analyses pointed to an opposite relationship for reflection about meaning in life. Results are discussed with regard to clinical implications and directions for future research.

Keywords

meaning in life, reflection, depression, personality functioning, longitudinal study

Highlights

- Increased experience of meaning in life may contribute to a reduction in depressive symptoms and personality functioning impairments.
- Preliminary evidence suggests that reflection about meaning is associated with future personality functioning impairments and depressive symptoms.
- Further investigation of bi-directional relationships between meaning in life and psychopathology is suggested.

Experiencing one’s life as meaningful is associated with adaptive coping (Miao et al., 2017; Ward et al., 2023), physical health (Czekierda et al., 2017; Hooker et al., 2018) and various indicators of psychosocial well-being. These include self-esteem, goal attainment, satisfaction with life and satisfaction with interpersonal relationships (J.-B. Li et al., 2021; Morgan & Robinson, 2013; Schultheiss, 2021; Soucase et al., 2023). Conversely, existential meaninglessness goes along with adverse mental health outcomes, such as depression, suicidal ideation and addictive behaviors (Hu et al., 2022; W. Li et al., 2020; Schnell et al., 2018). Are existential crises merely by-products of depression, or is meaning in life a relevant marker that predicts the extent to which a person will suffer from depression in the future? Despite its clinical relevance, only few studies have investigated this question longitudinally (Dulaney et al., 2018; Krause, 2007; Mascaro & Rosen, 2008; Park et al., 2020). For instance, Mascaro and Rosen (2008) performed a cross-lagged panel analysis with $N = 395$ students and found that higher levels of meaning were significantly associated with less depressive symptoms two months later. Although the authors used multiple instruments to assess meaning in life, they combined these measurements into one ‘global sense of meaning’ factor. A recent account by Hill et al. (2019), however, suggests that a core distinction between the reflective and experiential dimension of meaning in life should be made. Cross-sectional findings indicate that these dimensions are differentially related to psychopathology (Remmers et al., 2023). With the current study, we aimed to investigate the presumably differential contributions of experiencing meaning and reflecting about meaning to future psychological impairment.

Experiencing and Reflecting on Meaning and the Association With Psychopathology

Research on meaning in life has so far mostly dealt with the question how people *construct* meaning (for an overview see Park, 2010). This line of research emphasizes that meaning in life is something people must establish actively. However, the subjective sense of life being meaningful may be experienced in the absence of deliberate meaning making (Heintzelman & King, 2013b). Hill et al. (2019) proposed a framework with two distinct meaning in life dimensions termed *experience* and *reflection,* fitting with the idea that experiencing meaning can be dissociated from cognitive occupation with meaning. This conceptualization is in line with dual-process theories of cognition (Thompson et al., 2011) that differentiate experiential and affective processing modes from abstract, reflective processing modes. Clinical accounts point to a differential adaptivity of these processing modes when faced with stressful experiences (Watkins et al., 2008). Prior research has shown that the experience of meaning arises from an intuitive process which enables persons to recognize coherent patterns in their experiences and environments (Heintzelman & King, 2013a). This intuitive process operates unconsciously, fast and associatively. As a result, intuitions of coherence and meaning are phenomenologically experienced as “knowing something without knowing how one knows” (Bowers et al., 1990; Topolinski & Strack, 2009). Given the fast and easy nature of the underlying process, detecting coherence automatically feels right (Thompson et al., 2011) and positive (Topolinski & Strack, 2008). When no meaning is found intuitively, a deliberate reflective process may follow (Thompson et al., 2011). Ironically, trying to find rational explanations why life has meaning may neither be conducive to psychological functioning nor to perceiving meaning on an experiential level (J.-B. Li et al., 2021; Topolinski & Strack, 2008). Several studies show that people who report searching for meaning also experience being more depressed, less happy and less satisfied with life (Soucase et al., 2023; Steger et al., 2006, 2009). In a similar fashion, reflective thought about meaning may be maladaptive in some individuals (Watkins & Roberts, 2020), because it overrides intuitive meaning cues and disrupts the subjective experience of meaning (Remmers et al., 2023; Topolinski & Strack, 2008).

The Current Study

We aimed to determine whether experience of meaning in life and reflection on meaning in life prospectively predict depressive symptoms over a time-period of six months. In a recent cross-sectional study, experiencing meaning was negatively associated with depression, whereas reflecting on meaning showed a positive association with depression (Remmers et al., 2023). The aim of the current study was to elucidate such differential relationships longitudinally. If experiencing meaning turns out to be prognostically favorable for mental health, this would tentatively suggest that practitioners should focus on the experiential level when designing interventions. If, at the same time, a positive longitudinal association between reflection and depression were found, this would support the view that increased cognitive preoccupation with topics of meaning in life may be detrimental to mental health.

We expected that the hypothesized associations would not be specific to depression but generalize to personality functioning impairments as a global indicator of psychopathology. Personality functioning refers to a person's ability to regulate the self and interpersonal relationships. Impairments in self-other regulation are to be expected in persons with various psychopathological symptoms (Friborg et al., 2014). The construct of personality functioning impairments accommodates recent dimensional conceptualizations of psychopathology (Caspi & Moffitt, 2018; Forbes et al., 2021) and lies at the core of the diagnostic approach to personality pathology in the ICD-11 and the Alternative DSM-5 Model for Personality Disorders (Bach et al., 2020; Bach & Simonsen, 2021). Some authors propose that personality functioning represents the p-factor explaining a general vulnerability for psychopathology (Bender, 2019).

Hypotheses

In our preregistered hypotheses, we expected more experience of meaning in life at baseline (T1) to predict less depression and less impairments in personality functioning six months later (T2). Conversely, we expected that participants' propensity to reflect about meaning in life at T1 would be predictive of more depressive symptoms and greater personality functioning impairments at T2. Importantly, in all our analyses we controlled for baseline levels of psychopathological symptoms, as we were interested in the unique predictive value of experiential and reflective dimensions of meaning in life. The study design was preregistered prior to follow-up data collection[1] (Remmers et al., 2022S).

Method

Sample

Participants were recruited via Prolific (www.prolific.co), an online participant pool for academic research. All measures were administered online. Participants provided informed consent and were compensated for participation. The follow-up study was displayed on the Prolific website only to persons who participated in the baseline assessment (*N* = 1,189; see Remmers et al., 2023). These participants could choose to participate

---

[1] Note that additional hypotheses regarding the predictive role of intuitive coherence detection for meaning in life and psychopathology were preregistered. As these associations were not of interest for the current thrust, we opted not to report them in the present article.

at follow-up voluntarily, but were not actively contacted or requested to participate. From the baseline sample, *n* = 538 participants completed the follow-up assessment (response rate: 45%).

In our preregistration we stated that analyses should only include participants who took part within the first two weeks of the baseline assessment. We hereby aimed to keep the time interval constant between baseline and follow-up. Confirmatory hypothesis tests reported below pertain to this preregistered sample, which consisted of *n* = 388 participants. Within this analyzed sample (Age: *M* = 27, *SD* = 9), 69% identified as female, 29% identified as male and 2% identified as non-binary. 33% of the participants had a university degree, 6% had an advanced technical certificate, 52% had a high-school degree, 7% had a secondary school degree and 1% had a lower secondary school degree.

Since the procedure to only include participants from the first two weeks of the baseline assessment resulted in a loss of statistical power, we decided to relax our preregistered restriction in a second step and conducted further analyses with the total follow-up sample (*n* = 538). Within the total sample, the median interval between baseline and follow-up assessment was 202 days (range: 164 to 238 days), which corresponds to approximately 6.66 months. The higher-powered analyses with the full sample are reported in the Exploratory Analyses section.

Procedure

The study was part of a larger research project which was approved by the ethics committee of the Freie Universität Berlin (proposal number 005/2019).

Baseline (T1)

At baseline, participants filled out questionnaires in randomized order, assessing meaning in life, depression and personality functioning impairments. Additional self-report instruments and a behavioral task were employed, which were not relevant for the current study and are detailed in Remmers et al. (2023). Participants were reimbursed immediately after completing the baseline assessment.

Follow-up (T2)

The follow-up assessment was made available six months later for participants who completed the baseline assessment. The same self-report instruments that assessed the meaning in life dimensions and psychopathology were re-applied.

Measures

Meaning in Life

Experience of meaning in life and reflection on meaning in life were assessed with the German translation (Anoschin et al., 2022) of the Meaning in Life Measure (Hill et al., 2019). Participants rated their agreement to eight items on a 9-point Likert scale (exemplary experience item: “I experience my life as meaningful”; exemplary reflection item: “I think about what gives me meaning”). Verbal markers were placed at the scale points 1 (“strongly disagree”), 5 (“neutral”) and 9 (“strongly agree”). We computed McDonald’s ω as reliability estimate, yielding ω = .75 for the experience scale and ω = .85 for the reflection scale.

Depressive Symptoms

The German version of the 8-item Patient Health Questionnaire was used to assess presence of depressive symptoms at baseline and follow-up (PHQ-8; Kroenke et al., 2009). Participants rated items on a 4-point Likert scale that queried depressive symptoms in the past two weeks (e.g., “feeling tired or having little energy”). When used as a screening instrument, a cutoff point ≥ 10 can be applied to detect current major depression with high diagnostic accuracy (Wu et al., 2020). Reliability of the PHQ-8 in the present study was ω = 86.

Personality Functioning Impairments

We used the Level of Personality Functioning Scale Brief Form (LPFS-BF; Spitzer et al., 2021) to assess impairments in personality functioning. Participants rated 12 items on a 4-point Likert scale (e.g., “I often think very badly of myself”). The measure showed a reliability of ω = .88.

Systematic Dropout

To explore systematic dropout, we investigated whether and with respect to which variables participants (from the first two weeks of the baseline assessment) who participated in the follow-up assessment differed from participants (from the two first weeks of baseline assessment) not participating in the follow-up assessment. We found that participants who participated at T2 were significantly older, $t(767.39) = 3.85$, $p < .001$; $M_\Delta =$ 2 years, reported less depressive symptoms, $t(797.73) = -2.27$, $p = .024$; $M_\Delta = -0.9$, and less impairments in personality functioning, $t(788.46) = -2.48$, $p = .013$, $M_\Delta = -1.16$. Age and psychopathological symptoms were significantly correlated, with older participants reporting a lower burden ($r = -.22$, $p < .001$ for PHQ-8; $r = -.24$, $p < .001$ for LPFS-BF). Due to this data pattern, and conforming to our preregistration, we conducted regression analyses with a full information maximum likelihood approach (FIML), including age as an auxiliary variable (Enders, 2008; Graham, 2003).

Results

Descriptive statistics and zero-order correlations for the self-report measures across both time-points are summarized in Table 1 and Table 2, respectively. Descriptive statistics for the full sample are listed in Anoschin et al., 2024S, Table S1. Experience of meaning in life scores (M_{t1} = 6.05, M_{t2} = 6.03) were descriptively above the scale midpoint of 5, but lower than scores observed by Hill et al. (2019) in two US samples (M_{Study1} = 7.45, M_{Study2} = 7.13). Reflection scores (M_{t1} = 6.50, M_{t2} = 6.19) were within a similar range to those observed by Hill et al. (M_{Study1} = 6.52, M_{Study2} = 6.74). We noted a substantial prevalence of depressive symptoms in our studied sample. When applying the recommended PHQ-8 cutoff ≥ 10 (Kroenke et al., 2009), 48% of participants screened positive for major depression at baseline, and 43% at follow-up. Scores of the LPFS-BF corresponded to norm values of T = 64 at baseline and T = 63 at follow-up, indicating above-average impairments in personality functioning within our sample (Spitzer et al., 2021).

Table 1

Descriptive Statistics of Meaning in Life and Psychopathology Measures (N = 388)

	Baseline	Follow-Up
Measures	***M* (*SD*)**	***M* (*SD*)**
Meaning in Life		
Experience	6.05 (1.45)	6.03 (1.39)
Reflection	6.50 (1.57)	6.19* (1.69)
Depression	9.78 (5.51)	9.02* (4.79)
Personality Functioning	27.15 (6.77)	25.60* (6.90)

Note. Asterisks indicate significant differences in scores between baseline and follow-up assessments (based on paired t-tests, p < .001). Meaning in Life: scale means of MILM (possible range: 1 – 9); Depression: scale sums of PHQ-8 (possible range: 0 – 24); Personality Functioning: scale sums of LPFS-BF (possible range: 12 – 48, higher scores reflect greater impairment).

Confirmatory Hypotheses Testing

We preregistered OLS regression analyses with two-sided significance tests[2] (Remmers et al., 2022S). In each model, the dependent variable at T2 was regressed on the independent variable at T1, controlling for effects of the dependent variable at T1. As hypothesized, lower levels of experienced meaning in life at T1 significantly predicted more depressive symptoms at T2 (six months later), controlling for depressive symptoms at T1. In

---

[2] We did not conduct an a priori power analysis because the achievable sample size was limited by the number of persons who participated in the baseline assessment. A post-hoc sensitivity analysis showed that, given our sample size and an alpha error probability of α = .05, an effect size of f^2 = .02 would be required to be detectable with a power of .80.

Table 2

Bivariate Correlations Among Study Variables for Both Assessment Time Points (N = 388)

Measures	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. T1 MIL Experience	–	0.19***	-0.48***	-0.58***	0.69***	0.12*	-0.40***	-0.49***
2. T1 MIL Reflection		–	0.18***	0.13*	0.10	0.63***	0.15**	0.15**
3. T1 Depression			–	0.69***	-0.44***	0.12*	0.68***	0.61***
4. T1 Personality Functioning				–	-0.50***	0.12*	0.58***	0.79***
5. T2 MIL Experience					–	0.17***	-0.47***	-0.52***
6. T2 MIL Reflection						–	0.10*	0.14**
7. T2 Depression							–	0.66***
8. T2 Personality Functioning								–

Note. MIL: Meaning in Life (MILM; Hill et al., 2019); Depression: PHQ-8 (Kroenke et al., 2009); Personality Functioning: LPFS-BF (Spitzer et al., 2021).
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

contrast, experienced meaning in life at T1 did not significantly predict impairments in personality functioning at T2. We further hypothesized that higher levels of reflection on meaning in life would be associated with more psychopathological symptoms six months later. However, reflection did not significantly predict future depression nor future personality functioning impairments when statistically controlling for psychopathology at T1. The results of the regression analyses are summarized in Table 3 and Table 4.

Table 3

Regression Analyses Predicting Depressive Symptoms at T2 From Experienced Meaning in Life and Reflection on Meaning in Life Assessed Six Months Prior, at T1

	T2 Depression							
	Model 1				**Model 2**			
Measures	**β**	**95% CI**	***p***	***f*^{2}**	**β**	**95% CI**	***p***	***f*^{2}**
T1 Depression	.641	[.574, .708]	< .001	0.601	.680	[.627, .732]	< .001	0.846
T1 MIL Experience	-.093	[-.177, -.009]	.031	0.014				
T1 MIL Reflection					.033	[-.043, .109]	.389	0.002
R^2	.477				.471			

Note. Regression analyses are based on observed variables and were computed with the full-information maximum likelihood method using a sample of $N = 800$ at T1 and $N = 388$ at T2. Age was entered as an auxiliary variable. *p* statistics are based on two-tailed tests as preregistered. MIL: Meaning in Life (MILM; Hill et al., 2019); Depression: PHQ-8 (Kroenke et al., 2009).

Table 4

Regression Analyses Predicting Personality Functioning Impairments at T2 From Experienced Meaning in Life and Reflection on Meaning in Life Assessed Six Months Prior, at T1

	T2 Personality Functioning							
	Model 1				Model 2			
Measures	**β**	**95% CI**	***p***	***f*²**	**β**	**95% CI**	***p***	***f*²**
T1 Pers. Func.	.761	[.704, .818]	< .001	0.960	.778	[.742, .814]	< .001	1.551
T1 MIL Experience	-.042	[-.119, .036]	.295	0.003				
T1 MIL Reflection					.053	[-.011, .116]	.105	0.007
R^2		.616				.617		

Note. Regression analyses are based on observed variables and were computed with the full-information maximum likelihood method using a sample of $N = 800$ at T1 and $N = 388$ at T2. Age was entered as an auxiliary variable. p statistics are based on two-tailed tests as preregistered. MIL: Meaning in Life (MILM; Hill et al., 2019); Pers. Func.: Personality Functioning Impairments (LPFS-BF; Spitzer et al., 2021).

Non-Preregistered Exploratory Analyses

For exploratory purposes, we reconducted our analyses including experienced meaning in life and reflection on meaning in life simultaneously as predictors into one regression model. As we aimed to increase power, regression models were computed with the total follow up-sample of $n_{T2} = 538$. Given this sample size, it would be possible to detect an effect of $f^2 = .014$ with a power of .80. This procedure resulted in two linear regression models, one with depression at T2 and one with personality functioning T2 as dependent variables. Again, T1 levels of psychopathology were entered as control variable and age was entered as auxiliary variable using the FIML approach. Exploratory analyses confirmed the negative and significant association of experiencing meaning in life at T1 with depressive symptoms at T2 (β = -.133, 95% CI [-0.205, -0.061], $p < .001$, $f^2 = 0.023$), when controlling for reflection and depressive symptoms at T1. In contrast to our preregistered analyses but in line with our hypothesis, experiencing meaning in life at T1 significantly predicted less personality functioning impairments at T2 (β = -.085, 95% CI [-0.156, -0.014], $p = .019$, $f^2 = 0.010$), controlled for reflection and personality functioning at T1. Furthermore, deviating from the results of the preregistered analysis but in line with our hypothesis, reflection about meaning in life at T1 was now significantly and positively associated with depression at T2 (β = .085, 95% CI [0.021, 0.149], $p = .009$, $f^2 = 0.010$), and with personality functioning impairments at T2 (β = .072, 95% CI [0.014, 0.131], $p = .016$, $f^2 = 0.010$). Regression tables for these analyses are presented in Anoschin et al., 2024S (Table S2 and Table S3).

In a further step, we explored bidirectional effects between experienced meaning in life, reflection on meaning in life and psychopathology. For this purpose, we fitted two separate cross-lagged structural equation models (SEM) that included meaning in life experience and reflection at T2 as dependent variables. Effects of meaning in life at T1 on psychopathology at T2 were significant and consistent with the exploratory analyses reported above. Additionally, the cross-lagged models indicated significant negative associations between depression at T1 and experience of meaning in life at T2 (β = -.151, 95% CI [-0.223, -0.078], $p < .001$). Depression at T1 was not significantly associated with reflection about meaning in life at T2 ($p = .523$). Similarly, personality functioning impairments at T1 predicted lower experienced meaning in life at T2 (β = -.178, 95% CI [-0.252, -0.103], $p < .001$), but were not significantly associated with reflection about meaning in life at T2 ($p = .085$). SEMs are illustrated in Anoschin et al., 2024S (Figure S1 and Figure S2).

Discussion

In this preregistered longitudinal study, we examined whether experiential and reflective dimensions of meaning in life would uniquely predict psychopathology six months later in a general population sample. Participants in our online sample presented with varying levels of depression severity and impairments in personality functioning. As hypothesized, we found that participants who experienced more meaning in life reported fewer depressive symptoms six months later, even after controlling for baseline levels of depression. This observation underscores the potential clinical relevance of meaning in life. It is consistent with research suggesting that a diminished experience of life being meaningful may act as a risk factor for the onset or worsening of depressive symptoms (Glaw et al., 2017; Steger, 2022). Conversely, our data suggests that fostering the experience of meaning in life, even in the presence of depressive symptoms, may aid in symptom reduction over time.

Assuming that the benefit of experiencing meaning in life extends beyond depressive symptomatology, we hypothesized that a heightened experience of meaning would predict fewer subsequent impairments in personality functioning. Our preregistered analyses did not support this hypothesis. However, when relaxing our preregistered constraints and conducting our analyses in a larger sample, we discovered a significant negative association between experienced meaning in life and future personality functioning impairments, aligning with our hypothesis. Should this finding be reproducible and robust, it would emphasize that undergoing an existential crisis could not only pose a risk for developing depressive symptoms but may ultimately result in disturbances of self and interpersonal functioning.

It must be noted that in regression analyses, symptom severity at baseline explained a large proportion of variance in symptom severity at follow-up. In comparison, the unique predictive effects of meaning in life on future psychopathology were very small. We suppose that this pattern of results is attributable to conceptual and statistical overlaps between the studied constructs. For example, it is conceivable that core symptoms of depression, such as feeling hopeless, are strongly negatively associated with aspects of meaning in life, such as having a goal in life. Hence, the true contribution of meaning in life to the progression of psychopathological symptoms may be underestimated when both variables are entered simultaneously into a regression model. We advise to take into account the substantial zero-order correlations when assessing the clinical relevance of meaning in life for predicting future mental health outcomes (see Table 2).

In the current study, we focused on potential benefits and drawbacks of meaning in life within the context of prospective psychological impairments. Contrasting with cross-lagged findings reported by Mascaro and Rosen (2008), we also found preliminary evidence for bidirectional effects. Personality functioning impairments and depression at baseline were associated with less experienced meaning at follow-up. Although this does not confirm a causal relationship, it is conceivable that greater interpersonal and self-regulatory ability may strengthen the experience of meaning in life. Potential mediators of this effect may be greater positive mood and better satisfaction of basic psychological needs, such as the need for social relatedness (Autin et al., 2022; Demirbaş-Çelik & Keklik, 2019; Martela et al., 2018). The absence of such experiences that occurs in psychopathology is likely to unfold negative prospective effects on the experience of meaning in life. Conversely, the experience of meaning in life seems to promote positive mood and adequate self-regulation, thereby protecting against psychopathology (Dulaney et al., 2018; Miao et al., 2017). Future studies should explore in more detail the directional dynamics between self- and interpersonal functioning, need satisfaction, and the experience of meaning. Daily diary and experience sampling designs are promising approaches for such endeavor (Kaurin et al., 2023).

Is Reflection About Meaning Harmful?

Both at baseline and follow-up, more psychopathological symptoms were associated with heightened reflection about meaning in life. This cross-sectional finding suggests that a “low experience, high reflection” pattern might evolve as a trans-diagnostic marker for psychopathology such as depression and impaired personality functioning (see also Remmers et al., 2023). This raises the question about prospective effects of reflection. The literature suggests that persons suffering from depression lack experiential sources of meaning, such as fulfilling social contacts, daily routines or elaborated life goals (King & Hicks, 2021). This condition may lead them to be more preoccupied with the topic of meaning in life (Cohen & Cairns, 2012). However, it is unclear whether reflection about meaning contributes to depressive symptoms. Although reflection did not emerge as significant predictor in our preregistered analyses, exploratory analyses in a larger sample provide preliminary evidence for a positive link between reflection about meaning in life and future psychopathology.

Ultimately, *how* one reflects about meaning in life may be more important than *how much* one reflects about it. For example, it is conceivable that abstract ruminative thinking about meaning in life exacerbates depressive symptoms (Watkins & Roberts, 2020), and such maladaptive cognitive schemas are more likely to be found in persons who already suffer from depression. Future studies should therefore explore how reflection about meaning interacts with self-regulatory success when symptom severity, cognitive schemas and maladaptive personality traits are taken into account (Kerber et al., 2022). In contrast, reflecting upon practical sources of meaning in daily life may be beneficial for attending to these sources in the future (Takano & Tanno, 2009; Watkins et al., 2008). When reflection is therapeutically guided, it might predate better metacognitive insight into one's troubles and turn out as an indicator for recovery and reinstatement of meaning (Lysaker & Klion, 2017).

Clinical Implications

Whereas experiencing meaning in life was predictive of a lower symptom burden, reflection about meaning in life was associated with more psychopathological symptoms cross-sectionally and, to a limited extent, longitudinally. Moreover, reflection about meaning in life was not significantly associated with future experiencing of meaning (see Table 2 and Anoschin et al., 2024S). We tentatively conclude that therapeutic approaches seem promising which encourage individuals to explore new contexts where meaning can be intuitively experienced (Hirsh, 2013; Shin & Steger, 2014). This suggestion is in line with research highlighting the importance of experiential appreciation for meaning in life (Kim et al., 2022).

One mechanism under discussion through which meaning in life exerts beneficial effects (e.g., Dulaney et al., 2018) is the stress buffer hypothesis (He et al., 2023). For instance, Eisenbeck et al. (2022) found that meaning-centered coping strategies were the best predictors of lower psychological distress and greater well-being during the COVID-19 pandemic. Importantly, the authors went beyond mere cognitive aspects when defining meaning-centered coping. They explicitly included behavioral and emotional manifestations of meaning in life, such as life appreciation, pro-sociality and engagement in meaningful activities. Therefore, interventions that promote meaningful action may prove effective in the treatment of depression and personality pathology (Eakman, 2014; Van Tongeren et al., 2016). Despite being recognized as an important factor for understanding the dynamics of psychopathology (Steger, 2022), little attention has been paid to the systematic investigation of meaning in life in psychotherapeutic settings. Future research should establish how meaning is co-created within a therapeutic relationship (Summers, 2001) and how patients may benefit from meaning-centered interventions (e.g., Böhmer et al., 2022; Breitbart et al., 2015).

Regarding reflection about meaning, it must be highlighted that reflection is not synonymous with comprehension. Hence, reflection could be misguided in certain contexts, for instance, when it is ruminative (Watkins & Roberts, 2020). An affective component is strongly implied in the subjective experience of meaning (Hicks et al., 2010). Therefore, to experience meaning, it might not suffice to abstractly reflect about it.

Limitations

The generalizability of our results to the clinical context is limited because we drew our sample from the general population. Notably, an unusually large proportion of our sample reported clinically relevant levels of psychopathology, which could be attributable to greater psychological distress observed during the COVID-19 pandemic (Daly & Robinson, 2022) or to peculiarities of the online participant pool (Ophir et al., 2020). In addition, participants were not actively reminded to take part in the follow-up assessment, and this procedure may have introduced self-selection bias. Furthermore, only two assessment time-points were employed, limiting conclusions about temporal dynamics between the investigated constructs. Future research should explore in more temporal detail the covariation of experienced meaning, reflection on meaning and psychopathology. For example, ecological momentary assessments (Kaurin et al., 2023; Steger & Kashdan, 2013) may provide much needed empirical insights about within-person mechanisms on a timescale of days or even hours. Our conclusions may be further limited by the moderate reliability of the utilized “experience of meaning in life” subscale. Future studies could consider longer scales that tend to reach higher internal consistency. Additionally, experimental designs should be employed to test causal hypotheses formulated on the basis of the present results. For example, one could induce reflection on meaning in life and compare the effects on measures of affect and well-being between healthy participants and those undergoing treatment.

Conclusion

The present findings imply that the experience of meaning in life could aid in the reduction of depressive symptoms, and possibly personality functioning impairments over time. Conversely, psychopathological symptoms may reduce the experience of meaning in the future, as indicated by exploratory cross-lagged analyses. Cross-sectionally, a greater depressive burden is accompanied by increased reflection about meaning in life. Our data tentatively suggests that reflection is also longitudinally associated with depressive symptoms and personality functioning impairments. However, further studies are needed to conclude whether reflection may be causally linked to an exacerbation of psychopathological symptoms. Scholars and practitioners may be well advised to consider the role of both reflective and experiential components of meaning in life for symptom change.

Funding: This research received funding from the internal grant program (project IFF 2022-17) of the Faculty of Health at Witten/Herdecke University, Germany.

Acknowledgments: We would like to thank Sebastian Unger for his help with data collection and conduction of the study. We thank Charlotte Vetten for assistance with proofreading.

Competing Interests: The authors have declared that no competing interests exist.

Author Contributions: MZ and CR conceptualized the study and coordinated the assessment. MZ and AA conducted the data analyses. AA and CR drafted the manuscript. All authors critically revised the manuscript and approved the final version to be published.

Ethics Statement: The study was approved as part of a research project by the ethics committee of the Freie Universität Berlin (proposal number 005/2019).

Reporting Guidelines: In writing the manuscript, we followed the JARS-Quant reporting standards for studies using no experimental manipulation.

Data Availability: The raw data supporting the conclusions of this article is available in an online repository on the Open Science Framework (OSF) (see Remmers et al., 2024S).

Supplementary Materials

The Supplementary Materials contain the following items:

- The preregistration for the study (Remmers et al., 2022S)
- The raw data supporting the conclusions of the article (Remmers et al., 2024S)
- Additional information: The supplementary file includes descriptive statistics and regression tables for the full sample of n = 538 participants. Additionally, it includes exploratory SEMs testing longitudinal bi-directional associations between meaning in life and psychopathology measures (Anoschin et al., 2024S).

Index of Supplementary Materials

Anoschin, A., Zürn, M. K., & Remmers, C. (2024S). *Supplementary materials to "Longitudinal associations of experiential and reflective dimensions of meaning in life with psychopathological symptoms"* [Additional information]. PsychOpen GOLD. https://doi.org/10.23668/psycharchives.15036

Remmers, C., Zimmermann, J., Topolinski, S., & Zürn, M. K. (2022S). *Intuition and meaning in life in persons with varying level of depressive symptoms and impairments in personality functioning: A follow-up study* [Preregistration]. OSF Registries. https://osf.io/3zprc

Remmers, C., Zürn, M. K., Topolinski, S., Zimmermann, J., & Anoschin, A. (2024S). *Intuition and meaning in life in persons with varying level of depressive symptoms and impairments in personality functioning* [Research data]. OSF. https://osf.io/8fx9s

References

Anoschin, A., Zimmermann, J., & Remmers, C. (2022). *Validation of the German Version of the Meaning in Life Measure* [Manuscript in preparation]. Preregistration available at https://osf.io/5b6rp

Autin, K. L., Herdt, M. E., Garcia, R. G., & Ezema, G. N. (2022). Basic psychological need satisfaction, autonomous motivation, and meaningful work: A self-determination theory perspective. *Journal of Career Assessment, 30*(1), 78–93. https://doi.org/10.1177/10690727211018647

Bach, B., Kerber, A., Aluja, A., Bastiaens, T., Keeley, J. W., Claes, L., Fossati, A., Gutierrez, F., Oliveira, S. E. S., Pires, R., Riegel, K. D., Rolland, J. P., Roskam, I., Sellbom, M., Somma, A., Spanemberg, L., Strus, W., Thimm, J. C., Wright, A. G. C., & Zimmermann, J. (2020). International assessment of DSM-5 and ICD-11 personality disorder traits: Toward a common nosology in DSM-5.1. *Psychopathology, 53*(3–4), 179–188. https://doi.org/10.1159/000507589

Bach, B., & Simonsen, S. (2021). How does level of personality functioning inform clinical management and treatment? Implications for ICD-11 classification of personality disorder severity. *Current Opinion in Psychiatry, 34*(1), 54–63. https://doi.org/10.1097/YCO.0000000000000658

Bender, D. S. (2019). The P-Factor and what it means to be human: Commentary on Criterion A of the AMPD in HiTOP. *Journal of Personality Assessment, 101*(4), 356–359. https://doi.org/10.1080/00223891.2018.1492928

Böhmer, M. C., la Cour, P., & Schnell, T. (2022). A randomized controlled trial of the Sources of Meaning Card Method: A new meaning-oriented approach predicts depression, anxiety, pain acceptance, and crisis of meaning in patients with chronic pain. *Pain Medicine, 23*(2), 314–325. https://doi.org/10.1093/pm/pnab321

Bowers, K. S., Regehr, G., Balthazard, C., & Parker, K. (1990). Intuition in the context of discovery. *Cognitive Psychology, 22*(1), 72–110. https://doi.org/10.1016/0010-0285(90)90004-N

Breitbart, W., Rosenfeld, B., Pessin, H., Applebaum, A., Kulikowski, J., & Lichtenthal, W. G. (2015). Meaning-centered group psychotherapy: An effective intervention for improving psychological well-being in patients with advanced cancer. *Journal of Clinical Oncology, 33*(7), 749–754. https://doi.org/10.1200/JCO.2014.57.2198

Caspi, A., & Moffitt, T. E. (2018). All for one and one for all: Mental disorders in one dimension. *The American Journal of Psychiatry, 175*(9), 831–844. https://doi.org/10.1176/appi.ajp.2018.17121383

Cohen, K., & Cairns, D. (2012). Is searching for meaning in life associated with reduced subjective well-being? Confirmation and possible moderators. *Journal of Happiness Studies, 13*(2), 313–331. https://doi.org/10.1007/s10902-011-9265-7

Czekierda, K., Banik, A., Park, C. L., & Luszczynska, A. (2017). Meaning in life and physical health: Systematic review and meta-analysis. *Health Psychology Review, 11*(4), 387–418. https://doi.org/10.1080/17437199.2017.1327325

Daly, M., & Robinson, E. (2022). Depression and anxiety during COVID-19. *Lancet, 399*(10324), 518. https://doi.org/10.1016/S0140-6736(22)00187-8

Demirbaş-Çelik, N., & Keklik, İ. (2019). Personality factors and meaning in life: The mediating role of competence, relatedness and autonomy. *Journal of Happiness Studies, 20*(4), 995–1013. https://doi.org/10.1007/s10902-018-9984-0

Dulaney, E. S., Graupmann, V., Grant, K. E., Adam, E. K., & Chen, E. (2018). Taking on the stress-depression link: Meaning as a resource in adolescence. *Journal of Adolescence, 65*(1), 39–49. https://doi.org/10.1016/j.adolescence.2018.02.011

Eakman, A. M. (2014). A prospective longitudinal study testing relationships between meaningful activities, basic psychological needs fulfillment, and meaning in life. *OTJR: Occupational Therapy Journal of Research, 34*(2), 93–105. https://doi.org/10.3928/15394492-20140211-01

Eisenbeck, N., Carreno, D. F., Wong, P. T. P., Hicks, J. A., María, R.-R. G., Puga, J. L., Greville, J., Testoni, I., Biancalani, G., López, A. C. C., Villareal, S., Enea, V., Schulz-Quach, C., Jansen, J., Sanchez-Ruiz, M.-J., Yıldırım, M., Arslan, G., Cruz, J. F. A., Sofia, R. M., . . . García-Montes, J. M. (2022). An international study on psychological coping during COVID-19: Towards a meaning-centered coping style. *International Journal of Clinical and Health Psychology, 22*(1), Article 100256. https://doi.org/10.1016/j.ijchp.2021.100256

Enders, C. K. (2008). A note on the use of missing auxiliary variables in full information maximum likelihood-based structural equation models. *Structural Equation Modeling, 15*(3), 434–448. https://doi.org/10.1080/10705510802154307

Forbes, M. K., Sunderland, M., Rapee, R. M., Batterham, P. J., Calear, A. L., Carragher, N., Ruggero, C., Zimmerman, M., Baillie, A. J., Lynch, S. J., Mewton, L., Slade, T., & Krueger, R. F. (2021). A detailed hierarchical model of psychopathology: From individual symptoms up to the general factor of psychopathology. *Clinical Psychological Science, 9*(2), 139–168. https://doi.org/10.1177/2167702620954799

Friborg, O., Martinsen, E. W., Martinussen, M., Kaiser, S., Overgård, K. T., & Rosenvinge, J. H. (2014). Comorbidity of personality disorders in mood disorders: A meta-analytic review of 122 studies from 1988 to 2010. *Journal of Affective Disorders, 152–154*, 1–11. https://doi.org/10.1016/j.jad.2013.08.023

Glaw, X., Kable, A., Hazelton, M., & Inder, K. (2017). Meaning in life and meaning of life in mental health care: An integrative literature review. *Issues in Mental Health Nursing, 38*(3), 243–252. https://doi.org/10.1080/01612840.2016.1253804

Graham, J. W. (2003). Adding missing-data-relevant variables to FIML-based structural equation models. *Structural Equation Modeling, 10*(1), 80–100. https://doi.org/10.1207/S15328007SEM1001_4

He, X.-X., Wang, X.-q., Steger, M. F., Ji, L.-J., Jing, K., Liu, M.-f., & Ye, B.-j. (2023). Meaning in life and psychological distress: A meta-analysis. *Journal of Research in Personality, 104*, Article 104381. https://doi.org/10.1016/j.jrp.2023.104381

Heintzelman, S. J., & King, L. A. (2013a). On knowing more than we can tell: Intuitive processes and the experience of meaning. *The Journal of Positive Psychology, 8*(6), 471–482. https://doi.org/10.1080/17439760.2013.830758

Heintzelman, S. J., & King, L. A. (2013b). The origins of meaning: Objective reality, the unconscious mind, and awareness. In J. A. Hicks & C. Routledge (Eds.), *The experience of meaning in life* (pp. 87–99). Springer Netherlands. https://doi.org/10.1007/978-94-007-6527-6_7

Hicks, J. A., Cicero, D. C., Trent, J., Burton, C. M., & King, L. A. (2010). Positive affect, intuition, and feelings of meaning. *Journal of Personality and Social Psychology, 98*(6), 967–979. https://doi.org/10.1037/a0019377

Hill, C. E., Kline, K. V., Miller, M., Marks, E., Pinto-Coelho, K., & Zetzer, H. (2019). Development of the Meaning in Life Measure. *Counselling Psychology Quarterly, 32*(2), 205–226. https://doi.org/10.1080/09515070.2018.1434483

Hirsh, J. B. (2013). Meaning and the horizon of interpretation: How goals structure our experience of the world. In J. A. Hicks & C. Routledge (Eds.), *The experience of meaning in life: Classical perspectives, emerging themes, and controversies* (pp. 129–139). Springer Netherlands. https://doi.org/10.1007/978-94-007-6527-6_10

Hooker, S. A., Masters, K. S., & Park, C. L. (2018). A meaningful life is a healthy life: A conceptual model linking meaning and meaning salience to health. *Review of General Psychology, 22*(1), 11–24. https://doi.org/10.1037/gpr0000115

Hu, Q., Liu, Q., & Wang, Z. (2022). Meaning in life as a mediator between interpersonal alienation and smartphone addiction in the context of Covid-19: A three-wave longitudinal study. *Computers in Human Behavior, 127*, Article 107058. https://doi.org/10.1016/j.chb.2021.107058

Kaurin, A., King, K. M., & Wright, A. G. C. (2023). Studying personality pathology with ecological momentary assessment: Harmonizing theory and method. *Personality Disorders, 14*(1), 62–72. https://doi.org/10.1037/per0000596

Kerber, A., Schultze, M., Müller, S., Rühling, R. M., Wright, A. G. C., Spitzer, C., Krueger, R. F., Knaevelsrud, C., & Zimmermann, J. (2022). Development of a short and ICD-11 compatible measure for DSM-5 maladaptive personality traits using ant colony optimization algorithms. *Assessment, 29*(3), 467–487. https://doi.org/10.1177/1073191120971848

Kim, J., Holte, P., Martela, F., Shanahan, C., Li, Z., Zhang, H., Eisenbeck, N., Carreno, D. F., Schlegel, R. J., & Hicks, J. A. (2022). Experiential appreciation as a pathway to meaning in life. *Nature Human Behaviour, 6*, 677–690. https://doi.org/10.1038/s41562-021-01283-6

King, L. A., & Hicks, J. A. (2021). The science of meaning in life. *Annual Review of Psychology, 72*(1), 561–584. https://doi.org/10.1146/annurev-psych-072420-122921

Krause, N. (2007). Evaluating the stress-buffering function of meaning in life among older people. *Journal of Aging and Health, 19*(5), 792–812. https://doi.org/10.1177/0898264307304390

Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B. W., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders, 114*(1–3), 163–173. https://doi.org/10.1016/j.jad.2008.06.026

Li, J.-B., Dou, K., & Liang, Y. (2021). The relationship between presence of meaning, search for meaning, and subjective well-being: A three-level meta-analysis based on the Meaning in Life Questionnaire. *Journal of Happiness Studies, 22*(1), 467–489. https://doi.org/10.1007/s10902-020-00230-y

Li, W., Dorstyn, D. S., & Jarmon, E. (2020). Identifying suicide risk among college students: A systematic review. *Death Studies, 44*(7), 450–458. https://doi.org/10.1080/07481187.2019.1578305

Lysaker, P. H., & Klion, R. E. (2017). *Recovery, meaning-making, and severe mental illness: A comprehensive guide to metacognitive reflection and insight therapy*. Routledge. https://doi.org/10.4324/9781315447001

Martela, F., Ryan, R. M., & Steger, M. F. (2018). Meaningfulness as satisfaction of autonomy, competence, relatedness, and beneficence: Comparing the four satisfactions and positive affect as predictors of meaning in life. *Journal of Happiness Studies, 19*(5), 1261–1282. https://doi.org/10.1007/s10902-017-9869-7

Mascaro, N., & Rosen, D. H. (2008). Assessment of existential meaning and its longitudinal relations with depressive symptoms. *Journal of Social and Clinical Psychology, 27*(6), 576–599. https://doi.org/10.1521/jscp.2008.27.6.576

Miao, M., Zheng, L., & Gan, Y. (2017). Meaning in life promotes proactive coping via positive affect: A daily diary study. *Journal of Happiness Studies, 18*(6), 1683–1696. https://doi.org/10.1007/s10902-016-9791-4

Morgan, J., & Robinson, O. (2013). Intrinsic aspirations and personal meaning across adulthood: Conceptual interrelations and age/sex differences. *Developmental Psychology, 49*(5), 999–1010. https://doi.org/10.1037/a0029237

Ophir, Y., Sisso, I., Asterhan, C. S. C., Tikochinski, R., & Reichart, R. (2020). The Turker Blues: Hidden factors behind increased depression rates among Amazon's Mechanical Turkers. *Clinical Psychological Science, 8*(1), 65–83. https://doi.org/10.1177/2167702619865973

Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin, 136*(2), 257–301. https://doi.org/10.1037/a0018301

Park, C. L., Knott, C. L., Williams, R. M., Clark, E. M., Williams, B. R., & Schulz, E. (2020). Meaning in life predicts decreased depressive symptoms and increased positive affect over time but does not buffer stress effects in a national sample of African-Americans. *Journal of Happiness Studies, 21*(8), 3037–3049. https://doi.org/10.1007/s10902-019-00212-9

Remmers, C., Zürn, M., Anoschin, A., Topolinski, S., & Zimmermann, J. (2023). Intuition and meaning in life in persons with varying level of depressive symptoms and impairments in personality functioning. *Journal of Clinical Psychology, 79*(5), 1398–1419. https://doi.org/10.1002/jclp.23487

Schnell, T., Gerstner, R., & Krampe, H. (2018). Crisis of meaning predicts suicidality in youth independently of depression. *Crisis, 39*(4), 294–303. https://doi.org/10.1027/0227-5910/a000503

Schultheiss, O. C. (2021). Motives and goals, or: The joys and meanings of life. In J. F. Rauthmann (Ed.), *The Handbook of personality dynamics and processes* (pp. 295–322). Elsevier. https://doi.org/10.1016/B978-0-12-813995-0.00012-1

Shin, J. Y., & Steger, M. F. (2014). Promoting meaning and purpose in life. In A. C. Parks & S. M. Schueller (Eds.), *The Wiley Blackwell handbook of positive psychological interventions* (pp. 90–110). John Wiley & Sons. https://doi.org/10.1002/9781118315927.ch5

Soucase, B., García-Alandete, J., & Rubio-Belmonte, C. (2023). Presence of/search for meaning and positive psychological functioning in Spanish emerging adults. *Current Psychology, 42*(3), 2198–2207. https://doi.org/10.1007/s12144-021-02394-z

Spitzer, C., Müller, S., Kerber, A., Hutsebaut, J., Brähler, E., & Zimmermann, J. (2021). Die deutsche Version der Level of Personality Functioning Scale-Brief Form 2.0 (LPFS-BF): Faktorenstruktur, konvergente Validität und Normwerte in der Allgemeinbevölkerung [The German Version of the Level of Personality Functioning Scale-Brief Form 2.0 (LPFS-BF): Latent structure, convergent validity and norm values in the general population]. *PPmP – Psychotherapie · Psychosomatik · Medizinische Psychologie, 71*(7), 284–293. https://doi.org/10.1055/a-1343-2396

Steger, M. F. (2022). Meaning in life is a fundamental protective factor in the context of psychopathology. *World Psychiatry, 21*(3), 389–390. https://doi.org/10.1002/wps.20916

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80–93. https://doi.org/10.1037/0022-0167.53.1.80

Steger, M. F., & Kashdan, T. B. (2013). The unbearable lightness of meaning: Well-being and unstable meaning in life. *The Journal of Positive Psychology, 8*(2), 103–115. https://doi.org/10.1080/17439760.2013.771208

Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology, 4*(1), 43–52. https://doi.org/10.1080/17439760802303127

Summers, F. (2001). What I do with what you give me: Therapeutic action as the creation of meaning. *Psychoanalytic Psychology, 18*(4), 635–655. https://doi.org/10.1037/0736-9735.18.4.635

Takano, K., & Tanno, Y. (2009). Self-rumination, self-reflection, and depression: Self-rumination counteracts the adaptive effect of self-reflection. *Behaviour Research and Therapy, 47*(3), 260–264. https://doi.org/10.1016/j.brat.2008.12.008

Thompson, V. A., Prowse Turner, J. A., & Pennycook, G. (2011). Intuition, reason, and metacognition. *Cognitive Psychology, 63*(3), 107–140. https://doi.org/10.1016/j.cogpsych.2011.06.001

Topolinski, S., & Strack, F. (2008). Where there's a will—There's no intuition: The unintentional basis of semantic coherence judgments. *Journal of Memory and Language, 58*(4), 1032–1048. https://doi.org/10.1016/j.jml.2008.01.002

Topolinski, S., & Strack, F. (2009). The architecture of intuition: Fluency and affect determine intuitive judgments of semantic and visual coherence and judgments of grammaticality in artificial grammar learning. *Journal of Experimental Psychology: General, 138*(1), 39–63. https://doi.org/10.1037/a0014678

Van Tongeren, D. R., Green, J. D., Davis, D. E., Hook, J. N., & Hulsey, T. L. (2016). Prosociality enhances meaning in life. *The Journal of Positive Psychology, 11*(3), 225–236. https://doi.org/10.1080/17439760.2015.1048814

Ward, S., Womick, J., Titova, L., & King, L. (2023). Meaning in life and coping with everyday stressors. *Personality and Social Psychology Bulletin, 49*(3), 460–476. https://doi.org/10.1177/01461672211068910

Watkins, E. R., Moberly, N. J., & Moulds, M. L. (2008). Processing mode causally influences emotional reactivity: Distinct effects of abstract versus concrete construal on emotional response. *Emotion, 8*(3), 364–378. https://doi.org/10.1037/1528-3542.8.3.364

Watkins, E. R., & Roberts, H. (2020). Reflecting on rumination: Consequences, causes, mechanisms and treatment of rumination. *Behaviour Research and Therapy, 127*, Article 103573. https://doi.org/10.1016/j.brat.2020.103573

Wu, Y., Levis, B., Riehm, K. E., Saadat, N., Levis, A. W., Azar, M., Rice, D. B., Boruff, J., Cuijpers, P., Gilbody, S., Ioannidis, J. P. A., Kloda, L. A., McMillan, D., Patten, S. B., Shrier, I., Ziegelstein, R. C., Akena, D. H., Arroll, B., Ayalon, L., . . . Thombs, B. D. (2020). Equivalency of the diagnostic accuracy of the PHQ-8 and PHQ-9: A systematic review and individual participant data meta-analysis. *Psychological Medicine, 50*(8), 1368–1380. https://doi.org/10.1017/S0033291719001314

EACLIPT

Clinical Psychology in Europe (CPE) is the official journal of the European Association of Clinical Psychology and Psychological Treatment (EACLIPT).

leibniz-psychology.org

PsychOpen GOLD is a publishing service by Leibniz Institute for Psychology (ZPID), Germany.

PsychOpen GOLD

Clinical Psychology in Europe

PsychOpen GOLD

Research Articles

Impulsive Buying and Deferment of Gratification Among Adults With ADHD

Sverrir Björn Einarsson[1], Baldur Heiðar Sigurðsson[1,2], Sigurlín Hrund Kjartansdóttir[3], Páll Magnússon†, Jón Friðrik Sigurðsson[1,4]

[1] *Department of Psychology, Reykjavík University, Reykjavík, Iceland.* **[2]** *Landspítali – The National University Hospital of Iceland, Reykjavík, Iceland.* **[3]** *The Health Institute of East Iceland, Egilsstaðir, Iceland.* **[4]** *Faculty of Medicine, University of Iceland, Reykjavík, Iceland.*

†Author deceased prior to publication of this paper.

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e9339, https://doi.org/10.32872/cpe.9339

Received: 2022-04-20 • **Accepted:** 2024-04-22 • **Published (VoR):** 2024-09-30

Handling Editor: Cornelia Weise, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

Corresponding Author: Jón Friðrik Sigurðsson, Reykjavik University, Menntavegi 1, 102 Reykjavik, Iceland. Tel.: +354 8206277. E-mail: jonfsig@ru.is

Abstract

Background: Impulsivity symptoms have been studied thoroughly in adults with ADHD, including hasty actions and decisions without considering possible consequences. The objective of our study was to investigate impulsive buying and deferment of gratification among adults with ADHD and a comparison group.

Method: The participants were 225 adults with ADHD and 121 university students who completed the Buying Impulsiveness Scale (BIS), the Deferment of Gratification Questionnaire (DOGQ), the Adult ADHD Rating Scale—IV (ADHD-RS), as well as background questions.

Results: Significant differences were found between the two groups on the three scales, the ADHD group showing more ADHD symptoms, more frequent impulsive buying behaviour and less ability to defer gratification. Mediation analyses yielded significant indirect effects in both samples, which suggests that the relationship between ADHD symptoms and impulsive buying is mediated by the ability to defer gratification.

Conclusion: The results suggest that placing emphasis on improving the capacity of adults with ADHD to defer gratification might be beneficial in treatment.

Keywords

ADHD, impulsivity, impulsive buying, deferment of gratification, mediation analysis

Highlights

- Adults with ADHD symptoms are more likely to show impulsive buying behavior and lesser ability to defer gratification than those without ADHD symptoms.
- The relationship between ADHD symptoms and impulsive buying is mediated by the ability to defer gratification.
- Improving capacity to defer gratification should be considered in treatment of adults with ADHD.
- More research on impulsive buying in ADHD is warranted. Future research might examine online impulsive buying among adults with ADHD.

ADHD (attention deficit hyperactivity disorder) is a developmental disorder characterized by inattention, hyperactivity and impulsivity, that is inconsistent with the development and age of the adult (American Psychiatric Association [APA], 2013). The prevalence rate of ADHD is around 5% amongst children and 2.5% in adults when diagnoses are made according to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5) (APA, 2013). Several twin studies indicate a strong genetic component in 70-95% of cases (Comings, 2001).

Impulsivity, a core symptom of ADHD, has been conceptualized as: (a) decreased sensitivity to negative outcomes of behaviour, (b) rapid, unplanned, reactions to stimuli before complete processing of information, and (c), lack of regard for long-term consequences (Moeller et al., 2001). Impulsivity symptoms have been extensively studied in adults with ADHD and among them are hasty actions and decisions without considering possible effects or consequences (APA, 2013; Barkley, 1997). Symptoms of impulsivity and hyperactivity are expected to decrease during adolescence and early adulthood (Biederman et al., 2000), but some studies have shown that impulsivity persists into adulthood and may be a core factor of many behavioural dysfunctions seen in adults with ADHD (Asherson et al., 2016; Babinski et al., 1999).

Impulsive buying has been conceptualized as “a sudden, often powerful and persistent urge to buy something immediately” (Rook, 1987), and studies indicate that impulsive buying tendencies derive from problems with executive functions such as problem solving, planning skills, reactivity, inattention and inflexibility (Arican & Kafadar, 2022). It has also been suggested that motor and non-planning impulsivity or lack of self-control are important aspects of impulsive buying (Baumeister, 2002; Sokić & Korkut, 2020). Deferment of gratification is a component of self-control and is based upon resisting the urge to receive an immediate reward in the hope of receiving a more valuable reward in the future (Mischel et al., 1989). The ability to defer gratification is fundamental to effective self-control as studies suggest that consumers with greater self-regulatory resources are more likely to resist impulsive buying and there are indications that impulsive buying is motivated by immediate gratification (Badgaiyan et al., 2016; Roberts & Manolis, 2012; Sun et al., 2004; Vohs & Faber, 2007).

As of yet, no studies have demonstrated the relationship between ADHD symptoms and impulsive buying among those with ADHD, although a few studies indicate that ADHD symptoms affect personal finances. Bangma et al. (2019) explored problems in multiple domains of everyday life, including financial decision-making, among adults diagnosed with ADHD. The results show that compared with healthy controls, those diagnosed with ADHD reported a poorer financial situation, more debt, a lower incidence of having a savings account and a greater tendency to buy on impulse. A recent study by Koerts et al. (2021) explored financial judgment among adults with ADHD. They found that adults with ADHD had lower financial competence scores than those without ADHD on appreciation, reasoning, understanding and communication. In addition, Barkley et al. (2006) found that compared with controls, adults with ADHD had more difficulties in allocating funds, i.e., problems with saving money, paying bills on time and a greater tendency for recklessness and impulsive buying. The same study found that growing up with ADHD is a risk factor for financial problems in adulthood, regardless of whether ADHD symptoms persist into adulthood although the risk was even greater in those cases where the symptoms did persist into adulthood.

Adults who are highly impulsive buyers tend to be more emotionally attracted to the item they are buying and more likely to desire immediate gratification (Hoch & Loewenstein, 1991). Jackson and MacKillop's (2016) meta-analysis on the relationship between ADHD and defer discounting indicates that people with ADHD have a greater tendency to choose immediate and less valuable rewards instead of later rewards with more value, compared with people without the disorder.

The aim of this study was to investigate impulsive buying as a function of ADHD symptoms and the ability to delay gratification. Of particular interest are the possible mediating effects of defer of gratification on the relationship between ADHD and impulsive buying. Three predictions were made: 1) adults diagnosed with ADHD will have higher levels of impulsive buying than a sample of normal controls, 2) adults diagnosed with ADHD will have more difficulty to defer gratification than normal controls, and 3) the link between ADHD and impulsive buying is mediated by the ability to defer gratification.

Method

Participants

The participants consisted of two groups: (1) a sample of 226 adults diagnosed with ADHD and (2) a comparison sample (non-ADHD group) of 134 university students at Reykjavik University. Inclusion criteria for both groups were: (a) age between 18 and 65 years, (b) reporting if and where the ADHD diagnosis was made. In the student sample, 12 participants responded with "yes" to the question about ADHD diagnosis and were therefore eliminated from the sample, leaving a student sample of 122. After screening for outliers and influential cases (see below) two statistical outliers were identified and eliminated from the dataset, one from each sample, leaving a student sample of 121 participants and a clinical sample of 225 for the final analysis.

The ADHD sample had a mean age of 35.72 (*SD* = 9.80) and consisted of 162 (72.00%) females (mean age 35.09, *SD* = 9.08) and 63 (28.00%) males (mean age 37.33, *SD* = 11.37). One-hundred-fifty-five (68.89%) claimed to have graduated from upper secondary school and 187 (83.11%) being employed or studying at the time of the study. A majority (81.78%) of the ADHD group reported having received their diagnoses from psychologists or psychiatrists in private practice, 10.22% from the ADHD team at Landspítali – The National University Hospital of Iceland, 4.00% from institutes of child mental health and developmental surveillance, and 4.00% from educational psychologists. It is worth mentioning that the diagnostic process of ADHD in private practice in Iceland is common, and that psychiatrists and psychologists are expected to follow clinical guidelines issued by the Directorate of Health (Baldursson et al., 2012).

The non-ADHD sample had a mean age of 24.57 (*SD* = 5.33) and consisted of 82 (68.33%) females (mean age 25.00, *SD* = 6.07) and 38 (31.67%) males (mean age 23.54, *SD* = 2.96). One participant in the comparison group did not specify gender. The majority (119; 98.35%) claimed they had graduated from upper secondary school and all of them were university students at the time of the study.

Measures

The Buying Impulsiveness Scale (BIS)

The BIS (Rook & Fisher, 1995) was designed to measure impulsive buying behaviour and contains nine statements such as, “I often buy things without thinking,” and “I carefully plan most of my purchases.” The participant indicates how much he or she agrees with these statements on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The score of one item was reversed. Higher scores indicate more impulsive buying tendencies. The scale has shown high levels of reliability (α = .88) (Rook & Fisher, 1995). It was translated to Icelandic especially for this study using accepted methods, i.e. three independent forward translations which then were compared and semantic differences resolved arriving at the single translation which then was back-translated and amended accordingly (Gudmundsson, 2009).

The Deferment of Gratification Questionnaire (DOGQ)

The DOGQ (Ray & Najman, 1986) was designed to measure deferment of gratification in relation to financial planning and contains 12 questions such as “Are you good at saving your money because you have had to wait for it and plan for it?” and “Do you like to spend your money as soon as you get it?” The participant indicates how much he or she agrees with these statements on a 7-point Likert scale (1 = Very strongly disagree, 4 = Sometimes, 7 = Very strongly agree). The scores of six items were reversed. Lower scores indicate more difficulty in deferring gratification. The original scale has acceptable internal consistency (α = .72) (Ray & Najman, 1986). The scale was translated specifically for this study using three independent forward translations which were compared and semantic differences resolved arriving at the single translation which then was back-translated and amended accordingly (Gudmundsson, 2009).

The Adult ADHD Rating Scale—IV (ADHD-RS)

The ADHD-RS (Magnússon et al., 2006), was designed to measure the symptoms of attention-deficit/hyperactivity disorder (ADHD). It contains 18 statements, nine items of inattention, five of hyperactivity, and four of impulsivity symptoms. The frequency and severity of each item is rated for the past six months on a 4-point Likert scale (0 = Never or rarely, 1 = Sometimes, 2 = Often, 3 = Very often). A higher score indicates more ADHD symptoms. The total score consists of 18 items, the scores of two subscales, the inattentive subscale (ADHD-I) and the hyperactivity/impulsivity subscale (ADHD-H/I). The scale has shown good reliability and validity and strong correlation with informal ratings of symptoms and interview-based diagnoses in childhood and adulthood. The scale was translated into Icelandic by one of the authors of this paper and its validity and reliability turned out to be satisfactory (Magnússon et al., 2006).

The Background Information Questionnaire

The questionnaire developed by the ADHD Clinic at Landspítali – The National University Hospital of Iceland, consists of questions about gender, age, education, employment and ADHD diagnosis.

Procedure

A link to a survey (SurveyMonkey), was emailed by the Icelandic ADHD Organisation, association of the ADHD community in Iceland, to all of its members and posted on its official Facebook page (https://www.facebook.com/ADHDsamtokin/?locale=is_IS). For the comparison group, the survey was administered on paper in class in Computer Science, Law, Business and Sports Science at Reykjavik University. Participation of both groups was anonymous and voluntary and filling out the survey was considered as an informed consent for both groups as they had previously received written information about the study.

The study was approved by Reykjavik University and the Icelandic Bioethics Committee (no. 18-0-51).

Statistical Analysis

The data were analysed using the SPSS (v. 28.0). Descriptive statistics were calculated on the measures used in the main analysis and *t*-tests were carried out to see if the ADHD sample differed from the student sample on those variables. To adjust for the inflated Type I error rate associated with multiple testing, Bonferroni correction was employed resulting in an alpha level of 0.016 instead of 0.05. In the main analyses Hayes's SPSS PROCESS Macro v. 4.2 (Hayes, 2018) Model 4 was used to carry out three identical mediation analyses: one for the total sample and one for each of the subsamples. This was done to examine whether the assumed effect of ADHD on impulsive buying was mediated by the ability to defer gratification.

The method relies on a series of regression analyses outlined by Baron and Kenny (1986). The total effect of the predictor (in this study ADHD-RS) on the outcome variable (BIS) is first assessed while leaving other variables out of the model. This is then followed by examining the same relationship while controlling for the presumed mediator (DOGQ), taking into account the relationship between the predictor and the mediator.

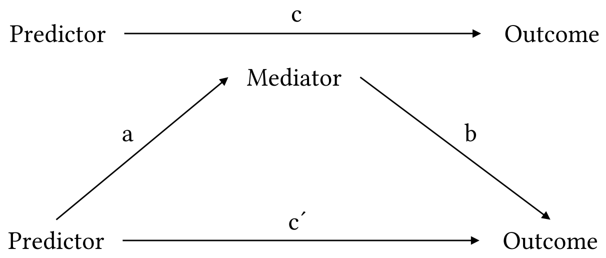
According to Baron and Kenny, if an originally significant total effect becomes insignificant when controlling for the mediator, mediation is said to have occurred, i.e. the predictor operates through the mediator to affect the outcome. Mediation is considered partial if some measurable, albeit insignificant relationship is left to account for, but if it reduces to zero when controlling for the mediator, the relationship between the predictor and the outcome is said to be completely mediated.

The total effect (path c in Figure 1) is thus broken down into a direct effect (path c´, the effect not accounted for by the relationship between the predictor and the mediator) and an indirect effect (paths a and b through the mediator, the effect accounted for by the relationship between the predictor and the mediator, or the mediated effect). These two regression analyses were, as mediation was originally defined, considered enough to calculate the indirect effect simply by subtracting the direct effect from the total effect. This, however, assumes the predictor and the mediator do not interact to affect the outcome. To account for a possible interaction effect, the indirect effect was therefor soon defined as the product of a) the first order relationship between the predictor and the mediator and b) the relationship between the mediator and the outcome when controlling for the predictor. In case of no interaction, these two methods (c-c´, and axb) yield the same result.

Therefore, for a complete mediation analysis, three regression analyses are needed to calculate the indirect effect. First, to assess the total effect (path c), the outcome is regressed on the predictor. Second, to assess the direct effect of the predictor (path c´), the outcome is regressed on both the predictor and the presumed mediator. The direct effect is thus the regression coefficient of the predictor when controlling for the mediator. In this second regression analysis, we also get the first term needed to calculate the indirect effect, namely the effect of the mediator on the outcome when controlling for the predictor (path b). Finally, to calculate the second term needed for the indirect effect (path a), the presumed mediator is regressed on the predictor.

Figure 1

A Conceptual Model of Mediation



Note. c represents the total effect, c´ represents the direct, unmediated portion of the total effect and a and b, through the mediator represents the indirect, mediated portion of the total effect.

As mentioned above, Baron and Kenny (1986) conceptualised mediation as an originally significant effect of a predictor on an outcome becoming insignificant (or zero) when controlling for a mediating variable. More recently these requirements of (non-)significance of relationships have come under scrutiny. For instance, Zhao et al. (2010) argue that indirect effects are interpretable and meaningful regardless of the significance of the relationships between the predictor and outcome. We therefor focus on the indirect effect but present the whole model as it needs to be considered when interpreting the meaning of the indirect effect.

Various methods of testing the significance of the indirect effect have been proposed. In this study the significance was examined by using bootstrapping procedures (5,000 bootstrap samples) to apply 95% bias corrected accelerated confidence intervals (95% BCa CI) around the estimate of the indirect effect. If the 95% BCa CI contains zero, the indirect effect is insignificant, and mediation cannot be assumed. Finally, standardized indirect effects were calculated to give an impression of the sizes of the indirect effects. In all three analyses the ADHD-RS was the predictor variable, the BIS the outcome variable and the DOGQ the mediating variable.

Before any analyses were conducted the dataset was screened for outliers using Mahalanobis’s distance (critical value at alpha level 0.001), Cook’s distance (critical value = 1) and centred leverage values (critical value at 2(k+1)/n). These values were obtained by running a regression analysis in each of the samples separately with both the predictor and the mediator in the model. Participants who reached the critical values on two of these measures were considered statistical outliers and were eliminated from the sample.

Results

Group Differences in Symptom Severity, Ability to Defer Gratification and Impulsive Buying

Table 1 shows descriptive statistics for the measures used in the mediation analyses as well as their reliabilities. All the measures have acceptable to excellent reliabilities. The means differ significantly between the two groups in the predicted directions, the ADHD group having a lower mean on the DOGQ, $t(334) = -18.34$, $p < .001$, and higher means on the ADHD-RS, $t(341.39) = 32.97$, $p < .001$, and BIS, $t(295.86) = 13.28$, $p < .001$.

Table 1

Descriptive Statistics and Cronbach's Alpha for the ADHD-RS, the DOGQ and the BIS for the ADHD and the Non-ADHD Groups

			95% CI			
Measures	***N***	***M***	***LL***	***UL***	***SD***	**Cronbach's alpha**
ADHD-RS						
Non-ADHD	121	7.88	7.00	8.76	4.89	
ADHD	224	31.59	30.48	32.70	8.46	
Total	345	23.27	21.84	24.71	13.53	0.95
DOGQ						
Non-ADHD	117	58.03	56.37	59.69	9.07	
ADHD	219	38.21	36.93	39.49	9.62	
Total	336	45.11	43.68	46.54	13.35	0.84
BIS						
Non-ADHD	120	19.57	18.35	20.79	6.75	
ADHD	221	30.78	29.64	31.91	8.57	
Total	341	26.83	25.81	27.86	9.61	0.93

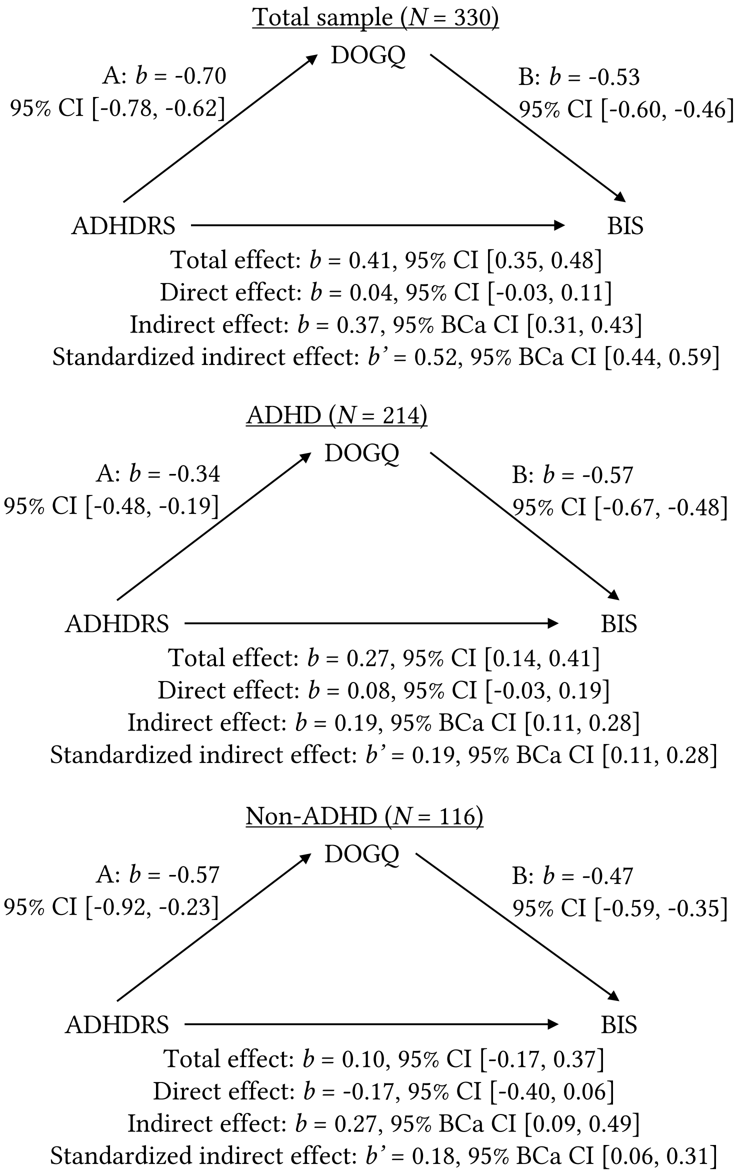
Note. CI = Confidence interval; ADHD-RS = The Adult ADHD Rating Scale; DOGQ = Deferment of Gratification Questionnaire; BIS = Buying Impulsiveness Scale.

Mediation Analyses

As shown in Figure 2 the same pattern emerges in all three mediation models, where there is a substantial drop from the total effect to the direct effect, although neither effect is statistically significant in the non-ADHD sample. In the other two samples the total effect of ADHD is significant but becomes insignificant when controlled for the ability to defer gratification. All three 95% BCa CIs indicate significant indirect effects, suggesting a mediating effect of the ability to defer gratification. The fit of the models were assessed by calculating R^2 when both the predictor and the mediator are included. In the total sample $R^2 = 0.60$, in the ADHD sample 0.45 and non-ADHD sample 0.36.

Figure 2

Model for the Mediation of the Association Between ADHD Symptoms and Impulsive Buying Behaviors Through the Ability to Defer Gratification



Note. CI = Confidence interval; BCa CI = Bias Corrected and accelerated Confidence Interval; ADHD-RS = The Adult ADHD Rating Scale IV; DOGQ = Deferment of Gratification Questionnaire; BIS = Buying impulsiveness Scale.

Discussion

Impulsivity symptoms in ADHD have been extensively studied (Barkley, 1997) and research has shown the disorder to be linked to various financial problems. It is therefore noteworthy that to date, there are to our knowledge no studies on the relationship between ADHD and impulsive buying, a type of impulsive behaviour that could clearly contribute to claimed financial problems. There is, however, research indicating that self-regulation and the ability to defer gratification may bolster against such impulsive buying in the general population (Badgaiyan et al., 2016; Roberts & Manolis, 2012; Sun et al., 2004). In this study we compared a group of people diagnosed with ADHD to a student sample, predicting higher levels of impulsive buying and less ability to defer gratification among the ADHD sample. Our main analysis, however, tested a mediational model where it was hypothesised that this link between ADHD and impulsive buying would be mediated by the ability to defer gratification.

As predicted, significant differences were found between the two groups on measures of ADHD symptoms, deferment of gratification and impulsive buying, with the ADHD group showing more ADHD symptoms, more frequent impulsive buying behaviour and less ability to defer gratification. Previous studies reported in Jackson and MacKillop’s (2016) meta-analysis suggest that those with ADHD have a greater tendency to choose immediate and less valuable rewards instead of later rewards, while other studies indicate that deficits in self-regulation among non-ADHD adults can increase the risk of impulsive buying (Roberts & Manolis, 2012; Vohs & Faber, 2007).

However, our main findings from the mediation analyses indicate an indirect relationship between ADHD symptoms and impulsive buying mediated by deferring gratification, suggesting that the ability to defer gratification may be an important mechanism through which ADHD exerts its effect on impulsive buying. Moreover, in the total sample and the ADHD sample, the total relationship between ADHD symptoms and impulsive buying was completely eliminated when the relationship between ADHD and the ability to defer gratification was accounted for, suggesting that no other mediators are needed to account for the effect of ADHD on impulsive buying.

In the student sample however, neither the total relationship nor the direct relationship was significant. This makes the significant indirect relationship somewhat difficult to interpret, although the results could be due to low power as the sample was substantially smaller than the ADHD sample and a larger sample might yield either a significant total effect, direct effect, or both. In that case, and assuming the same trends, the seamingly paradoxically negative direct relationship between ADHD symptoms and impulsive buying in the student sample (meaning that more symptoms is related to less impulsive buying) could possibly be understood if we assume that the impaired ability to defer gratification is a stronger force in an ADHD population than in a healthy population due to impairment in executive functions, commonly associated with ADHD. It would therefore be interesting to repeat this study with a larger normal sample to get more clarity regarding the meaning of the mediation through the ability to defer gratification.

These results add to the results of Sun et al. (2004), which reported that impulsive buying behaviour is motivated by immediate gratification. The results suggest that improved ability to defer gratification may be beneficial for people in general (just as re-evaluation of negative thoughts can benefit people in general, not only people with emotional problems) and for people with ADHD in particular, for whom impulsive buying may be a serious problem.

There are some limitations to the current study. As the participants in the ADHD sample were recruited via the internet and email, the accuracy of their ADHD diagnoses could not be clinically ascertained. Also, the groups were different in age, education level and employment, the comparison group being significantly younger on average and with smaller age variation, and the non-ADHD group reporting higher educational level and being more actively studying or working than the ADHD group. A final limitation is that although mediational models assume causality with a specified causal direction, the design of the study does not allow any causal inferences. It would therefore be of interest to conduct an experiment to see if a treatment intervention targeting the ability to defer gratification would in turn also affect overall ADHD symptoms. Such an experiment might help to establish causality.

The study has several strengths. Among them is a large sample size, increasing both reliability and generalizability of the results. The relationship between ADHD symptoms and impulsive buying, mediated by deferment of gratification, has to our knowledge not been investigated before so our findings are an important addition to the existing literature on the relationship between ADHD and impulsive buying.

Future research should examine online impulsive buying among adults with ADHD as products and services are increasingly becoming more accessible and cost-saving through online shopping, which may trigger impulsive buying among consumers (Saha et al., 2020; Sun & Wu, 2011).

Funding: The authors have no funding to report.

Acknowledgments: We would like to thank the participants for taking time to fill in the questions and questionnaire. We would also like to thank the ADHD Association in Iceland for introducing the study to its members and e-mail the survey. One of the authors, Páll Magnússon, died on the 10th October 2021, when we had started writing up the paper. Páll was a good man and a professional, a pioneer and a leading authority in ADHD research in Iceland. He will be sorely missed.

Competing Interests: The authors have declared that no competing interests exist.

Ethics Statement: The study was anonymous and approved by Reykjavik University and the Icelandic Bioethics Committee (no. 18-0-51).

Social Media Accounts: @Sverrirbjorn, @fri_jonfsig

Reporting Guidelines: The Publication Manual of the American Psychological Association.

Preregistration: The study was not pre-registered but approved by the relevant authorities and the Icelandic Bioethics Committee (no. 18-0-51).

Data Availability: The data are not available for open access.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Arican, H., & Kafadar, H. (2022). The relationship between executive functions and impulsive buying: A structural equation model. *Neuropsychiatric Investigation, 60*(3), 52–63. https://doi.org/10.5152/NeuropsychiatricInvest.2022.22006

Asherson, P., Buitelaar, J., Faraone, S. V., & Rohde, L. A. (2016). Adult attention-deficit hyperactivity disorder: Key conceptual issues. *The Lancet Psychiatry, 3*(6), 568–578. https://doi.org/10.1016/S2215-0366(16)30032-3

Babinski, L. M., Hartsough, C. S., & Lambert, N. M. (1999). Childhood conduct problems, hyperactivity-impulsivity, and inattention as predictors of adult criminal activity. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 40*(3), 347–355. https://doi.org/10.1111/1469-7610.00452

Badgaiyan, A. J., Verma, A., & Dixit, S. (2016). Impulsive buying tendency: Measuring important relationships with a new perspective and an indigenous scale. *IIMB Management Review, 28*(4), 186–199. https://doi.org/10.1016/j.iimb.2016.08.009

Baldursson, G., Magnússon, P., Haraldsson, H., & Halldórsson, M. (2012). *Vinnulag við greiningu og meðferð athyglisbrests með ofvirkni* [Guidelines for diagnosis and treatment for ADHD]. Reykjavík, Island: Directorate of Health.

Bangma, D. F., Koerts, J., Fuermaier, A. B. M., Mette, C., Zimmermann, M., Toussaint, A. K., Tucha, L., & Tucha, O. (2019). Financial decision-making in adults with ADHD. *Neuropsychology, 33*(8), 1065–1077. https://doi.org/10.1037/neu0000571

Barkley, R. A. (1997). Behavioral inhibition, sustained attention, and executive functions: Constructing a unifying theory of ADHD. *Psychological Bulletin, 121*(1), 65–94. https://doi.org/10.1037/0033-2909.121.1.65

Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2006). Young adult outcome of hyperactive children: Adaptive functioning in major life activities. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(2), 192–202. https://doi.org/10.1097/01.chi.0000189134.97436.e2

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variables distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research, 28*(4), 670–676. https://doi.org/10.1086/338209

Biederman, J., Mick, E., & Faraone, S. V. (2000). Age-dependent decline of symptoms of attention deficit hyperactivity disorder: Impact of remission definition and symptom type. *The American Journal of Psychiatry, 157*(5), 816–818. https://doi.org/10.1176/appi.ajp.157.5.816

Comings, D. E. (2001). Clinical and molecular genetics of ADHD and Tourette syndrome. *Annals of the New York Academy of Sciences, 931*(1), 50–83. https://doi.org/10.1111/j.1749-6632.2001.tb05773.x

Gudmundsson, E. (2009). Guidelines for translating and adapting psychological instruments. *Nordic Psychology, 61*(2), 29–45. https://doi.org/10.1027/1901-2276.61.2.29

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press.

Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent preferences and consumer self-control. *The Journal of Consumer Research, 17*(4), 492–507. https://doi.org/10.1086/208573

Jackson, J. N. S., & MacKillop, J. (2016). Attention-deficit/hyperactivity disorder and monetary delay discounting: A meta-analysis of case-control studies. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 1*(4), 316–325. https://doi.org/10.1016/j.bpsc.2016.01.007

Koerts, J., Bangma, D. F., Fuermaier, A. B. M., Mette, C., Tucha, L., & Tucha, O. (2021). Financial judgment determination in adults with ADHD. *Journal of Neural Transmission, 128*(7), 969–979. https://doi.org/10.1007/s00702-021-02323-1

Magnússon, P., Smári, J., Sigurðardóttir, D., Baldursson, G., Sigmundsson, J., Kristjánsson, K., Sigurðardóttir, S., Hreiðarsson, S., Sigurbjörnsdóttir, S., & Guðmundsson, O. O. (2006). Validity of self-report and informant rating scales of adult ADHD symptoms in comparison with a semistructured diagnostic interview. *Journal of Attention Disorders, 9*(3), 494–503. https://doi.org/10.1177/1087054705283650

Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science, 244*(4907), 933–938. https://doi.org/10.1126/science.2658056

Moeller, F. G., Barratt, E. S., Dougherty, D. M., Schmitz, J. M., & Swann, A. C. (2001). Psychiatric aspects of impulsivity. *The American Journal of Psychiatry, 158*(11), 1783–1793. https://doi.org/10.1176/appi.ajp.158.11.1783

Ray, J. J., & Najman, J. M. (1986). The generalizability of deferment of gratification. *The Journal of Social Psychology, 126*(1), 117–119. https://doi.org/10.1080/00224545.1986.9713578

Roberts, J. A., & Manolis, C. (2012). Cooking up a recipe for self-control: The three ingredients of self-control and its impact on impulse buying. *Journal of Marketing Theory and Practice, 20*(2), 173–188. https://doi.org/10.2753/MTP1069-6679200204

Rook, D. W. (1987). The buying impulse. *The Journal of Consumer Research, 14*(2), 189–199. https://doi.org/10.1086/209105

Rook, D. W., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of Consumer Research, 22*(3), 305–313. https://doi.org/10.1086/209452

Saha, S. K., Zhuang, G., & Li, S. (2020). Will consumers pay more for efficient delivery? An empirical study of what affects e-customers' satisfaction and willingness to pay on online shopping in Bangladesh. *Sustainability, 12*(3), Article 1121. https://doi.org/10.3390/su12031121

Sokić, K., & Korkut, D. (2020). The influence of impulsivity and values on impulsive buying. *ENTRENOVA – ENTerprise REsearch InNOVAtion, 6*(1), 18–26.

Sun, T., & Wu, G. (2011). Trait predictors of online impulsive buying tendency: A hierarchical approach. *Journal of Marketing Theory and Practice, 19*(3), 337–346. https://doi.org/10.2753/MTP1069-6679190307

Sun, T., Wu, G., & Youn, S. (2004, February). Psychological antecedents of impulsive and compulsive buying: A hierarchical perspective. In A. Cheema, S. Hawkins, & J. Srivastava (Eds.), *Proceedings of the Society for Consumer Psychology 2004 Winter Conference* (pp. 168-174). Society for Consumer Psychology.

Vohs, K. D., & Faber, R. J. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. *Journal of Consumer Research, 33*(4), 537–547. https://doi.org/10.1086/510228

Zhao, X., Lynch, J. G., Jr., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research, 37*(2), 197–206. https://doi.org/10.1086/651257

Clinical Psychology in Europe

PsychOpen GOLD

Systematic Reviews and Meta-analyses

Check for updates

A Systematic Review of Evidence-Based Cognitive and/or Behavioural Interventions Targeting Mental Health in LGBTQ+ Populations

Carina Tudor-Sfetea[1], Raluca Topciu[1]

[1] *CEDAR (Clinical Education Development and Research), University of Exeter, Exeter, United Kingdom.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e11323, https://doi.org/10.32872/cpe.11323

Received: 2023-02-13 • **Accepted:** 2024-05-06 • **Published (VoR):** 2024-09-30

Handling Editor: Cornelia Weise, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

Corresponding Author: Carina Tudor-Sfetea, Washington Singer Laboratories, University of Exeter, Perry Road, Prince of Wales Road, Exeter, EX4 4QG, UK. Telephone number: +447990572937. E-mail: C.Tudor-Sfetea@exeter.ac.uk

Supplementary Materials: Data, Materials, Preregistration [see Index of Supplementary Materials]

Abstract

Background: Despite a minority stress-related higher risk to develop mental health difficulties, and problematic access to and treatment from healthcare providers, research into LGBTQ+ mental health support is limited. The aims of this systematic review were to explore evidence-based cognitive and/or behavioural interventions and adaptations targeting mental health in LGBTQ+ populations, before providing recommendations for future clinical and research directions.
Method: Six databases were searched in February-March 2022 and risk of bias evaluated using the Cochrane RoB 2/ROBINS-I tools. A narrative synthesis following the PICOS framework and the review questions was used to examine the results.
Results: Sixteen studies met inclusion criteria, including various interventions and adaptations, mental health difficulties, and other emotion- and minority stress-related processes/constructs. Risk of bias was judged as high, and critical/serious, respectively, in all studies. Outcomes included improvements in symptoms of depression (most statistically/clinically significant effects/large effect sizes), and anxiety, emotion regulation, and internalised homophobia in the pre-post studies.
Conclusion: Cognitive/behavioural interventions and adaptations for LGBTQ+ populations feature a range of therapeutic modalities and levels of adaptation, with largely positive effects, in the context of limited and heterogenous literature and risk of bias concerns, as well as limitations related to publication bias and inclusion criteria of the current work. Suggestions for future clinical and research directions include a focus on generic therapeutic competencies and

metacompetencies, and affirmative, potentially more holistic approaches, as well as more consistency in methodology, more focus on underserved LGBTQ+ populations and intersectionality, and more detailed investigations into mechanisms of change.

Keywords

LGBTQ+, systematic review, mental health, cognitive behavioural interventions

Highlights

- Research findings on evidence-based mental health support for LGBTQ+ individuals are positive, but the literature is limited, heterogenous, and there are risk-of-bias concerns.
- More work is needed around affirmative approaches, consistency in methodology, mechanisms of change, and underserved LGBTQ+ populations and intersectionality.

Rationale

LGBTQ+ individuals (who identify as lesbian, gay, bisexual, transgender, queer, or with any other non-heterosexual and/or non-cisgender identity) experience a disproportionately higher rate of mental health difficulties compared to heterosexual and/or cisgender individuals (Pinna et al., 2022; Plöderl & Tremblay, 2015). This disparity has been attributed at least partly to stigma-related stressors, with perhaps the most important framework addressing this being the Minority Stress Theory (Brooks, 1981; Meyer, 1995, 2003; reviewed in Hoy-Ellis, 2023; Tan et al., 2020) alongside its extensions, particularly Hendricks and Testa's (2012) work exploring gender identity stressors.

Herein, distal (external, objective) factors – victimisation, prejudice, and discrimination, and the likely resulting proximal (internal, subjective) factors – concealment of one's identity, prejudice- and rejection-related anxiety and expectations, and internalised homo- and transphobia, are thought to contribute to a set of differences in cognitions, emotions, and behaviours which drive and maintain mental health disparities transdiagnostically (Meyer, 2003; Nicholson et al., 2022; Pachankis, 2015). The effects of these factors have been widely documented (Gnan et al., 2019; Testa et al., 2017). A complicating, yet crucial, consideration, is that of the intersection of various sexual identities with other racial, ethnic, social, and gender identities, with individuals with multidimensional minority status facing unique challenges (Balsam et al., 2011; Dale & Safren, 2019).

Various mechanisms have been proposed in the context of minority stress. These include: alterations in emotion regulation, social/interpersonal dynamics (e.g., isolation), and cognitive processes (e.g., negative self-schemas; Hatzenbuehler, 2009); disruptions of negative valence systems (avoidance, hypervigilance, loss), positive valence systems (approach motivation, reward learning – associated with impulsivity/addictive behaviours), social functioning (e.g., disrupted attachment, low agency, poor social communication;

Pachankis, 2015), and anticipatory emotions/behaviours as well as cognitions around the expectation of rejection (Feinstein, 2020). Biological mechanisms (Flentje et al., 2020) and neuroimaging/neural correlates (Nicholson et al., 2022) have also been documented.

Despite these significant vulnerabilities, access to and treatment for mental health seems to be problematic for LGTBQ+ populations (e.g., McCann & Sharek, 2014; Steele et al., 2017). While some limited research has documented poorer psychological treatment outcomes for some LGBTQ+ populations (Beard et al., 2017; Rimes et al., 2019), there is generally a paucity of literature (e.g., data pertaining to sexual orientation and gender identity is often omitted in research on psychological interventions for mental health – Heck et al., 2017). This speaks to the need for tailored mental health interventions for this population, and crucially, thorough research into their effectiveness.

Others have reviewed interventions targeting mental health and/or health behaviour in various LGBTQ+ sub-populations. In their systematic review and meta-analysis, Pantalone et al. (2020) focused on behavioural interventions targeting psychosocial syndemics and HIV-related health behaviours for sexual minority men, reporting significant improvements with small effect sizes in mental health, while a systematic review by Melendez-Torres and Bonell (2014) found improvements related to sexual risk behaviour following a CBT (Cognitive Behavioural Therapy) intervention in substance-using men who have sex with men, although the evidence was evaluated to be of moderate quality. Focusing on LGBTQ+ youth mental health, Hobaica et al. (2018) found support for the effectiveness of a range of intervention modes, including in-person, computerised, online, as well as individual and group. Sheinfil et al. (2019) investigated adapted psychotherapeutic interventions for depression, while Van Der Pol-Harney and McAloon (2019) found CBT to be an effective therapeutic framework. Bochicchio et al. (2022) also reported preliminary evidence for effectiveness of a variety of psychotherapeutic interventions.

This work has, however, either mainly focused on health behaviour rather than mental health, therefore not including details around intervention components, outcome measures, and their relationship to minority stress (Pantalone et al., 2020); on specific genders or populations known to present with unique challenges (sexual minority men including those HIV-positive or at risk – Pantalone et al., 2020; substance-using sexual minority men – Melendez-Torres & Bonell, 2014; young people – Bochicchio et al., 2022; Hobaica et al., 2018; Van Der Pol-Harney & McAloon, 2019), therefore making generalisations limited; or on particular diagnoses rather than more widely/transdiagnostically which would be more in line with minority stress factors and mechanisms (Sheinfil et al., 2019).

Few, if any reviews have adopted a wider/more general lens on LGBTQ+ populations of any age, focusing on psychotherapies for mental health and their adaptations, their components, their outcomes, and their relationship to transdiagnostic minority stressors; this review aims to bridge this gap. As CBT has a rich evidence base for several mental health difficulties (Hofmann et al., 2012), and importantly, offers a framework by which to understand and explore minority stressors (i.e, relationships among cognition – e.g., negative self-schemas, emotion – e.g., emotion regulation, anxiety, shame, and behaviour – e.g., isolation, avoidance), the review will focus on this psychotherapeutic model.

Objectives

The aim of this systematic review is to explore the landscape of the scientific literature on evidence-based cognitive and/or behavioural interventions and adaptations targeting mental health in LGBTQ+ populations, by answering the following questions:

1. What evidence-based cognitive and/or behavioural interventions for LGBTQ+ populations exist, and what, if any, specific adaptations do they involve?
2. What are the outcomes of evidence-based cognitive and/or behavioural interventions and adaptations targeting mental health in LGBTQ+ populations?
3. What recommendations could be made in terms of such adaptations in clinical practice?

Method

Guidelines and Registration

This systematic review was carried out in accordance with the updated PRISMA guidelines (Page et al., 2021), and registered on PROSPERO (International prospective register of systematic reviews) in April 2022 (CRD42022243466) – please see Tudor-Sfetea and Topciu, 2024S, Appendix A for more information regarding deviations from this preregistration. No ethics approval was required due to the nature of the work.

Eligibility Criteria

Studies had to be published or in press in peer-reviewed journals, in English; no time limits for publication were enforced. Pre-prints were considered, while other grey literature was excluded. The studies also had to fulfil the criteria outlined in Table 1, following the PICOS framework (Population, Intervention, Comparison, Outcomes, Study designs, Higgins et al., 2023). Please see more details on these decisions in the Discussion section, and in Tudor-Sfetea & Topciu, 2024S, Appendix B.

Information Sources

Eligible studies were sourced from: Embase, MEDLINE, PsycINFO, PsychExtra, Web of Science, Cochrane Library (advanced search), via searches between 19.02.2022 and 10.03.2022.

Table 1

Inclusion and Exclusion Criteria According to the PICOS Framework

Inclusion	Exclusion
Population	
LGBTQ+ individuals or individuals reporting distress over minority stress-related issues, of any age, sex, gender, sexual orientation, race, and ethnicity; including people identifying as gay, lesbian, bisexual, pansexual, demisexual, asexual, queer, transgender, genderqueer, genderfluid, non-binary	Studies with HIV-positive participants where no separate results for participants with negative or unclear HIV status were reported, as well as studies with people with substance dependence as a main presenting problem
Interventions	
Evidence-based individual and group-based cognitive behavioural interventions; including Cognitive Behavioural Therapy (CBT), behaviour-based interventions such as exposure or exposure and response prevention (ERP), as well as third-wave CBT interventions, including Acceptance and Commitment Therapy (ACT), Mindfulness-Based Interventions such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT), Dialectical Behaviour Therapy (DBT), Behavioural Activation (BA), or Compassion Focused Therapy (CFT); delivered in any settings, including out- and inpatient settings, charity organisations, educational settings, or any other community or home settings; and via any medium, including in person, videoconference, telephone, live-chat	Interventions with only a minimal cognitive or behavioural component, and couple-specific interventions; self-help interventions with no direct therapist involvement
Comparison	
Active control (i.e., other interventions for mental health; treatment-as-usual), inactive control (i.e., waitlist), or no control group	
Outcomes	
Outcomes in the domain of common mental health difficulties; including studies with outcomes related to, e.g., symptoms of depression, anxiety and any anxiety disorders, obsessive-compulsive disorder (OCD) and body dysmorphic disorder (BDD), health anxiety, post-traumatic stress disorder (PTSD), and minority stress, as well as psychological flexibility and quality of life/subjective wellbeing, assessed via validated questionnaires	Studies with outcomes related solely to sex-related health behaviour, as well as drug use
Study designs	
Quantitative studies or the quantitative aspects of mixed-method studies; including randomised controlled trials (RCTs), controlled/experimental studies such as controlled trials, open trials/studies/pilots, pilot trials/studies, case-control studies, effectiveness studies without a control group (e.g., pre-post effect size), feasibility or acceptability studies	Qualitative studies, as well as published study protocols and reviews

Search Strategy

Search terms based on the PICOS framework were used to determine MeSH (Medical Subject Heading) terms where applicable, and perform searches using these as well as keyword searches, combined with Boolean logic, OR/AND – a table of the search terms, and a link to the full search strategy/history are available in Tudor-Sfetea and Topciu, 2024S, Appendix C.

Results were exported into RIS and Microsoft Excel files, before being imported into Covidence (Veritas Health Innovation, 2022), a screening and data extraction tool recommended for Cochrane authors.

Selection Process

Duplicates were automatically removed in Covidence. Reference titles and abstracts were then screened by the first author and categorised as “Yes”, “No”, “Maybe”, before reviewing the full texts of the “Yes” and “Maybe” references. A second reviewer followed the same process for a randomly-selected subset, at both stages (approximately 20%; *n* = 51, *n* = 5 respectively). Disagreements (*n* = 5 at title and abstract screening stage, none at full text review stage) were resolved by discussion and revisiting/clarification of criteria, with consensus reached throughout.

Data Collection Process

Data were extracted using customised forms on Covidence, based on the Cochrane Data collection forms for intervention reviews. The forms were piloted on one randomly selected study, and further refined. A subset (12.5%, *n* = 2) of the extracted data were checked for accuracy by the second reviewer; no disagreements occurred. A link to a more extensive, raw data table is available in Tudor-Sfetea and Topciu, 2024S, Appendix D.

Study Risk of Bias Assessment

All included studies were assessed for risk of bias. There seems to be no agreed standard to evaluate the quality of psychotherapy outcome research; instead, a heterogeneity of tools are available, with the Cochrane tools or adapted versions thereof more common (Munder & Barth, 2018). Therefore, the Cochrane risk-of-bias tool for randomised trials (RoB 2) (Sterne et al., 2019) for randomised studies, and the Risk of Bias In Non-Randomised Studies - of Interventions (ROBINS-I) tool (Sterne et al., 2016) for non-randomised studies were used, consistent with PRISMA guidelines (Page et al., 2021), and to align to the majority of previous research, encouraging consistency and reproducibility.

The tool domains were evaluated categorically as *Low*, *High*, or *Some concerns* (RoB2), or *Low*, *Moderate*, *Serious*, *Critical*, or *No information* (ROBINS-I), in line with the signalling questions and guidance (Sterne et al., 2019; Sterne et al., 2016, respectively). Customised Quality Assessment Templates on Covidence were used. A subset (12.5%, *n* = 2) of the studies were also evaluated by the second reviewer; no disagreements occurred.

Synthesis Methods

Due to the limited number of included studies and the heterogeneity of results in terms of study designs and outcomes, following scoping/initial searches, the data were deemed not appropriate for quantitative synthesis. Therefore, a narrative synthesis considering the “Synthesis without meta-analysis" (SWiM) guidelines (Campbell et al., 2020), as well as tables and figures, were used to summarise and explain the characteristics of the included studies.

Results

Study Selection

A total of 411 records were identified and imported into Covidence, with 152 records automatically identified as duplicates and removed. Of the remaining 259 records, 231 were excluded following title and abstract screening, resulting in 28 records eligible for full text review. Twelve of these were then excluded as they did not meet the review criteria; see Tudor-Sfetea and Topciu, 2024S, Appendix E for a detailed overview. Therefore, 16 records were included. The PRISMA flow diagram in Figure 1 outlines this process.

Study Characteristics

Table 2 summarises study and sample characteristics. Studies have been numbered for clarity (chronologically, starting with the oldest, grouped by RCTs, then non-RCTs), and will be referred to by their allocated numbers from now on. Please see Tudor-Sfetea and Topciu, 2024S, Appendix F for a narrative summary of study and sample characteristics.

Interventions, Adaptations, and Results

Table 3 summarises the interventions, adaptations, and results of each of the included studies.

What Evidence-Based Cognitive and/or Behavioural Interventions for LGBTQ+ Populations Exist, and What, if Any, Specific Adaptations Do They Involve?

CBT-based interventions: Eleven studies involved CBT-based interventions, five of which featured the ESTEEM (Effective Skills to Empower Effective Men) intervention, or interventions based on it. ESTEEM was adapted via interviews with key stakeholders, including gay and bisexual men with depression and anxiety and expert providers, from Barlow et al.’s (2011) Unified Protocol to improve minority stress coping through emotion regulation, cognitive restructuring, and assertiveness training (identifying minority stress experiences; tracking cognitive, affective, and behavioural reactions to minority stress; attributing distress to minority stress rather than to personal failure; Pachankis, 2014; Pachankis et al., 2015).

Figure 1

PRISMA Flow Diagram Outlining the Process of Study Selection

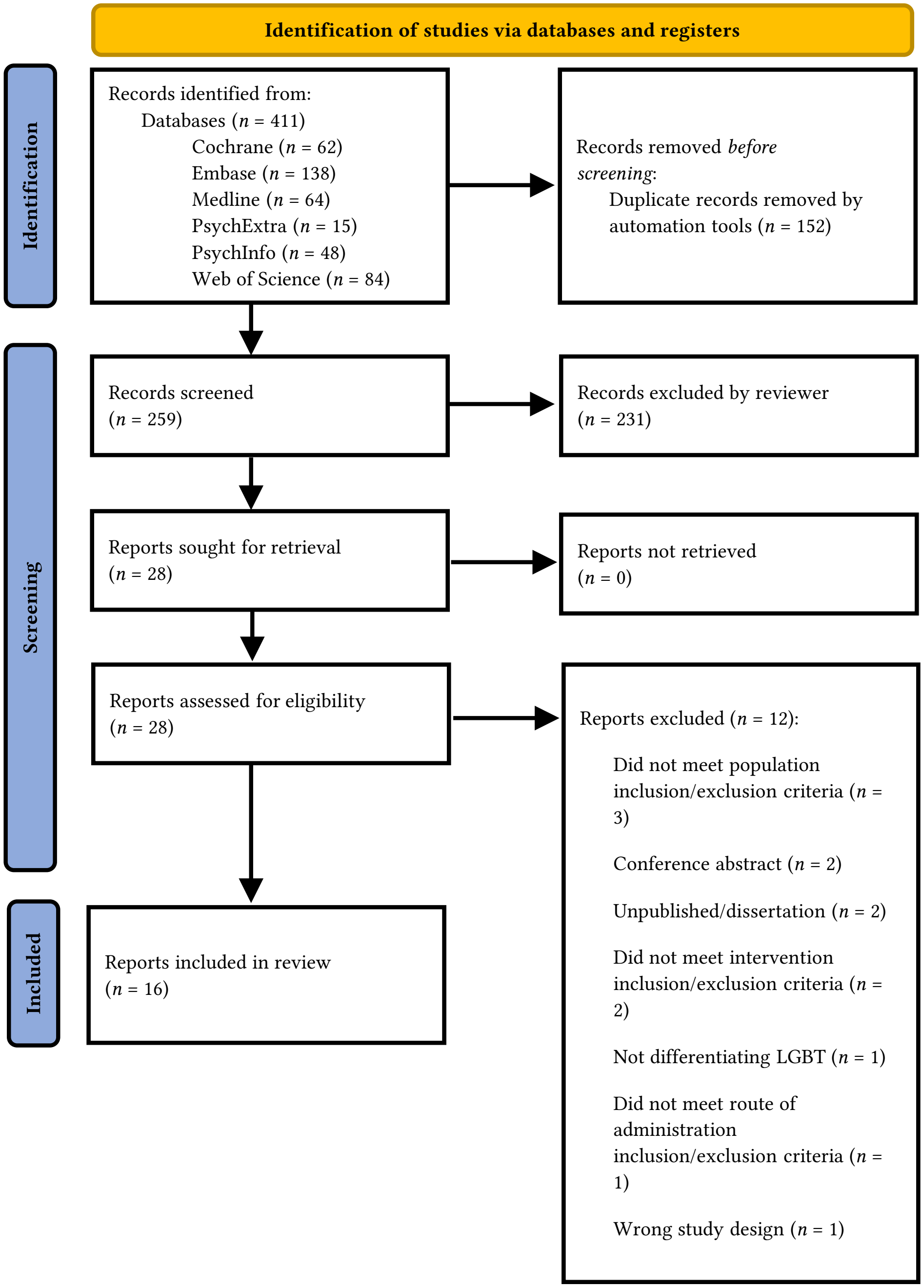


Table 2

Study and Sample Characteristics

Study; year(s) of data collection; country/countries of data collection	Study designs; Comparisons	Timepoints of outcome collection	Sample size	Participants				
				Age - *M* (*SD*) / Breakdown	**Gender (% or *N*)**	**Sexual orientation (% or *N*)**	**Ethnicity (% or *N*)**	**Mental health**
1 - Pachankis et al. (2015); 2013-2014; USA	Randomised controlled trial (crossover - participants were randomised (stratified according to race/ethnicity and anxiety/depression) to either immediate treatment - received treatment between baseline and 3-month assessment -, or waitlist - received treatment between 3-month and 6-month assessment -); Inactive control (waitlist)	Immediate condition: pre-treatment, post-treatment, 3-month follow-up; Waitlist condition: 3-month pre-treatment, pre-treatment, post-treatment	63 (54 completed at least one session)	Immediate condition: 26.19 (4.26); Waitlist condition: 25.69 (4.28)	Male - inclusion criterion;	Gay/queer: 31; 27 Bisexual: 1; 4	Immediate condition; Waitlist condition: American Indian/Alaskan Native: 0; 1 Asian: 0; 3 Black/African American: 6; 4 Pacific Islander: 1; 1 White: 16; 17 Other/mixed: 9; 5 Hispanic/Latino: Yes - 12; 11; No - 20; 20	Immediate pre-treatment mean scores (*SD*) Depression: CESD - immediate condition: 27.69 (1.83), waitlist condition: 23.19 (2.14) - above cut-off 16 ODSIS - immediate condition: 8.16 (0.76), waitlist condition: 7.08 (0.88) - just above /slightly below cut-off 8 Anxiety: OASIS - immediate condition: 8.03 (0.66), waitlist condition: 6.89 (0.78) - just above/ slightly below cut-off 8
2 - Millar, Wang, & Pachankis (2016); 2013-2014; USA	As above	As above	63 enrolled, 54 completed both pre- and post-treatment assessments	*M* = 26.1 (*SD* = 4.0)	Male - inclusion criterion	Gay/queer (49), Bisexual (4)	American Indian or Alaskan Native (1), Asian (1), Black / African American (7), Pacific Islander (2), White (30), Other/mixed (13) Hispanic / Latino - Yes (22), No (32)	Pre-treatment mean scores (*SD*) Depression: ODSIS - 7.46 (4.30) - below cut-off 8 Anxiety: OASIS - 7.50 (3.76) - below cut-off 8
3 – O'Cleirigh et al. (2019); 2007-2011; USA	Randomised controlled trial; active control (VCT-only)	Baseline, end of the treatment period (approximately 3-months after randomization), and 6- and 9-month follow-up	43	*M* = 39.19 (*SD* = 11.07)	Male - inclusion criterion	Gay (27), Bisexual (12), Unsure (4)	Caucasian (27), African American (11), Hispanic/ Latino (3), Other (2)	Baseline mean scores (*SD*) PTSD: Davidson Trauma Scale Control - 37.20 (25.29) - below cut-off 40 Treatment - 47.09 (21.27) - above cut-off 40 Report also states 32.6% of participants met diagnostic criteria for PTSD

Study; year(s) of data collection; country/countries of data collection	Study designs; Comparisons	Timepoints of outcome collection	Sample size	Participants				
				Age - *M* (*SD*) / Breakdown	Gender (% or *N*)	Sexual orientation (% or *N*)	Ethnicity (% or *N*)	Mental health
4 - Pachankis et al. (2020); 2018-2019; USA	As Pachankis et al. (2015) and Millar, Wang, & Pachankis (2016)	As Pachankis et al. (2015) and Millar, Wang, & Pachankis (2016)	60 enrolled, 58 completed at least one session	*M* = 25.58 (*SD* = 3.26)	Women - inclusion criterion; cisgender (56.7%)	Queer (55%)	White (58.3%), racial or ethnic minorities (41.7%)	Immediate pre-treatment mean scores (*SD*) Depression: CESD - immediate condition: 29.70 (1.84), waitlist condition: 26.86 (1.91) - above cut-off 16 ODSIS - immediate condition: 6.30 (0.83), waitlist condition: 7.69 (0.73) - below cut-off 8 Anxiety: OASIS - immediate condition: 8.80 (0.64), waitlist condition: 8.03 (0.46) - just above cut-off 8
5 - Maguen, Shipherd, & Harris (2005); unclear years of data collection; USA	Pre-post	Pre, post	6	*M* = 47 (*SD* = 9.16), range 32-59	Female (MtF)	N/A	N/A	Depression: 67% (4) scored above clinical threshold for BDI Anxiety: 67% (4) scored above clinical threshold for STAI
6 - Yadavaia & Hayes (2012); unclear years of data collection; USA	Concurrent, multiple-baseline, across-participants design (several coordinated simple phase changes, in which treatment begins for specific participants at different points in real time and after baseline periods of differing lengths); Pre-post	Pre, post, 4-week and 12-week follow-up	6 enrolled, 5 completed	Age 21-24 (3 participants), age >30 (1 participant), age 56 (1 participant)	Male (3), Female (2)	Gay (2), Lesbian (1), Questioning (1) - one ppt's data not reported due to preferences	Asian/African American/Caucasian (1), African American/Caucasian (1), Caucasian (1), Native American (1) - one ppt's data not reported due to preferences	Mean scores (*SD*) Depression: DASS-D - 14.4 (8.2) - indicating moderate depression Anxiety: DASS-A - 5.2 (3.9) - indicating normal anxiety
7 - Craig & Austin (2016); 2014;	Open pilot, pre-post	Baseline (<4 weeks before start of	30	*M* = 16.8, range 15-18	Female (54%), gender	Pansexual (29%), lesbian	White European (64%), Black/African/Caribbean	Mean scores (*SD*) Depression:

Study; year(s) of data collection; country/countries of data collection	Study designs; Comparisons	Timepoints of outcome collection	Sample size	Participants				
				Age - *M* (*SD*) / Breakdown	Gender (% or *N*)	Sexual orientation (% or *N*)	Ethnicity (% or *N*)	Mental health
unclear countries of data collection – likely Canada, possibly USA		intervention), post, 3-month follow-up			independent/ non-binary (21%), male (18%), trans (10%), and/or two-spirit (8%)	(25%), queer (21%), bisexual (18%), unsure/ questioning (11%), gay (11%), and/or polysexual (2%)	(25%), East/South/Southeast Asian (24%), Indigenous/ First Nations (18%), and/or Latino/a (7%)	BDI-II - 25.95 (14.51) - indicating moderate depression
8 - Austin, Craig, & D'Souza (2018); 2014; Canada	Pre-post	Pre, post, 3-month follow-up	8	Age 16 (1 participant), age 17 (1 participant), age 18 (6 participants)	Nonbinary (6), Queer (5), Female (2), Transgender (2), Male (1), Two-spirit (1), Gender independent (1), Other-figuring things out (1)	Queer (5), Pansexual (2), Questioning (2), Asexual (1)	White (Canadian, European) (5), Mixed (2), Asian (1), Black (African, Canadian, Caribbean) (1), Indigenous, First Nations, Inuit, Metis (1), Latin American (1)	Mean scores (*SD*) Depression: BDI-II - 37.50 (12.29) - indicating severe depression
9 - Jabson Tree & Patterson (2019); unclear years of data collection; USA	Pre-post	Pre, post, 12-week follow-up	24 enrolled, 17 completed	N/A	Female (11), Male (6)	Bisexual (1), Mostly lesbian/gay/ homosexual (2), Only lesbian/gay/ homosexual (12), Other (2)	N/A	N/A - no measures related to mental health disorders
10 - Cohen et al. (2021); unclear years of data collection; USA	Case series; Pre-post	Pre, post	7; 6 completed treatment	N/A	N/A	Sexual minority - unclear breakdown	N/A	Depression: 67% (4) scored above clinical threshold for PHQ-9 Anxiety: 50% (3) scored above clinical threshold for OASIS

Study; year(s) of data collection; country/countries of data collection	Study designs; Comparisons	Timepoints of outcome collection	Sample size	Participants				
				Age - *M* (*SD*) / Breakdown	Gender (% or *N*)	Sexual orientation (% or *N*)	Ethnicity (% or *N*)	Mental health
11 - Hart et al. (2020); unclear years of data collection; unclear countries of data collection – Canada or USA	Pre-post pilot	Baseline, post, 3-, and 6-month follow-up	29 starters, 21 completers	*M* = 32.81 (*SD* = 8.95)	Male - inclusion criterion	Gay (18), Bisexual (3)	White (12), Black (2), East/ Southeast Asian (0), Middle Eastern/North African (2), Latin American/Hispanic (2), Mixed Race (3)	Mean scores (*SD*) Social Anxiety: Liebowitz Social Anxiety Scale - 62.86 (22.76) - indicating moderate social anxiety SIAS - 47.38 (12.31) - above cut-off 34/36 SPS - 33.57 (18.81) - above cut-off 24 BFNE-S - 30.28 (7.11) - above cut-off 25 Report also states 95% of participants meeting diagnostic criteria for social anxiety Depression: CESD - 25.81 (12.76) - above cut-off 16 Report also states 24% of participants meeting diagnostic criteria for major depressive disorder, current episode
12 - Bluth et al. (2023); 2020-2021 (presumed due to mention of Covid-19 pandemic and 2021 year of publication); unclear countries of data collection – USA or Canada	Pre-post	Pre, post, 3-month follow-up	41	*M* = 14.5 (*SD* = 1.49)	Transgender M-F (9), Transgender F-M (18), Non-binary (12), Genderfluid (3), Questioning (2), Agender (1)	N/A	White (33), Black/African American (4), Asian (1), Hispanic/Latino/a (5), Other: Mixed (1)	Mean scores (*SD*) pre-intervention Anxiety: STAI - 50.77 (13.58) - above cut-off 40 Depression: PHQ-9 - 15.12 (6.77) - above cut-off 10
13 - Craig et al. (2021); 2020; unclear countries of data collection,	Non-randomised experimental study; inactive control	Pre, post	46 completers	*M* = 21.17 (*SD* = 4.52)	Non-binary (17), Transgender (14), Cis woman (8),	Queer (12), Lesbian (10), Bisexual (6), Gay (6), Pansexual (6),	White (35), Asian (5), Black (4), Middle Eastern (2), Indigenous (1), Latinx (0), Multi-ethnic/racial (5), Other (6)	Mean scores (*SD*) Depression: BDI-II - control: 19.48 (10.67), intervention: 19.30 (11.15) - indicating mild-moderate depression

Study; year(s) of data collection; country/countries of data collection	Study designs; Comparisons	Timepoints of outcome collection	Sample size	Participants				
				Age - *M* (*SD*) / Breakdown	Gender (% or *N*)	Sexual orientation (% or *N*)	Ethnicity (% or *N*)	Mental health
likely Canada or USA					Queer (3), Agender (2), Cis man (1), Two-spirit (0), Other (1)	Asexual (3), Questioning (2), Demi (1), Other (0)		
14 - Pan et al. (2021); unclear years of data collection; China	Pre-post	Baseline, 1-month follow-up	8	Age 16-20 (2 participants), age 21-30 (3 participants), age >30 (3 participants)	Male - inclusion criterion	Gay (6), Bisexual (2)	Asian/Chinese (as per article title)	Baseline mean scores (*SD*) Depression: PHQ-9 - 10.43 (3.46) - above cut-off 10 Anxiety: GAD -7 - 7.43 (2.57) - below cut-off 8
15 - Jackson et al. (2022); 2018-2019; USA	Pre-post	Baseline, 3-month follow-up	21 starters, 17 completed the 3-month follow-up	Age 18-23 (4 participants), age 24-29 (11 participants), age 30-35 (6 participants)	Male - inclusion criterion; Cisgender man (20), Transgender man (1)	Gay (16), Bisexual (3), Queer (2)	Latino/Latinx (Hispanic) (7), White (Hispanic) (5), Black (Hispanic) 5, Black (non-Hispanic) (4)	Baseline mean scores (*SD*) Depression: CEDS - 22.10 (11.89) - above cut-off 16 ODSIS - 11 (4.79) - above cut-off 8 Anxiety: OASIS - 12.05 (3.54) - above cut-off 8
16 - Poon et al. (2022); unclear years of data collection; USA	Pre-post; LGBQ-non-LGBQ	Pre, post	39	$M = 15.21$ ($SD = 1.65$)	Female (86.8%)	LGBQ (16), Heterosexual (23)	Non-Hispanic White (71.1%), Hispanic (22.9%), bi- or multiracial (13.1%), Asian, African-American, or other (7.9%)	Pretreatment mean scores (*SD*) Depression: BDI-II - 28.64 (14.61) - indicating moderate-severe depression

Table 3

Interventions, Adaptations, and Results

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
1 - Pachankis et al. (2015)	CBT: ESTEEM intervention - 10 individually-delivered sessions, based on Barlow et al.'s Unified Protocol for the Transdiagnostic Treatment of Emotional Disorders	Yes - focus on the impact of minority stress on mental health, interpersonal functioning, unhelpful behaviours; aim of improving minority stress coping through emotion regulation, cognitive restructuring, assertiveness training	Center for Epidemiological Studies Depression Scale (CESD); Overall Depression Severity & Impairment Scale (ODSIS); Overall Anxiety Severity & Impairment Scale (OASIS); Measure of Gay-Related Stress (MOGS); Gay-related Rejection Sensitivity Scale (GRS); Internalized Homophobia Scale (IHS); Sexual Orientation Concealment Scale (SOCS); Ruminative Responses Scale (RRS); Difficulties of Emotion Regulation Scale (DERS); Rathus Assertiveness Schedule (RAS)	Linear mixed models with maximum likelihood estimation 1) Condition comparison 2) Generalized linear mixed models predicting the odds of meeting clinical cut-offs on CESD, ODSIS, OASIS 3) Pooled data (pre-treatment measures from the baseline assessment for the immediate participants and the three-month assessment for the waitlist participants, and post-treatment measures from the three-month assessment for the immediate participants and the six-month assessment for the waitlist participants) - change comparison across all participants from immediate pre-treatment to post-treatment 4) Follow-up assessment; 63 - intent-to-treat approach	1) Significant improvements in depressive symptoms (on ODSIS, not CESD), marginally significant improvements in anxiety (OASIS) in immediate vs waitlist condition (medium-large effects sizes), no significant condition - time interaction effects for cognitive, affective, and behavioural minority stress processes or for universal processes (small effect sizes) 2) Stronger decreases in the proportion of immediate versus waitlist participants who continued to exceed the cut-off at three months (on CESD, not ODSIS or OASIS) 3) Significant reductions in all primary outcomes, significant (apart from SOCS) reductions in all minority stress processes and universal processes from immediate pre-treatment to post-treatment (large effect sizes) 4) Treatment effects generally maintained at follow-up, few significant differences between post-treatment and follow-up, rumination scores continuing to significantly decrease from post-treatment
2 - Millar, Wang, & Pachankis (2016)	CBT: ESTEEM intervention	Yes - described above	Sexual Orientation Implicit Association Test;	Linear mixed models with maximum likelihood estimation, pooled data as	Depression and anxiety showed significant reductions;

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
			Internalized Homophobia Scale (IHS); Overall Depression Severity & Impairment Scale (ODSIS); Overall Anxiety Severity & Impairment Scale (OASIS)	above, two separate models - with implicit IH and explicit IH, and their respective interactions with time; 54 (who completed pre- and post-treatment assessments)	Participants higher in implicit IH at baseline showed nearly three times greater reductions than those lower in implicit IH on depression and anxiety; At post-treatment, those higher in implicit IH showed reductions on depression and anxiety roughly equivalent to one standard deviation
3 - O'Cleirigh et al. (2019)	CBT: 10-session integrated CBT for Trauma and Self-Care (CBT-TSC) intervention with HIV voluntary counseling and testing (VCT) or VCT alone (VCT-only)	Yes - participants in both conditions received HIV/STI voluntary counseling and testing (VCT) at baseline	Mini-International Neuropsychiatric Interview (MINI) - to assess symptoms and a diagnosis of PTSD Davidson PTSD Scale	HLM (Hierarchical Linear Modeling) 43	Davidson Trauma Scale Immediately post-treatment: - Significantly greater reductions in posttraumatic symptom severity for the CBT-TSC condition for the Total Score and the Avoidance subscale - Trend for a difference between the conditions for the Intrusions subscale Follow-up: - Trend for a statistically significant difference between the randomization conditions on the Total Score - Significant reductions in trauma symptom severity for the Avoidance subscale - Trend for a meaningful difference between the conditions for the Intrusions subscale
4 - Pachankis et al. (2020)	CBT: EQuIP (Empowering Queer Identities in Psychotherapy), a 10-session intervention adapted for sexual minority women from the ESTEEM protocol	Yes - adapted from the ESTEEM protocol, described above, with a focus on sexual minority women's unique experiences	Center for Epidemiological Studies Depression Scale (CESD); Brief Symptom Inventory (BSI); Overall Depression Severity & Impairment Scale (ODSIS);	As Pachankis et al. (2015); 60 (intent-to-treat)	1) Significant improvements in depressive symptoms (on CESD, ODSIS) and anxiety (OASIS) in immediate vs waitlist condition (large effect sizes), no significant condition - time interaction

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
			Overall Anxiety Severity & Impairment Scale (OASIS); Sexual Minority Women's Rejection Sensitivity Scale (SMW-RSS); Sexual Orientation Concealment Scale (SOCS); Lesbian, Gay, and Bisexual Identity Scale - Internalized Homonegativity Subscale; Sexual Orientation Implicit Association Test; Difficulties of Emotion Regulation Scale - Short Form (DERSSF); Ruminative Responses Scale - Brooding Subscale (RRS); Simple RAS - Short Form (SRAS-SF)		effects for minority stress processes or for universal processes (small effect sizes) 2) Stronger decreases in the proportion of immediate versus waitlist participants who continued to exceed the cut-off at three months (on ODSIS, not CESD, and on OASIS) 3) Significant improvements in all primary outcomes (large effect sizes), significant improvements in emotion regulation difficulties and rumination and marginally significant reductions in rejection sensitivity (small effect sizes for minority stress processes, small-medium effect sizes for universal processes) 4) Treatment effects generally continued to decrease at follow-up for mental and behavioural health outcomes, minority stress processes, and universal processes, BSI and rumination continuing to significantly decrease from post-treatment
5 - Maguen, Shipherd, & Harris (2005)	CBT: 12 weekly 60-minute sessions	Yes - session dedicated to hormone maintenance, surgeries, health care; session dedicated to disclosure, passing, socialisation; session dedicated to body issues and intimate relationships etc.	Beck Depression Inventory (BDI) State and Trait Anxiety Inventory (STAI) Network Orientation scale (NOS) - utilising social support networks in times of need Life Satisfaction Index (LSI)	N/A - individual scores; 6	Overall: - Anxiety and depression measures: Improvement - Social support: Increases in 4/6 participants - Life satisfaction indices: Decreased for the majority of participant, perhaps due to the multitude of life changes, including becoming unemployed and homeless

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
6 - Yadavaia & Hayes (2012)	ACT: 6-10 weekly 50-minute ACT sessions	Yes - explicitly addressing self-stigma around sexual orientation/internalised homophobia	Primary: - Daily Ratings of Thoughts About Sexual Orientation ((a) the degree to which negative thoughts about sexual orientation interfered in the participant's life, (b) the distress associated with those thoughts, (c) the believability of the thoughts, and (d) their frequency); Secondary: - Depression, Anxiety, and Stress Scales-21 (DASS-21); - Short Internalized Homonegativity Scale (SIHS); - Lesbian Internalized Homophobia Scale (LIHS); - WHOQOL-BREF (World Health Organization Quality of Life - Abbreviated Version); - AAQ-II (Acceptance and Action Questionnaire-II)	Hierarchical Linear Modeling (HLM); Mixed Model Repeated Measures; 5	Daily Ratings of Thoughts About Sexual Orientation: Improvements in interference and distress from baseline to the later time points in all participants; similar pattern for believability ratings; inconsistent and smaller changes for frequency ratings During baseline: No significant time effects for time for any of the rated dimensions During treatment: Frequency of thoughts did not change, but believability declined significantly, as did distress and self-reported interference IH: Improvement on SIHS and LIHS from pre-treatment by post-treatment (23%), by the 4-week follow-up (32%), and by the 12-week follow-up (40%) Depression, anxiety stress: No significant change on anxiety (from normal range at baseline); significant reduction in depression and stress (from moderate and mild range, respectively, at baseline) by follow-up; improvements in quality of life and psychological flexibility at 4-week follow-up
7 - Craig & Austin (2016)	CBT: AFFIRM intervention: eight module, manualised affirmative cognitive behavioural intervention	Yes - incorporating affirmative practices into traditional CBT models	Beck Depression Inventory (BDI-II); Stress Appraisal Measure for Adolescents (SAMA) - 3 subscales (challenge, threat, resources);	Repeated measures ANOVA - general linear model (GLM); T1-T2 = 30; T1-T3 = 17	Depression: Statistically significant reduction from T1 to T2, and from T1 to T3 Reflective coping: Non-significant increase from TI to T2; significant differences between T1 and T3

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
			Adolescent Proactive Coping Inventory (PCI-A) - Reflective Coping Subscale (RCS)		Stress appraisal: Threat appraisal: Significant decrease from T1 to T2, persisted to T3 Challenge appraisal: Significant increase from TI to T2, did not retain statistical significance to T3 Resource appraisal: Significant increase from T1 to T2, did not retain significance to T3
8 - Austin, Craig, & D'Souza (2018)	CBT: 2-day retreat - AFFIRM, described above	Yes - described above	Beck Depression Inventory (BDI-II); Adolescent Proactive Coping Inventory (PCI-A) - Reflective Coping Subscale (RCS)	Paired-sample t-tests (T1-T2, T1-T3, T2-T3); T1-T2 - 8, T1-T3, T2-T3 - 6	Depression: Statistically significant reduction from T1 to T2, from T1 to T3, nonsignificant reduction from T2 to T3; Mean scores at T2 and T3 remained in the BDI-II Severe range Coping: No significant differences from T1 to T2 or from T2 to T3
9 - Jabson Tree & Patterson (2019)	Online MBSR - 8 weeks, paralleled Kabat-Zinn's in-person MBSR	N/A	Perceived Stress Scale (PSS); Daily Experiences with Heteosexism Questionnaire (DEHQ)	1) Paired samples *t*-tests for changes in stress from baseline to postprogram and baseline to follow-up 2) Repeated-measures ANOVA tested mean values for each measure of stress against one another at the 3 time points; 17	Women: - Perceived stress (PSS): Significant decrease pre-post and pre-follow-up - Overall DEHQ and Vigilance subscale: Non-significant decrease pre-post, significant decrease pre-follow-up - Vicarious trauma subscale of the DEHQ: Significant decrease pre-post and pre-follow-up - Similar but less dramatic results on ITT analyses overall Men: - Perceived stress (PSS): Significant decrease pre-post, but not pre-follow-up,

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
					similar but less dramatic results on ITT analyses - DEHQ: No significant difference in either per-protocol or ITT analyses
10 - Cohen et al. (2021)	DBT; Other: Weekly 90-minute session over 10 consecutive weeks; participants were enrolled in individual psychotherapy and/or medication management concurrently	Yes - incorporates minority stress theory and adapts the teaching points of existing DBT skills to create Affirmative DBT Skills Training; including psychoeducation on the minority-specific psychological processes of rejection sensitivity, internalized stigma, and sexual orientation concealment	Difficulties of Emotion Regulation Scale (DERS); Overall Anxiety Severity & Impairment Scale (OASIS); Patient Health Questionnaire - Depression Module (PHQ-9); Gay-related Rejection Sensitivity Scale (GRS); Sexual Minority Women's Rejection Sensitivity Scale (SMW-RSS); Internalized Homophobia Scale (IHS); Sexual Orientation Concealment Scale (SOCS)	Clinically significant reliable change, with normative data used to calculate RCI acquired through the scales original articles; RCI not calculated for the GRS, SMW-RSS, IHS, and SOCS, as relevant data were not available; 6	Emotion regulation: Improvements in 5/6 participants (statistically significant for ~50% of the participants); Depressive symptoms: Improvements in 4/5 of the participants who reported a clinical level of depression at baseline (statistically significant for ~50% of the participants; Anxiety symptoms: Improvements in 3/4 of the participants who reported a clinical level of anxiety at baseline; GRS/SMW-RSS, IHS, and SOCS: Improvements in the majority of participants
11 - Hart et al. (2020)	CBT: Ten 1-hour, weekly sessions of CBT for treatment of social anxiety, related substance use in sexual situations, and HIV prevention	Yes - focus on participants' sexual and relationship history, goals for satisfying relationships and sex etc.	The Mini International Neuropsychiatric Interview version 6.0 (MINI 6.0); Anxiety Disorders Interview Schedule-IV-Lifetime (ADIS-IV), Social Phobia Section; Liebowitz Social Anxiety Scale (LSAS); The Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS); Center for Epidemiologic Studies-Depression Scale (CESD); UCLA Loneliness Scale Version 3 (UCLA); Brief Fear of Negative Evaluation Scale, Straight-forward Items (BFNE-S)	Generalized estimating equations with robust estimators and unstructured correlation matrix addressing nonindependence of data across time points; Beta estimates for continuous measures and relative risk ratios (RR) for binary outcomes	Similar pattern of results using both intent-to-treat (n = 32) and completer (n = 21) samples; therefore, results of latter reported Social anxiety: - Significant reductions in the proportion of participants who met diagnostic criteria for social anxiety disorder from baseline to all timepoints - Significant reductions in mean scores on the LSAS, SIAS, SPS, BFNE-S between baseline and all time points Depression and loneliness:

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
					- Significant reduction in the proportion of patients with current major depressive episodes pre-post-treatment, non-significant differences for 3- and 6-month follow-up; - Significant reduction in mean scores on the CESD between baseline and all timepoints; - Significant reduction in mean scores on the UCLA between baseline and all timepoints
12 - Bluth et al. (2023)	Mindful Self-Compassion for Teens (MSC-T) - 8x1.5h sessions online, held over 8 days (1/day) for the first cohort, then 2x/week for 4 weeks for the second two cohorts	Yes - slight modifications to accommodate the needs of transgender adolescents e.g., ommission of body scan practice	Self-compassion scale: Youth (SCS-Y) Student life satisfaction scale (SLSS) Spielberger State Anxiety Scale - Short Form Patient Health Questionnaire-Depression Module (PHQ-9) Interpersonal needs questionnaire (INQ) Brief resilience scale (BRS)	One-way repeated measures ANOVAs; 26	Overall, main effect of time for all constructs across the study Depression: Significant decrease pre-post and pre-3-month follow-up Anxiety: Significant decrease pre-post (not observed at 3-month follow-up) Resilience: Significant increase pre-post (not observed at 3-month follow-up) Mindfulness: Significant increase pre-post and pre-3-month follow-up Self-compassion: Significant increase pre-post and pre-3-month follow-up
13 - Craig et al. (2021)	CBT: AFFIRM, described above - Online groups (eight weekly sessions) with 6-14 distinct participants in each age-appropriate (14-18, 19-24, 25+) group	Yes - AFFIRM, described above	Beck Depression Inventory (BDI-II); Brief COPE Inventory (BCI); Proactive Coping Inventory for Adolescents-A (PCI-A)-Reflective Coping Subscale (RCS); Stress Appraisal Measure for Adolescents (SAMA); Hope Scale (HS)	Linear multilevel models with restricted maximum likelihood estimation (REML) to test the effects of Time, Condition, and Time X Condition for all outcomes; age (centred at the mean of the whole sample = 22.34) included as a covariate in the model; Intervention (46), Control (50)	Compared to waitlist control, intervention condition participants experienced: - Significantly reduced depression - Significantly improved likelihood to appraise stress as challenge and to appraise that they had enough resources to deal with the stress

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
					- Significantly improved active coping, emotional support, positive framing, planning Marginally significant decrease in self-blame; no significant differences between the intervention and control conditions for substance use and behavioural disengagement - Increases for reflective coping or hope, but not statistically significant
14 - Pan et al. (2021)	CBT: ESTEEM, adapted for new contexts or populations	Yes - ESTEEM, described above, but with a different (Asian/Chinese) population	Chinese version of the PHQ-9 Chinese version of the GAD-7	Paired sample *t*-tests; 7	Reduction in the average score of depression and anxiety symptoms by approximately 7 and 5, respectively (medium-to-large improvement)
15 - Jackson et al. (2022)	CBT: Weekly 90-min group treatment sessions over 10 weeks	Yes - ESTEEM, described above, but adapted to recognise the intersectionality of racism and homophobia	Center for Epidemiological Studies Depression Scale (CESD); Overall Depression Severity & Impairment Scale (ODSIS); Overall Anxiety Severity & Impairment Scale (OASIS); Gay-related Rejection Sensitivity Scale (GRS); Self-Concealment Scale as previously modified for use with GBM; Internalized Homophobia Scale (IHS); Prolonged Activation and Anticipatory Race-Related Stress Scale - Psychological Subscale and Perseverative Cognitive Subscale; Racism-Related Vigilance Scale; Heterosexism in Racial Ethnic Minority Communities Subscale of the LGBT	*t*-tests - focusing on Hedge's *g* effect sizes 21 (baseline), 17 (3-month follow-up)	Depression symptoms and severity, anxiety, psychological distress, suicidal ideation: Decrease (very small effect sizes); Rejection sensitivity and concealment: Decrease (small effect sizes), but not internalised homophobia; Racial minority stress outcomes, including decreased anticipatory stress, race-related rumination, and race-related vigilance, and intersectional stress, including homophobia within one's racial/ethnic community, racism within the LGBT community, and racism in dating and close relationships: Decrease (very small to small effect sizes)

Study	Interventions	Any LGBTQ+-specific adaptations	Relevant outcomes (complete names and references in Tudor-Sfetea & Topciu, 2024S, Appendix I)	Relevant analyses; Number of participants included therein	Relevant results summary
			People of Color (POC) Microaggression Scale		
16 - Poon et al. (2022)	DBT: 18-week comprehensive DBT-A (adaptation of DBT model for adolescents and their families) outpatient program offered to adolescents between the ages of 13-18, delivered with fidelity to the standard model, including a weekly multi family skills training group, individual therapy, 24/7 phone coaching, and a therapist consultation team	N/A	Difficulties of Emotion Regulation Scale (DERS); Beck Depression Inventory (BDI-II); Beck Anxiety Inventory; The dialectical behaviour therapy ways of coping checklist (DBT-WCCL); Boderline symptoms list (BSL)	1) Repeated-measures bootstrapped *t*-tests (two-tailed 0.05 p-values for treatment effects) - for LGBQ participants only 2) 2x2 mixed-model ANOVA to test group (LGBQ/non-LGBQ) effects on the outcomes; 16 - LGBQ for 1), 16 - LGBQ +23 - non-LGBQ for 2)	1) Significant improvements on all outcomes, apart from anxiety (mostly large effect sizes) 2) No significant group - time interaction effects on any of the outcomes (changes over time did not differ between LGBQ and non-LGBQ participants); statistically nonsignificant, but small to medium interaction effect sizes on the DERS, BDI-II, and WCCL-Skill Use (sexual minorities may benefit slightly more from DBT-A with respect to emotion regulation, depression, and effective skill use)

Note. All information was presented as found in the respective results sections of the primary reports; the same applies for evaluations of what is considered statistically or clinically significant, and effect sizes (although generally, statistically significant pertains to $p < .05$, clinically significant pertains to reductions in scores that either decrease to below clinical threshold of the respective scale or exceed the measurement error of the scales, and effect sizes are considered small ($d/g = 0.2$), medium ($d/g = 0.5$), and large ($d/g \geq 0.8$) according to Cohen (1969), and the included studies seem to have adhered to this).

Interventions based on ESTEEM included EQuiP (Empowering Queer Identities in Psychotherapy), which, following interviews with sexual minority women and expert clinicians, revised intervention contents to, for example, focus on sexual minority women's unique experiences, including the intersection of sexism with other forms of oppression, exposure to sexual assault and harassment, or impact of gender norms (Pachankis et al., 2020).

ESTEEM was also adapted to more diverse contexts, populations, and ethnicities, with a view to address cultural contexts such as prioritisation of family needs and limited support from the health system (Pan et al., 2021), or to recognise intersectionality of racism and homophobia (Jackson et al., 2022). Adaptations occurred via key stakeholder feedback and by following the Assessment-Decision-Administration-Production-Topical Experts-Integration-Training-Testing (ADAPT-ITT) model (Wingood & DiClemente, 2008), a prescriptive method for adapting existing evidence-based interventions for new contexts or populations (Pan et al., 2021), as well as based on prior empirically supported group treatments for GBM of colour and guidance on psychotherapy for individuals who are both racial and sexual minorities (Jackson et al., 2022).

Three studies featured the AFFIRM intervention, a manualised affirmative cognitive behavioural intervention developed using case studies and community-based research, and participant feedback. AFFIRM targets young people with sexual and/or gender identity minority identities, focusing on improving coping and reducing depression. This occurs by explicitly acknowledging and validating the unique experiences of these populations, providing opportunities to understand and modify cognition (self-awareness, identifying risk, e.g., development of realistic alternative ways of thinking and behaving that affirm identities while integrating healthy ways of coping with internal/external stressors), mood (recognising the link between thoughts and feelings, e.g., how participants have learned to cope with identity-specific stressors), and behaviour (identifying strengths and ways of coping, e.g., connection to peer and adult allies) (Craig & Austin, 2016).

Furthermore, one study featured CBT for Trauma and Self-Care (CBT-TSC) including HIV counselling, another featured CBT for social anxiety including a focus on goals for satisfying relationships and sex, and a last study featured CBT with sessions dedicated to transgender-specific issues.

DBT, mindfulness, ACT: Two studies used DBT, one adapted by explicitly including minority stress psychoeducation; two studies featured mindfulness-based interventions (MBSR; Mindful Self-Compassion for Teens, MSC-T – with slight modifications to accommodate the needs of transgender adolescents). A final study featured ACT, explicitly addressing self-stigma around sexual orientation/internalised homophobia.

See Tudor-Sfetea and Topciu, 2024S, Appendix G for more details.

What Are the Outcomes of Evidence-Based Cognitive and/or Behavioural Interventions and Adaptations Targeting Mental Health in LGBTQ+ Populations?

Condition Differences Post-Intervention — Four studies, three of which were RCTs with inactive controls (#1, #3, #4) and one of which was a non-randomised experimental study (#13), all CBT-based, reported condition differences; #2, although an RCT, focused primarily on the effects of internalised homophobia.

Mental Health; Depression and Anxiety — Three studies (#1, #4, #13) reported significant improvements in depressive symptoms – although on different measures, and the two RCTs also at least marginally significant improvements in anxiety, all of which had medium-large effect sizes, maintained at follow-up where available. The fourth study (#3) focused on PTSD and showed significant improvements on all measures related to this, bar one subscale which showed a trend for significant difference; these effects were maintained or were trending towards this at follow-up.

Mental Health; Other Processes/Constructs and Minority Stress-Related Processes/Constructs — No significant differences were reported in any of the studies.

Pre-Post Differences — The remaining 11 studies reported pre-post intervention differences for variables of interest – however, three of the RCTs (#1, #2, #4) and the non-randomised experimental study (#13) also reported pre-post differences.

Mental Health; Depression and Anxiety — Fourteen studies reported results related to symptoms of depression, all of which showed improvements on at least one measure, ten of which (#1, #2, #4, #6, #7, #8, #11, #12, #13, #16) statistically or clinically significant, with medium-large effect sizes, generally maintained at follow-up. Ten studies reported results related to symptoms of anxiety, eight of which showed improvements, four of which (#1, #2, #4, #12) were at least marginally statistically or clinically significant, with medium-large effect sizes, of which two maintained the effects at follow-up. The study that focused on social anxiety (#11) showed significant improvements on all measures related to this.

Mental Health; Other Processes/Constructs — Two studies reported results related to emotion regulation, one of which (#16) showed significant improvements with large effect sizes, maintained at follow-up. Three studies reported results related to coping, only two of which (#7, #13) showed significant improvements between at least two timepoints, on different measures.

Minority Stress-Related Processes/Constructs — Six studies reported results related to internalised homophobia, three of which reported improvements on at least one analysis, one of which (#1) was statistically significant, with a large effect size, maintained at follow-up. Four studies reported results on rejection sensitivity, all of which showed improvements, but only one of which (#1) reported a significant result, with a large effect size. Finally, four studies reported results related to sexual orientation concealment, two of which reported improvements, none of which appeared to be significant, with small effect sizes.

Risk of Bias in Studies

All four RCTs were judged to be at high risk of bias using the RoB 2 (Sterne et al., 2019), particularly due to high risk being identified in the measurement of outcome and missing data domains, respectively.

Of the 12 non-randomised studies, nine (#5, #7, #8, #9, #10, #11, #12, #14, #15) were judged to be at critical risk of bias using the ROBINS-I (Sterne et al., 2016), and three (#6, #13, #16) were judged to be at serious risk of bias. This was mostly due to critical scores in the confounding domain, as well as serious scores in the measurement of outcomes domain. Half of the studies also scored as serious on the selection of participants domain.

See Figures 2 and 3, generated using the Cochrane visualisation tool - robvis, McGuinness et al., 2021), and further details, in Tudor-Sfetea and Topciu, 2024S, Appendix H.

Discussion

This review investigated evidence-based cognitive and/or behavioural interventions and adaptations for LGBTQ+ populations, complementing previous work (Bochicchio et al., 2022; Sheinfil et al., 2019; Van Der Pol-Harney & McAloon, 2019) by focusing specifically on cognitive and/or behavioural interventions and broadening the criteria to include participants of any age.

Summary and Interpretation of Evidence

What Evidence-Based Cognitive and/or Behavioural Interventions for LGBTQ+ Populations Exist, and What, if any, Specific Adaptations Do They Involve?

The studies included in the review featured a range of therapeutic modalities (CBT – 11 studies; DBT – two studies; ACT – one study; mindfulness-based interventions – two studies). Of the CBT studies, eight involved versions of two protocolised interventions aimed specifically at LGBTQ+ individuals (ESTEEM, interventions based on it such as EQuiP, or adaptations to more diverse contexts or populations – five studies, and AFFIRM – three studies; see Table 3). Another four studies explicitly referred to LGBTQ+-specific adaptations, including a focus on stigma around sexual orientation, incorporating minority stress theory, or slight modifications to accommodate LGBTQ+ needs.

What Are the Outcomes of Evidence-Based Cognitive and/or Behavioural Interventions and Adaptations Targeting Mental Health in LGBTQ+ Populations?

When considering post-intervention differences between groups, of the four studies (three RCTs, one non-randomised experimental study) which reported this, three reported significant improvements in depressive symptoms, and the two RCTs also at least marginally significant improvements in anxiety. The fourth study, which focused on PTSD, showed significant improvements on most measures related to this. No significant differences were reported in terms of other mental health or minority stress-related processes/constructs.

When considering pre-post differences, these were reported in the remaining 11 studies as well as in three of the RCTs and the non-randomised experimental study. All the 14 studies investigating this showed improvement on at least one measure, ten being statistically/clinically significant. For anxiety, eight out of ten studies showed improvements, four thereof at least marginally statistically/clinically significant. The study that focused on social anxiety showed significant improvements on all measures related to this.

Reflections

Studies were heterogenous in terms of study designs, outcome measures, and analyses. Although the studies showed general improvements in certain areas such as depression, this is based on a variety of outcome measures (e.g., in some studies, significant improvements are seen on one outcome measure and not another, and viceversa – Pachankis et al., 2015, and Pachankis et al., 2020, respectively), as well as types of analysis (statistical significance, effect sizes, clinically significant reductions). This, together with the limitations of the studies (see below), raises questions about the strength and consistency of the evidence base.

The included studies also featured a heterogeneity of LGBTQ+ populations, such that the results cannot be generalised to any specific LGBTQ+ population without discussing the intersection of various identities (sexual, gender, racial, ethnic, social). Indeed, six studies focused on men, of which four included both gay and bisexual men, one included gay and bisexual men of colour, and one included sexual minority men in China. One study only focused specifically on women, three specifically on transgender individuals; moreover, most studies were conducted in North America. Therefore, findings may apply more to particular populations such as sexual minority men in North America, raising the question of whether other populations are the focus of enough relevant research.

Moreover, while a variety of transdiagnostic elements were featured in the studies' interventions, mechanisms of change are not clearly differentiated such that the role of the minority stress-based adaptations remains largely unclear. Indeed, the most notable effects were observed for depression, while measures of minority stress (that is, proximal factors such as internalised homophobia, concealment, rejection sensitivity) showed less reliable improvements – or were not even explored at all (of the 16 included studies, only seven included such measures). Measures of other processes/constructs proposed to interact with minority stress (e.g., emotion regulation, unhelpful behaviours) were included in some studies, yet again, yielded unreliable results. While some authors (e.g., Pachankis et al., 2015) discuss that larger sample sizes would reveal such effects, it seems that certain components of non-empirically based treatment may also lead to improvements (Van Der Pol-Harney & McAloon, 2019).

Findings of this review were consistent with those of previous systematic reviews in that positive effects on mental health were reported, particularly in terms of symptoms of depression (Bochicchio et al., 2022; Sheinfil et al., 2019; Van Der Pol-Harney & McAloon, 2019), with comparable results for various modes of administration, including in-person, online, individual, or group (Bochicchio et al., 2022; Hobaica et al., 2018), and particularly for interventions based on CBT (Van Der Pol-Harney & McAloon, 2019). Furthermore, previous reviews also noted the paucity and heterogeneity of existing literature. However, while the cited reviews only explored interventions for young people, the current review expanded these to all ages, providing some evidence that results can be generalisable to adults as well, yet the intersection of these various characteristics and identities necessitates more in-depth exploration.

What Recommendations Could Be Made in Terms of Such Adaptations in Clinical Practice?

The heterogeneity in the studies leads to a limited ability to draw more precise conclusions about the effects of particular interventions for particular groups. Therefore, generic therapeutic competencies and metacompetencies (e.g., around engagement, therapeutic alliance and grasping clients' 'world views', adapting interventions in response to client feedback, formulating and applying CBT models to the individual client etc., Roth & Pilling, 2007) may be especially important. Indeed, such competencies have been deemed important by some LGBTQ+ populations (McNamara & Wilson, 2020).

Applying these competencies to the needs of LGBTQ+ populations may also specifically mean adopting an affirmative approach, with clinicians being aware of LGBTQ+ issues (O'Shaughnessy & Speir, 2018), including minority stress, and receiving ongoing training on this (Boroughs et al., 2015; McNamara & Wilson, 2020). This may also mean adopting a more holistic approach, as LGBTQ+ individuals may benefit from addressing minority stress regardless of the format and drawing from social support to build resilience or reframe unhelpful beliefs (Alessi, 2014).

Limitations of Evidence/Summary and Interpretation of Risk of Bias Evaluation

Searches yielded only 16 studies despite broad inclusion criteria. Only four studies used an RCT design, with the majority using a pre-post design with no control group, therefore not being able to establish a causal effect of the interventions. Moreover, sample sizes varied considerably, with some studies featuring very small sample sizes and some studies relying on the same sample, bringing into question statistical power and the relevance, reliability, and generalisability of results where statistical tests were not even used.

Risk of bias was evaluated as high in all four RCTs, and critical in nine of the non-randomised studies, with the remaining three non-randomised studies evaluated as serious. However, due to the nature of psychological interventions, domains regarding blinding participants and study personnel and measuring outcomes are intrinsically restricted. Nonetheless, almost all uncontrolled pre-post studies were evaluated as presenting critical risk of confounding, based on the ROBINS-I detailed guidance (Sterne et al., 2016), which recommends this where confounding is “inherently uncontrollable”. This may have led to a flooring effect.

Limitations of the Review Process

Only English language and peer-reviewed studies were included, which limited the range of articles, potentially raising publication bias (Cuijpers et al., 2010). Our intention was to focus on the “gold standard” (peer-reviewed) literature as a first step, and research has found that “any unpublished studies identified in a given review may be an unrepresentative subset of all the unpublished studies in existence” (Higgins et al., 2023). A funnel plot was considered, but this was not possible, as treatment effects were not available for all included studies.

Additionally, we excluded certain populations (e.g., HIV-positive persons) and studies with outcomes related solely to drug use, and did not explicitly address outcomes related to suicidality or eating disorders. These areas were considered beyond the scope of this review due to the added complexity they would have brought. See Tudor-Sfetea and Topciu, 2024S, Appendix B for more details on these decisions.

Finally, while our search terms were developed in line with our inclusion/exclusion criteria, using the PICOS framework, and in collaboration with a University of Exeter librarian specialising in with Psychology, as well as via terms identified during the scoping search, we acknowledge that their use in their current form may have led to some potentially eligible studies not being retrieved. This is because terms such as “minority stress” encompass heterogenous sets of constructs which may have led to studies not being retrieved unless the constructs were explicitly part of the search string. This, of course, may in turn limit the representativeness of the studies and paint a relatively different picture of the landscape of the literature.

Our rationale for keeping terms rather broad was to keep a similar "detail level" of terms, one which was most likely to retrieve the most relevant results. Indeed, as discussed above, our findings are broadly in line with those of previous systematic reviews in the area, suggesting that the retrieved studies were mostly representative of the topic at hand. We provide a more extensive explanation in Tudor-Sfetea and Topciu, 2024S, Appendix B. The limited and heterogeneous nature of the evidence also restricted the possibility of exploring the data via meta-analyses and drawing more robust conclusions.

Implications and Future Research Directions

To allow for more robust and more generalisable conclusions to be drawn, more consistency in outcome measures and general methodology is needed. This would allow for more meta-analyses to be conducted, and these should consider the impact of publication bias (Cuijpers et al., 2010). However, less strict methodologies may also offer pragmatic information on how interventions are administered and received in a variety of healthcare settings.

Moreover, as certain LGBTQ+ populations seem to be focused on more than others in the literature, more research needs to be carried out focusing on other LGBTQ+ populations, as well as discussing the intersection of various identities. More detailed investigations into specific mechanisms of change could also provide invaluable information as to the role of minority stress-based adaptations and what intervention aspects and therapeutic competencies are most important in producing positive outcomes, allowing for more investment and/or training in those areas.

Conclusion

The review investigated evidence-based cognitive and/or behavioural interventions and adaptations for LGBTQ+ populations, revealing a range of therapeutic modalities and levels of adaptation. Findings showed largely positive effects, in line with previous systematic reviews – however, in the context of a paucity of the literature, with heterogeneity in terms of study designs, outcome measures, and analyses, as well as risk of bias evaluated as high or critical/serious (despite the possibility of a flooring effect). Limitations in terms of included studies and possible publication bias, as well as limited opportunity for generalisability and further exploration of the evidence to draw more robust conclusions are recognised. Suggestions for clinical practice are around the importance of generic therapeutic competencies and metacompetencies, and affirmative, potentially more holistic approaches. Suggestions for future research directions include more consistency in methodology, more focus on underserved LGBTQ+ populations and intersectionality, and more detailed investigations into mechanisms of change.

Funding: The authors have no funding to report.

Acknowledgments: The authors have no additional (i.e., non-financial) support to report.

Competing Interests: The authors have declared that no competing interests exist.

Social Media Accounts: @cts504

Reporting Guidelines: This systematic review was carried out in accordance with the updated PRISMA guidelines (Page et al., 2021).

Preregistration: The work was registered on PROSPERO (International prospective register of systematic reviews) in April 2022 (CRD42022243466) (Tudor-Sfetea & Topciu, 2022S).

Data Availability: For this article, a data set is freely available (Tudor-Sfetea, 2023S).

Supplementary Materials

The Supplementary Materials contain the following items:

- **The preregistration** (Tudor-Sfetea & Topciu, 2022S)
- **Online Appendices**
    - *Appendix A* – Further explanation regarding deviations from the PROSPERO protocol (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix B* – Further explanation regarding inclusion/exclusion criteria (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix C* – Search terms and full search strategy/history (Tudor-Sfetea, 2023S)
    - *Appendix D* – Full extracted data table (Tudor-Sfetea, 2023S)
    - *Appendix E* – Overview of records excluded at full text review stage (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix F* – Narrative summary of study and sample characteristics (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix G* – Further details around study session numbers and duration (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix H* – Further information regarding risk of bias in studies (Tudor-Sfetea & Topciu, 2024S)
    - *Appendix I* – Measures referenced in the data extraction table(s) (Tudor-Sfetea & Topciu, 2024S)

Index of Supplementary Materials

Tudor-Sfetea, C. (2023S). *A systematic review of evidence-based cognitive and/or behavioural interventions targeting mental health in LGBTQ+ populations* [Search terms, full search strategy/history, and full extracted data table]. OSF. https://osf.io/zbu6r

Tudor-Sfetea, C., & Topciu, R. (2022S). *A systematic review of evidence-based cognitive and/or behavioural interventions targeting mental health in the LGBT+ community* [Preregistration]. PROSPERO. https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022243466

Tudor-Sfetea, C., & Topciu, R. (2024S). *Supplementary materials to "A systematic review of evidence-based cognitive and/or behavioural interventions targeting mental health in LGBTQ+ populations"* [Online appendices]. PsychOpen GOLD. https://doi.org/10.23668/psycharchives.15402

References

Note. References marked with an asterisk (*) are the articles included in the systematic review.

Alessi, E. J. (2014). A framework for incorporating minority stress theory into treatment with sexual minority clients. *Journal of Gay & Lesbian Mental Health, 18*(1), 47–66. https://doi.org/10.1080/19359705.2013.789811

*Austin, A., Craig, S. L., & D'Souza, S. A. (2018). An AFFIRMative cognitive behavioral intervention for transgender youth: Preliminary effectiveness. *Professional Psychology: Research and Practice, 49*(1), 1–8. https://doi.org/10.1037/pro0000154

Balsam, K. F., Molina, Y., Beadnell, B., Simoni, J., & Walters, K. (2011). Measuring multiple minority stress: The LGBT People of Color Microaggressions Scale. *Cultural Diversity & Ethnic Minority Psychology, 17*(2), 163–174. https://doi.org/10.1037/a0023244

Barlow, D. H., Farchione, T. J., Fairholme, C. P., Ellard, K. K., Boisseau, C. L., Allen, L. B., & Ehrenreich-May, J. (2011). *Unified protocol for transdiagnostic treatment of emotional disorders: Therapist guide.* Oxford University Press.

Beard, C., Kirakosian, N., Silverman, A. L., Winer, J. P., Wadsworth, L. P., & Björgvinsson, T. (2017). Comparing treatment response between LGBQ and heterosexual individuals attending a CBT- and DBT-skills-based partial hospital. *Journal of Consulting and Clinical Psychology, 85*(12), 1171–1181. https://doi.org/10.1037/ccp0000251

*Bluth, K., Lathren, C., Clepper-Faith, M., Larson, L. M., Ogunbamowo, D. O., & Pflum, S. (2023). Improving mental health among transgender adolescents: Implementing mindful self-compassion for teens. *Journal of Adolescent Research, 38*(2), 271–302. https://doi.org/10.1177/07435584211062126

Bochicchio, L., Reeder, K., Ivanoff, A., Pope, H., & Stefancic, A. (2022). Psychotherapeutic interventions for LGBTQ + youth: A systematic review. *Journal of LGBT Youth, 19*(2), 152–179. https://doi.org/10.1080/19361653.2020.1766393

Boroughs, M. S., Bedoya, C. A., O'Cleirigh, C., & Safren, S. A. (2015). Toward defining, measuring, and evaluating LGBT cultural competence for psychologists. *Clinical Psychology: Science and Practice, 22*(2), 151–171. https://doi.org/10.1111/cpsp.12098

Brooks, V. R. (1981). *Minority stress and lesbian women.* Lexington Books.

Campbell, M., McKenzie, J. E., Sowden, A., Katikireddi, S. V., Brennan, S. E., Ellis, S., Hartmann-Boyce, J., Ryan, R., Shepperd, S., Thomas, J., Welch, V., & Thomson, H. (2020). Synthesis

Without Meta-Analysis (SWiM) in systematic reviews: Reporting guideline. *BMJ, 368*, Article i6890. https://doi.org/10.1136/bmj.l6890

Cohen, J. (1969). *Statistical power analysis for the behavioral sciences.* Lawrence Erlbaum Associates.

*Cohen, J. M., Norona, J. C., Yadavia, J. E., & Borsari, B. (2021). Affirmative dialectical behavior therapy skills training with sexual minority veterans. *Cognitive and Behavioral Practice, 28*(1), 77–91. https://doi.org/10.1016/j.cbpra.2020.05.008

Covidence. (2022). [Systematic review software]. Veritas Health Innovation, Melbourne, Australia.

*Craig, S. L., & Austin, A. (2016). The AFFIRM open pilot feasibility study: A brief affirmative cognitive behavioral coping skills group intervention for sexual and gender minority youth. *Children and Youth Services Review, 64*, 136–144. https://doi.org/10.1016/j.childyouth.2016.02.022

*Craig, S. L., Leung, V. W. Y., Pascoe, R., Pang, N., Iacono, G., Austin, A., & Dillon, F. (2021). AFFIRM Online: Utilising an affirmative cognitive-behavioural digital intervention to improve mental health, access, and engagement among LGBTQA+ youth and young adults. *International Journal of Environmental Research and Public Health, 18*(4), Article 1541. https://doi.org/10.3390/ijerph18041541

Cuijpers, P., Smit, F., Bohlmeijer, E., Hollon, S. D., & Andersson, G. (2010). Efficacy of cognitive-behavioural therapy and other psychological treatments for adult depression: Meta-analytic study of publication bias. *The British Journal of Psychiatry, 196*(3), 173–178. https://doi.org/10.1192/bjp.bp.109.066001

Dale, S. K., & Safren, S. A. (2019). Gendered racial microaggressions predict posttraumatic stress disorder symptoms and cognitions among Black women living with HIV. *Psychological Trauma: Theory, Research, Practice, and Policy, 11*(7), 685–694. https://doi.org/10.1037/tra0000467

Feinstein, B. A. (2020). The rejection sensitivity model as a framework for understanding sexual minority mental health. *Archives of Sexual Behavior, 49*(7), 2247–2258. https://doi.org/10.1007/s10508-019-1428-3

Flentje, A., Heck, N. C., Brennan, J. M., & Meyer, I. H. (2020). The relationship between minority stress and biological outcomes: A systematic review. *Journal of Behavioral Medicine, 43*(5), 673–694. https://doi.org/10.1007/s10865-019-00120-6

Gnan, G. H., Rahman, Q., Ussher, G., Baker, D., West, E., & Rimes, K. A. (2019). General and LGBTQ-specific factors associated with mental health and suicide risk among LGBTQ students. *Journal of Youth Studies, 22*(10), 1393–1408. https://doi.org/10.1080/13676261.2019.1581361

*Hart, T. A., Noor, S. W., Vernon, J. R. G., Antony, M. M., Gardner, S., & O'Cleirigh, C. (2020). Integrated cognitive-behavioral therapy for social anxiety and HIV/STI prevention for gay and bisexual men: A pilot intervention trial. *Behavior Therapy, 51*(3), 503–517. https://doi.org/10.1016/j.beth.2019.09.001

Hatzenbuehler, M. L. (2009). How does sexual minority stigma "Get Under the Skin"? A psychological mediation framework. *Psychological Bulletin, 135*(5), 707–730. https://doi.org/10.1037/a0016441

Heck, N. C., Mirabito, L. A., LeMaire, K., Livingston, N. A., & Flentje, A. (2017). Omitted data in randomized controlled trials for anxiety and depression: A systematic review of the inclusion of sexual orientation and gender identity. *Journal of Consulting and Clinical Psychology, 85*(1), 72–76. https://doi.org/10.1037/ccp0000123

Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the minority stress model. *Professional Psychology: Research and Practice, 43*(5), 460–467. https://doi.org/10.1037/a0029597

Higgins, J. P., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., & Welch, V. A. (Eds.). (2023). *Cochrane handbook for systematic reviews of interventions* (Version 6.4; updated August 2023). Cochrane. Available from https://training.cochrane.org/handbook

Hobaica, S., Alman, A., Jackowich, S., & Kwon, P. (2018). Empirically based psychological interventions with sexual minority youth: A systematic review. *Psychology of Sexual Orientation and Gender Diversity, 5*(3), 313–323. https://doi.org/10.1037/sgd0000275

Hofmann, S. G., Asnaani, A., Vonk, I. J. J., Sawyer, A. T., & Fang, A. (2012). The efficacy of cognitive behavioral therapy: A review of meta-analyses. *Cognitive Therapy and Research, 36*(5), 427–440. https://doi.org/10.1007/s10608-012-9476-1

Hoy-Ellis, C. P. (2023). Minority stress and mental health: A review of the literature. *Journal of Homosexuality, 70*(5), 806–830. https://doi.org/10.1080/00918369.2021.2004794

*Jabson Tree, J. M., & Patterson, J. G. (2019). A test of feasibility and acceptability of online mindfulness-based stress reduction for lesbian, gay, and bisexual women and men at risk for high stress: Pilot study. *JMIR Mental Health, 6*(8), Article e15048. https://doi.org/10.2196/15048

*Jackson, S. D., Wagner, K. R., Yepes, M., Harvey, T. D., Higginbottom, J., & Pachankis, J. E. (2022). A pilot test of a treatment to address intersectional stigma, mental health, and HIV risk among gay and bisexual men of color. *Psychotherapy, 59*(1), 96–112. https://doi.org/10.1037/pst0000417

*Maguen, S., Shipherd, J. C., & Harris, H. N. (2005). Providing culturally sensitive care for transgender patients. *Cognitive and Behavioral Practice, 12*(4), 479–490. https://doi.org/10.1016/S1077-7229(05)80075-6

McCann, E., & Sharek, D. (2014). Survey of lesbian, gay, bisexual, and transgender people's experiences of mental health services in Ireland. *International Journal of Mental Health Nursing, 23*(2), 118–127. https://doi.org/10.1111/inm.12018

McGuinness, L. A., & Higgins, J. P. T. (2021). Risk-of-bias VISualization (robvis): An R package and Shiny web app for visualizing risk-of-bias assessments. *Research Synthesis Methods, 12*(1), 55–61. https://doi.org/10.1002/jrsm.1411

McNamara, G., & Wilson, C. (2020). Lesbian, gay and bisexual individuals experience of mental health services – A systematic review. *The Journal of Mental Health Training, Education and Practice, 15*(2), 59–70. https://doi.org/10.1108/JMHTEP-09-2019-0047

Melendez-Torres, G. J., & Bonell, C. (2014). Systematic review of cognitive behavioural interventions for HIV risk reduction in substance-using men who have sex with men. *International Journal of STD & AIDS, 25*(9), 627–635. https://doi.org/10.1177/0956462413515638

Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior, 36*(1), 38–56. https://doi.org/10.2307/2137286

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

*Millar, B. M., Wang, K., & Pachankis, J. E. (2016). The moderating role of internalized homonegativity on the efficacy of LGB-affirmative psychotherapy: Results from a randomized controlled trial with young adult gay and bisexual men. *Journal of Consulting and Clinical Psychology, 84*(7), 565–570. https://doi.org/10.1037/ccp0000113

Munder, T., & Barth, J. (2018). Cochrane's risk of bias tool in the context of psychotherapy outcome research. *Psychotherapy Research, 28*(3), 347–355. https://doi.org/10.1080/10503307.2017.1411628

Nicholson, A. A., Siegel, M., Wolf, J., Narikuzhy, S., Roth, S. L., Hatchard, T., Lanius, R. A., Schneider, M., Lloyd, C. S., McKinnon, M. C., Heber, A., Smith, P., & Lueger-Schuster, B. (2022). A systematic review of the neural correlates of sexual minority stress: Towards an intersectional minority mosaic framework with implications for a future research agenda. *European Journal of Psychotraumatology, 13*(1), Article 2002572. https://doi.org/10.1080/20008198.2021.2002572

*O'Cleirigh, C., Safren, S. A., Taylor, S. W., Goshe, B. M., Bedoya, C. A., Marquez, S. M., Boroughs, M. S., & Shipherd, J. C. (2019). Cognitive Behavioral Therapy for Trauma and Self-Care (CBT-TSC) in men who have sex with men with a history of childhood sexual abuse: A randomized controlled trial. *AIDS and Behavior, 23*(9), 2421–2431. https://doi.org/10.1007/s10461-019-02482-z

O'Shaughnessy, T., & Speir, Z. (2018). The state of LGBQ affirmative therapy clinical research: A mixed-methods systematic synthesis. *Psychology of Sexual Orientation and Gender Diversity, 5*(1), 82–98. https://doi.org/10.1037/sgd0000259

Pachankis, J. E. (2014). Uncovering clinical principles and techniques to address minority stress, mental health, and related health risks among gay and bisexual men. *Clinical Psychology: Science and Practice, 21*(4), 313–330. https://doi.org/10.1111/cpsp.12078

Pachankis, J. E. (2015). A transdiagnostic minority stress treatment approach for gay and bisexual men's syndemic health conditions. *Archives of Sexual Behavior, 44*(7), 1843–1860. https://doi.org/10.1007/s10508-015-0480-x

*Pachankis, J. E., Hatzenbuehler, M. L., Rendina, H. J., Safren, S. A., & Parsons, J. T. (2015). LGB-affirmative cognitive-behavioral therapy for young adult gay and bisexual men: A randomized controlled trial of a transdiagnostic minority stress approach. *Journal of Consulting and Clinical Psychology, 83*(5), 875–889. https://doi.org/10.1037/ccp0000037

*Pachankis, J. E., McConocha, E. M., Clark, K. A., Wang, K., Behari, K., Fetzner, B. K., Brisbin, C. D., Scheer, J. R., & Lehavot, K. (2020). A transdiagnostic minority stress intervention for gender diverse sexual minority women's depression, anxiety, and unhealthy alcohol use: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 88*(7), 613–630. https://doi.org/10.1037/ccp0000508

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., . . . Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ, 372*, Article 71. https://doi.org/10.1136/bmj.n71

*Pan, S., Sun, S., Li, X., Chen, J., Xiong, Y., He, Y., & Pachankis, J. E. (2021). A pilot cultural adaptation of LGB-affirmative CBT for young Chinese sexual minority men's mental and sexual health. *Psychotherapy, 58*(1), 12–24. https://doi.org/10.1037/pst0000318

Pantalone, D. W., Nelson, K. M., Batchelder, A. W., Chiu, C., Gunn, H. A., & Horvath, K. J. (2020). A systematic review and meta-analysis of combination behavioral interventions co-targeting psychosocial syndemics and HIV-related health behaviors for sexual minority men. *Journal of Sex Research, 57*(6), 681–708. https://doi.org/10.1080/00224499.2020.1728514

Pinna, F., Paribello, P., Somaini, G., Corona, A., Ventriglio, A., Corrias, C., Frau, I., Murgia, R., El Kacemi, S., Galeazzi, G. M., Mirandola, M., Amaddeo, F., Crapanzano, A., Converti, M., Piras, P., Suprani, F., Manchia, M., Fiorillo, A., Carpiniello, B., & Italian Working Group on LGBTQI Mental Health. (2022). Mental health in transgender individuals: A systematic review. *International Review of Psychiatry, 34*(3-4), 292–359. https://doi.org/10.1080/09540261.2022.2093629

Plöderl, M., & Tremblay, P. (2015). Mental health of sexual minorities: A systematic review. *International Review of Psychiatry, 27*(5), 367–385. https://doi.org/10.3109/09540261.2015.1083949

*Poon, J., Galione, J. N., Grocott, L. R., Horowitz, K. J., Kudinova, A. Y., & Kim, K. L. (2022). Dialectical behavior therapy for adolescents (DBT-A): Outcomes among sexual minorities at high risk for suicide. *Suicide and Life-Threatening Behavior, 52*(3), 383–391. https://doi.org/10.1111/sltb.12828

Rimes, K. A., Ion, D., Wingrove, J., & Carter, B. (2019). Sexual orientation differences in psychological treatment outcomes for depression and anxiety: National cohort study. *Journal of Consulting and Clinical Psychology, 87*(7), 577–589. https://doi.org/10.1037/ccp0000416

Roth, A. D., & Pilling, S. (2007). *The competences required to deliver effective cognitive and behavioural therapy for people with depression and with anxiety disorders.* London, United Kingdom: Department of Health.

Sheinfil, A. Z., Foley, J. D., Ramos, J., Antshel, K. M., & Woolf-King, S. E. (2019). Psychotherapeutic depression interventions adapted for sexual and gender minority youth: A systematic review of an emerging literature. *Journal of Gay & Lesbian Mental Health, 23*(4), 380–411. https://doi.org/10.1080/19359705.2019.1622616

Steele, L. S., Daley, A., Curling, D., Gibson, M. F., Greene, D. C., Williams, C. C., & Ross, L. E. (2017). LGBT identity, untreated depression, and unmet need for mental health services by sexual minority women and trans-identified people. *Journal of Women's Health, 26*(2), 116–127. https://doi.org/10.1089/jwh.2015.5677

Sterne, J. A. C., Hernán, M. A., Reeves, B. C., Savović, J., Berkman, N. D., Viswanathan, M., Henry, D., Altman, D. G., Ansari, M. T., Boutron, I., Carpenter, J. R., Chan, A. W., Churchill, R., Deeks, J. J., Hróbjartsson, A., Kirkham, J., Jüni, P., Loke, Y. K., Pigott, T. D., . . . Higgins, J. P. T. (2016).

ROBINS-I: A tool for assessing risk of bias in non-randomized studies of interventions. *BMJ, 355*, Article i4919. https://doi.org/10.1136/bmj.i4919

Sterne, J., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., Eldridge, S. M., Emberson, J. R., Hernán, M. A., Hopewell, S., Hróbjartsson, A., Junqueira, D. R., Jüni, P., Kirkham, J. J., Lasserson, T., Li, T., . . . Higgins, J. P. T. (2019). RoB 2: A revised tool for assessing risk of bias in randomised trials. *BMJ, 366*, Article i4898. https://doi.org/10.1136/bmj.l4898

Tan, K. K. H., Treharne, G. J., Ellis, S. J., Schmidt, J. M., & Veale, J. F. (2020). Gender minority stress: A critical review. *Journal of Homosexuality, 67*(10), 1471–1489. https://doi.org/10.1080/00918369.2019.1591789

Testa, R. J., Michaels, M. S., Bliss, W., Rogers, M. L., Balsam, K. F., & Joiner, T. (2017). Suicidal ideation in transgender people: Gender minority stress and interpersonal theory factors. *Journal of Abnormal Psychology, 126*, 125–136. https://doi.org/10.1037/abn0000234

Van Der Pol-Harney, E., & McAloon, J. (2019). Psychosocial interventions for mental illness among LGBTQIA youth: A PRISMA-based systematic review. *Adolescent Research Review, 4*(2), 149–168. https://doi.org/10.1007/s40894-018-0090-7

Wingood, G. M., & DiClemente, R. J. (2008). The ADAPT-ITT model: A novel method of adapting evidence-based HIV interventions. *Journal of Acquired Immune Deficiency Syndrome, 47*(Suppl 1), S40–S46. https://doi.org/10.1097/QAI.0b013e3181605df1

*Yadavaia, J. E., & Hayes, S. C. (2012). Acceptance and commitment therapy for self-stigma around sexual orientation: A multiple baseline evaluation. *Cognitive and Behavioral Practice, 19*(4), 545–559. https://doi.org/10.1016/j.cbpra.2011.09.002

EACLIPT

Clinical Psychology in Europe (CPE) is the official journal of the European Association of Clinical Psychology and Psychological Treatment (EACLIPT).

leibniz-psychology.org

PsychOpen GOLD is a publishing service by Leibniz Institute for Psychology (ZPID), Germany.

Clinical Psychology in Europe

PsychOpen GOLD

Latest Developments

Developing a European Psychotherapy Consortium (EPoC): Towards Adopting a Single-Item Self-Report Outcome Measure Across European Countries

Miguel M. Gonçalves[1§], Wolfgang Lutz[2§], Brian Schwartz[2], João Tiago Oliveira[1], Suoma E. Saarni[3], Orya Tishby[4], Julian A. Rubel[5], Jan R. Boehnke[6], Adrian Montesano[7], Dario Paiva[1], Davide Ceridono[8], Emmanuelle Zech[9], Jochem Willemsen[9], Samuli I. Saarni[3], Katarina Kompan Erzar[10], Luís Janeiro[11], Omar C. G. Gelo[12], Paula Errázuriz[13], Pawel Holas[14], Rafał Styła[14], Tatjana Rožič[15], Tom Rosenström[3], Vera Békés[16], Zsolt Unoka[17], Michael Barkham[18]

[1] *CIPsi – Psychology Research Center, School of Psychology, University of Minho, Braga, Portugal.* **[2]** *Department of Psychology, University of Trier, Trier, Germany.* **[3]** *Helsinki University Hospital, University of Helsinki, Helsinki, Finland.* **[4]** *Department of Psychology, Hebrew University, Jerusalem, Israel.* **[5]** *Department of Psychology, Osnabrück University, Osnabrück, Germany.* **[6]** *School of Health Sciences, University of Dundee, Dundee, United Kingdom.* **[7]** *Faculty of Psychology and Educational Sciences, Universitat Oberta de Catalunya, Barcelona, Spain.* **[8]** *Institute for Research on Intrapsychic and Relational Processes, IRPIR, Rome, Italy.* **[9]** *Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.* **[10]** *University of Ljubljana, Ljubljana, Slovenia.* **[11]** *University of Algarve, Faro, Portugal.* **[12]** *University of Salento, Salento, Italy.* **[13]** *Pontificia Universidad Católica de Chile / PsiConecta Mental Health NGO, Santiago, Chile.* **[14]** *University of Warsaw, Warsaw, Poland.* **[15]** *Sigmund Freud University Vienna – Ljubljana branch, Ljubljana, Slovenia.* **[16]** *Yeshiva University, New York, USA.* **[17]** *Semelweis Unversity, Hungarian Cognitive Behavior Therapy Association, Budapest, Hungary.* **[18]** *Clinical and Applied Psychology Unit, School of Psychology, University of Sheffield, Sheffield, United Kingdom.*

[§] *These authors contributed equally to this work.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e13827, https://doi.org/10.32872/cpe.13827

Received: 2024-01-27 • **Accepted:** 2024-05-14 • **Published (VoR):** 2024-09-30

Handling Editor: Winfried Rief, Philipps-University of Marburg, Marburg, Germany

Corresponding Author: João Tiago Oliveira, CIPsi – Psychology Research Center, School of Psychology, University of Minho, 4710-057, Braga, Portugal. E-mail: jtoliveira@psi.uminho.pt

Supplementary Materials: Materials [see Index of Supplementary Materials]

Abstract

Background: Complementing the development of evidence-based psychological therapies, practice-based evidence has developed from patient samples collected in routine care, addressing questions relevant to patients and practitioners, and thereby expanding our knowledge of psychological therapies and their impact. Implementation of assessments in routine care allows for timely clinical decision support and the collection of multiple practice-based data sets by addressing the needs of patients and clinicians (e.g., routine outcome monitoring) and the needs of researchers (e.g., identifying the impact of therapist variables on outcomes).
Method: In this article we describe an initiative developed in Europe, through the European Chapter of the Society for Psychotherapy Research, aimed at creating a consortium that has the potential for collecting data on tens of thousands of patients per year.
Results: A survey identified one of the main problems in the development of a common data set to be the heterogeneity of measures used by members (e.g., 87 different pre-post outcomes). We report on the results of the survey and the initial stage of identifying a single-item – the Emotional and Psychological Outcome (EPO-1) – measure and the process of its translation into multiple European languages.
Conclusions: We conclude this first stage of the overall project by discussing the future potential of the Consortium in relation to the development of procedures that allow crosswalks of outcome measures and the creation of a task force that may be consulted when new data sets are collected, aiming for new common measures to be implemented and shared.

Keywords

psychological therapies, European Psychotherapy Consortium, EPoC, practice-based evidence, routine outcome monitoring

Highlights

- Many clinics in Europe collect patient data and assess outcomes using different measures.
- Developing common metrics across different countries would facilitate data sharing and analyses.
- An existing single item, measuring patient emotional and psychological outcomes (EPO-1), was adopted.
- The EPO-1 has been translated into 11 languages, to date, and is being used in many countries.

Over the past two decades, a complementary paradigm to evidence-based practice has developed in the form of practice-based evidence as a means of enhancing the overarching evidence-base of psychological therapies (Barkham & Lambert, 2021; Castonguay et al., 2021; Lutz et al., 2021). While the former concentrates on treatments and techniques using the methodologies of randomized controlled trials (RCTs) and meta-analyses, the latter aims to systematically collect patient data in routine clinical settings in connection with specific treatment goals or desired outcomes. However, data administration, management, and processing of outcome measures in routine practice are time consuming and a burden to under-funded services. In response to aspirations to collect data but also reduce administrative demands, there has been a move towards the development and adoption of relatively brief outcome measures, often comprising 10 items or less: for example, the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001), the Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006), the Clinical Outcomes in Routine Evaluation-10 (CORE-10; Barkham et al., 2013), Recovering Quality of Life-10 (ReQoL-10; Keetharuth et al., 2018), or the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009).

A separate line of activity within psychological therapy research has been the attempt to agree a core outcome battery in which researchers, in addition to selecting specific outcome measures appropriate for their particular study, adopt a single common outcome measure in order to make direct cross-study comparisons (e.g., Waskow & Parloff, 1975). Such an aspiration can then also be extended to cross-country and cross-cultural comparisons. But agreeing on a common measure carries many challenges and also places an additional burden on patients and on individual research studies, as well as requiring agreements between researchers from multiple countries and treatment concepts.

Establishing the European Psychotherapy Consortium (EPoC)

Partly in response to these two lines of activity, the overarching framework underpinning the current project was establishing the European Psychotherapy Consortium (EPoC) with the initial aim of coordinating a level of standardized data collection across multiple European countries. In doing so, the aspiration was to generate data sets of considerable size, accessible to researchers that could add a new dimension to research findings and thereby extend our current knowledge base regarding the psychological therapies. In particular, such a development could provide researchers who have difficulty in securing funding, with access to a valuable data source to pursue their particular research projects.

The idea of creating EPoC was launched at the Rome meeting of the European Chapter of the Society for Psychotherapy Research (EU-SPR) in September 2022 with the aim of promoting the collection and sharing of data that is common in other sciences (e.g., physics, medicine, genetics) with the aspiration of improving research data in clinical psychology and psychological therapies in four specific ways. First, it would be relevant to psychological therapy research to have data from different countries, representing different cultural, political, and socio-economic realities. Second, it would facilitate cooperation between European countries, with enough data that could be used to better understand psychotherapy in naturalistic clinical settings. Third, in the long term, if the consortium were to be successful in collecting sufficient data, it may have some influence on decision-making processes at the individual patient level as well as on the implementation of psychological therapy at the mental health service level. Fourth, the consortium could facilitate the construction of large datasets, with considerable diversity (e.g., clients, diagnoses, cultural backgrounds, therapists), which would enable better possibilities for research on topics relevant to both practitioners and researchers as well as for cross-validation and replication of research findings.

Aim

The immediate task within EPoC was to identify the measures used in different services within and across member countries. Our hypothesis was that there would be great heterogeneity in the measures used within and across countries, making it difficult to initiate international research collaborations. If this were indeed the case, our second task would be to find a pragmatic first-step solution to establish a common research ground for our international collaboration. As a consequence, it needed to be a measure that made the least demands on services, but which had sufficient face validity and psychometric credibility to be acceptable to members. In addition, services in multiple countries would have to be willing to voluntarily adopt it and administer it multiple times during treatment in order to build an international common research database.

A decision was taken to focus on the adoption of a single-item measure as the least burdensome method for clinics and services. To support this agenda would require a level of cross-country co-ordination and co-operation via the establishment of a virtual organization (i.e., EPoC). Accordingly, the current article sets out the organizational deliberations and actions to progress collaborations between psychological therapy researchers and practitioners across Europe with the initial aim of adopting a common single-item patient outcome measure.

Method

The initial task at the beginning of the project was to establish the range of outcome measures used and to capture some of the key features of the way practice has been implemented in different contexts. A survey of EU-SPR members was the selected method of data gathering combined with an invitation to join EPoC.

Part 1: Survey on Practice-Based Evidence

Survey Design

In addition to obtaining identification of a service, the survey was designed to capture basic information on four main areas relating to the functioning of a clinical service: (1) the setting and service provision, (2) the clinical populations served, (3) size/volume/throughput, and (4) the range of outcome/process measures used. Table 1 lists the 10 questions addressing these four areas.

Table 1

Question Topics in the EPoC Survey

	Question topic
1.	Identification data (e.g., country, type of service)
2.	Treatment options (e.g., outpatient, inpatient)
3.	Therapy models used (e.g., psychodynamic, cognitive-behavioural)
4.	Treatment modality (e.g., individual, couples)
5.	Patients under treatment (e.g., diagnoses)
6.	Estimates of number of patients per year and average number of sessions per patient
7.	Pre-post treatment measures used
8.	Outcome and process measures used at each session
9.	Other process and outcome measures that are used at regular intervals
10.	Whether there was routine outcome monitoring in the clinic

Procedure

The survey opened 1st February 2023 and was advertised on the SPR mailing list, at scientific meetings, and on the EU-SPR website. The initial stock take of responses was carried out 31st January 2024, thereby yielding data for a period of 12 months.

Part 2: Selection of a Single-Item Outcome Measure

Status of Single Item Measures

As making significant changes to the instruments used in each clinic would be at best, challenging and at worst, impractical, a decision was made to propose introducing a single common item to be adopted by all participating clinics, translated in the language of each participating country. This was judged to be the minimal demand to achieve the maximum extent of possible participation by individual clinics. Historically, single-item measures have not been viewed in the most positive light. However, recent research has re-evaluated the evidence, which appears much more favorable (e.g., Ahmad et al., 2014). In addition, a recent editorial set out a ‘call to action’ regarding the adoption and testing of single item measures in psychological science (Allen et al., 2022). Hence, our strategy is consistent with such an agenda. Similarly, Vitry et al. (2024) have endorsed the rationale for single-item measures, and suggest they are particularly suited to psychotherapy patients and repeated measurements due to their low level of burden.

In terms of our method for the selection of a measure, we set two criteria. First, that the measure comprised a patient-completed item that captured the general psychological state or health of a patient. This criterion therefore excluded the Global Assessment of Functioning (Aas, 2010) and the Clinical Global Impression (CGI; Guy, 1976) scale. Second, that the selected measure utilized a Likert scale as we considered this to be easier to adopt, initially, in clinics as it did not require a subsequent stage of transferring the visual analogue scale into a numerical value. This criterion excluded consideration of the ORS, which actually comprises 4 items derived from the OQ-45 and, while there is considerable psychometric data reported on the ORS, a recent review offered some caution regarding its use (Harris et al., 2019).

Results

The results are presented in two parts. First, we summarize the data relating to the clinical activity and use of outcome measures. Second, we present the selection of a single-item outcome measure for adoption across all participating clinics.

Part 1: Survey of Clinical Activity and Outcome Measures

Responses were received from 31 clinics in 16 different countries, most of them European: Austria, Belgium, Finland, Germany, Hungary, Israel, Italy, Poland, Portugal, Slovenia, Spain, Switzerland, Turkey, United Kingdom, as well as Argentina and Chile. The estimated total number of clients per year was 25,000, with a median of 100 and a range from 12 in receipt of couple therapy to 15,000 per clinic. In terms of treatment settings, 31 were outpatient of which 10 were private, 3 were day clinical treatment, 3 were inpatient, and 1 was home-based treatment.

Of the 20 differing modalities of psychological therapy offered, the two most common were cognitive-behavioral therapy (*n* = 15) and psychodynamic (*n* = 14), followed by social-cognitive transactional analyses (*n* = 5), and then systemic, family therapy, and person-centered with each receiving 2 endorsement, and the remaining 11 endorsements captured single entries for the following therapeutic modalities: Mindfulness-Based Therapy, Solution / focused, Dynamic-Interpersonal Therapy, Brief relational, Eye Movement Desensitization and Reprocessing, Dialectical-Behavioral Therapy, Mentalizing model, Schema therapy, Schema group therapy, Cognitive Behavioral Analysis System of Psychotherapy, and Interpersonal Psychotherapy.

In terms of outcome data, 25 reported they were currently collecting data utilizing a total of 87 different pre-post measures, 22 measures used at each session, and 13 process measures. The most common pre-post outcome measure was the Clinical Outcomes in Routine Evaluation–Outcome Measure (CORE-OM; Evans et al., 2002), which was used in 13 clinics, the PHQ-9 (Kroenke et al., 2001) and GAD-7 (Spitzer et al., 2006) in 8 clinics, ANINT-A36 (Scilligo, 2000) and Espero (Scilligo et al., 1999) in 5 clinics, OQ-45 (Lambert et al., 1996) in 4 clinics, a further five measures were used in 3 clinics, 12 measures were used in 2 clinics, and the remaining 63 outcome measures used in only a single clinic.

In terms of outcome monitoring measures, the most common measure was the Outcome Rating Scale (ORS; Duncan & Reese, 2015), used in three clinics, with the OQ-10 (Lambert et al., 2005) used in 2 clinics. A further 19 measures were used in single clinics.

When considering process measures, the most common was the Working Alliance Inventory–Short Revised (WAI-SR; Hatcher & Gillaspy, 2006), used in three clinics, with the Bern-Post Report (Flückiger et al., 2010) and the SRS (Duncan & Reese, 2015) used in 2 clinics. Five further measures were used in single clinics.

Part 2: Selection of a Single-Item Outcome Measure: Emotional and Psychological Outcome (EPO-1)

In response to the survey, we focused solely on available single-item measures meeting our two election criteria. Our scoping of available single items identified one taken from the work of Ken Howard, for which a first version can be found in Orlinsky and Howard (1986), and has been adapted and employed successfully in several large-scale studies (e.g., Howard et al., 1996). The item was adapted and asks clients to evaluate their current emotional and psychological impairment using the question: “At this moment, how well do you feel you are getting along emotionally and psychologically?”. Based on the original item, the item is scored on a 5-point scale from 0 ("Very poorly; I can barely manage to deal with things") to 4 ("Very well; I have no important complaints"). The item can also be used dimensionally with a visual analog scale (0 to 100), which was introduced at the outpatient clinic of the University of Trier (Lutz et al., 2019). Hence, it provided the possibility of using a visual analog scale at a future date.

Robust correlations with various outcome measures have been demonstrated on a clinical sample ($N = 521$) with the correlations for the single item in both Likert and analog forms with the PHQ-9, the BSI depression and anxiety scales, OQ, and GAD-7 at baseline, for pre-post change, and overall effect size, exceeding those of the ORS 4 item total score (Supplemental Materials in Lutz et al., 2021). These data indicate that the single item has the potential to establish a common standard across diverse societies.

In order to make the single item identifiable in the literature, we took the focus on the *emotional* and *psychological* components (EP) together with *outcome* (O) and signified the single item by the digit (*1*); hence the name EPO-1.

Program of European Translations

EPoC members developed a narrative description of the content of the item (“lay description”) and a translation process for the item based on current best-practice recommendations (Table 2; e.g., Hernández et al., 2020) that required the following: active participation of members of the target population represented in the local setting (both clinicians and clients), and which offered good resource use for the purpose of translating one item. In addition to the English version, there are versions of the item translated into Finnish, French, German, Hungarian, Italian, Polish, Portuguese as well as Slovenian, and EPoC members are now involved in translating and adapting the item into Hebrew, and Spanish. This process results in a total of 11 language versions.

Table 2

Steps of the EPoC Translation Process for the Item

1. Translation of the lay description of the item content provided by the consortium (to be used as supporting resource in the following process).
2. Forward translation of the item and the response anchors by a team.
3. Backward translation to English from the previous step, by a different team.
4. Evaluation of the translation by practitioners (if the translation resulted in multiple possible versions, these would all be evaluated).
5. Evaluation of the translation by clients (if the translation resulted in multiple possible versions, these would all be evaluated).
6. Development of a final version based on results from Steps 3-5 by the local team (potentially including EPoC members in the discussions).
7. Approval of final version by EPoC, licensing, and documentation on consortium's web page.

Implementation and Dissemination

We have placed no restrictions on the use of the item, as some clinics may use it in every session, and others at regular intervals. Hence, the item will be adopted such that it is consistent with the current practice of each clinic. The item translations will be freely available and under a Creative Commons license after a free registration on the website of the European Chapter of the Society for Psychotherapy Research (item available at https://www.psychotherapyresearch.org/page/SPR-EU-Consortium).

Discussion

We have set out the rationale and aims of a European-wide collaboration aimed at providing a common thread by which to yield a fuller understanding of the similarities and differences between the practices and outcomes of psychological therapies across multiple countries. Importantly, these are initial steps, achieved with no external grant funding by virtue of a shared vision to build a more robust and representative evidence-base for routine practice. In addition, this practical approach, focusing on a single item in a first step, allows routine clinics with diverse treatments and clinical populations to easily adopt ongoing monitoring in addition to established pre-post assessments.

Future collaboration will involve developing standardized reporting strategies (Snyder et al., 2019) and crosswalks between different measures (Schalet et al., 2021). The practical advantage of generating crosswalks is that it will enable a level of comparison between clinics and countries where different outcome measures are used. This could be at the level of individual scores or banding of scores signifying, for example, differing severity levels. From an organizational perspective, the availability of crosswalks means that clinics are able to select, within reason, their preferred outcome measure (i.e., protecting the principle of choice) but still be able to make direct comparisons (i.e., benchmark) with other clinics using different outcome measures, providing there is an existing crosswalk.

One way to do this is to focus on standardizing at least the underlying metrics of the instruments, to ease interpretation, for example by using *t scores* as a method of delivering uniformity to the reporting of outcomes from the diversity of measures (e.g., see de Beurs et al., 2022 for an illustration). Another solution is based on Item Response Theory: to develop an algorithm based on existing data with which values from different instruments that record similar constructs can be converted into each other. In this way, a common metric for existing data is generated a posteriori (e.g., Böhnke et al., 2014; Cardace et al., 2022; Schalet et al., 2021; Wahl et al., 2014). Other methods have also been used to deliver crosswalk tables (de Beurs et al., 2022), for example, between the BDI and CORE-OM (Leach et al., 2006).

So, the next step would be to create analytical routines among EPoC members that would allow comparison of similar constructs (e.g., depression, anxiety) despite using different instruments to measure them. A final future course of collaboration involves the creation of new datasets that could be articulated from the onset.

EPoC has colleagues with considerable experience of collecting data in routine care, and this offers the opportunity to create a task force that could be employed when new clinics want to start collecting data and have no external constraints on the instruments they need to use. This could be the starting point for the collection of more common measures. In fact, the survey also revealed that 23 additional clinics would like to start collecting new datasets, which would make it possible to introduce more common instruments that would allow a more direct comparison of measures.

Currently, the reality for the vision focuses on multiple clinics across differing countries harmonizing their data and is an initial step. However, it is likely that the greater challenge will arise with aspirations for data sharing. Hence, initial outputs from EPoC are likely to be locality specific with sharing occurring at the level of outputs or latent variables representing a common metric from crosswalk calculations and not primary data, thereby remaining within the existing agreements regarding patient consent and ethical approvals. It is now a priority to determine the scope, and likely hurdles, for data sharing in the future.

Conclusion

Efforts to improve the effectiveness of psychotherapy require an understanding of the complex interplay between therapeutic interventions and the needs of individual clients in real-world settings. The launch of this project hopefully will mark a pivotal moment in collaborative psychotherapy research and practice in Europe. Bringing together committed researchers and practitioners from across Europe (and, in time, other countries), EPoC aims to harness the potential of assessments in routine care to provide a more nuanced understanding of psychotherapy in the setting in which it naturally occurs. With the potential to include a range of service settings, EPoC also offers an opportunity to improve our understanding of the implementation of systems for routine outcome monitoring, both on the organizational as well as on the concrete technical level (Böhnke & Rutherford, 2021).

Its ambition extends beyond the present to a future in which collaborative efforts produce large, accessible datasets that can inform service delivery both at a local, national, and international level. The participation of colleagues from Latin America in EPoC will enhance collaboration with the Latin American Chapter and is a first step toward data collection collaboration between different continents. The aim is to address specific issues of practice-based evidence in different regions, for example, regarding implementation but focusing on the same long-term goals. This scientific endeavor invites therapists to join forces in a collective quest to advance research on psychological therapies, contribute to a growing body of knowledge, and thrive in a community that shares insights and is committed to unraveling the intricacies of effective clinical practice.

Funding: This work was supported by the German Research Foundation (DFG) under project numbers 493169211, 504507043, and 525286173 granted to Wolfgang Lutz and partially conducted at the Psychology Research Centre (PSI/01662), School of Psychology, University of Minho, and supported by the Portuguese Foundation for Science and Technology and the Portuguese Ministry of Science, Technology and Higher Education (UID/PSI/01662/2019 and UIDB/PSI/04345/2020), through national funds (PIDDAC).

Acknowledgments: The authors have no additional (i.e., non-financial) support to report.

Competing Interests: Michael Barkham declares that he is a co-developer of the CORE-OM and CORE-10.

Author Contributions: Wolfgang Lutz and Michael Barkham conceptualized this paper as a first output of the EPoC. Miguel M. Gonçalves and Wolfgang Lutz wrote the first draft of this paper. Brian Schwartz, João Tiago Oliveira, Suoma Saarni, Orya Tishby, Jan R. Boehnke and Michael Barkham revised the paper and suggested modification in content and style. Jan R. Boehnke drafted the methodological procedures for translation and adaptation of the different language's versions of the single item. Julian Rubel, Brian Schwartz, and Wolfgang Lutz were involved in the translation and adaptation of the single item from English to German. Adrian Montesano and Paula Errazuriz were involved in the translation and adaptation of the single item from English to Spanish Dario Paiva, Miguel M. Gonçalves, João Tiago Oliveira, and Luis Janeiro were involved in the translation and adaptation of the single item from English to Portuguese. Omar C.G. Gelo and Davide Ceridono were involved in the translation and adaptation of the single item from English to Italian. Orya Tisby was involved in the translation and adaptation of the single item from English to Israeli. Jochem Willemsen and Emmanuelle Zech were involved in the translation and adaptation of the single item from English to French. Suoma Saarni, Samuli I. Saarni, and Tom Rosenström were involved in the translation and adaptation of the single item from English to Finnish. Katarina Kompan and Tatjana Rožič were involved in the translation and adaptation of the single item from English to Slovak. Pawel Holas and Rafał Styła were involved in the translation and adaptation of the single item from English to Polish. Vera Békés and Zsolt Unoka were involved in the translation and adaptation of the single item from English to Hungarian. All authors reviewed the manuscript critically for important intellectual content and all authors have given their final approval of the version to be published.

Ethics Statement: As the survey was an information management gathering exercise and did not involve any patients or patient data, it was not deemed necessary to obtain ethical approval. The translations were generated from publicly available data (i.e., the original Howard & Orlinsky single item questionnaire) and approval for the translations was sought from, and provided by, Dr. Orlinsky. Translations were carried out by appropriately qualified adults in each individual language with no patient involvement.

Social Media Accounts: @jtcruzoliveira

Reporting Guidelines: We followed principles of good and open reporting in the absence of any specific guideline.

Data Availability: The data that support the findings of this study are available on request from the corresponding author, João Tiago Oliveira. The data are not publicly available due to containing information that could compromise the privacy of research participants.

Supplementary Materials

EPoC – European Consortium of Psychotherapy – is a group closely associated with the Society for Psychotherapy Research (SPR). The list of members that make up this group is available in a supplementary file (see Gonçalves et al., 2024S).

Index of Supplementary Materials

Gonçalves, M. M., Lutz, W., Schwartz, B., Oliveira, J. T., Saarni, S. E., Tishby, O., Rubel, J. A., Boehnke, J. R., Montesano, A., Paiva, D., Ceridono, D., Zech, E., Willemsen, J., Saarni, S. I., Kompan Erzar, K., Janeiro, L., Gelo, O. C. G., Errázuriz, P., Holas, P., . . . Barkham, M. (2024S). *Supplementary materials to "Developing a European Psychotherapy Consortium (EPoC): Towards adopting a single-item self-report outcome measure across European countries"* [Additional information]. PsychOpen GOLD. https://doi.org/10.23668/psycharchives.15263

References

Aas, I. H. M. (2010). Global Assessment of Functioning (GAF): Properties and frontier of current knowledge. *Annals of General Psychiatry, 9*, Article 20. https://doi.org/10.1186/1744-859X-9-20

Ahmad, F., Jhajj, A. K., Stewart, D. E., Burghardt, M., & Bierman, A. S. (2014). Single item measures of self-rated mental health: A scoping review. *BMC Health Services Research, 14*(1), Article 398. https://doi.org/10.1186/1472-6963-14-398

Allen, M. S., Iliescu, D., & Greiff, S. (2022). Single item measures in psychological science: A call to action [Editorial]. *European Journal of Psychological Assessment, 38*(1), 1–5. https://doi.org/10.1027/1015-5759/a000699

Barkham, M., Bewick, B., Mullin, T., Gilbody, S., Connell, J., Cahill, J., Mellor-Clark, J., Richards, D., Unsworth, G., & Evans, C. (2013). The CORE-10: A short measure of psychological distress for routine use in the psychological therapies. *Counselling & Psychotherapy Research, 13*(1), 3–13. https://doi.org/10.1080/14733145.2012.729069

Barkham, M., & Lambert, M. J. (2021). The efficacy and effectiveness of psychological therapies. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (7th ed., pp. 135–189). John Wiley & Sons.

Böhnke, J. R., Lutz, W., & Delgadillo, J. (2014). Negative affectivity as a transdiagnostic factor in patients with common mental disorders. *Journal of Affective Disorders, 166*, 270–278. https://doi.org/10.1016/j.jad.2014.05.023

Böhnke, J. R., & Rutherford, C. (2021). Using feedback tools to enhance the quality and experience of care. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, 30*(11), 3007–3013. https://doi.org/10.1007/s11136-021-03008-8

Cardace, F., Rubel, J. A., Altmann, U., Merkler, M., Schwartz, B., Deisenhofer, A.-K., Paulick, J., Schoenherr, D., Strauß, B., & Lutz, W. (2022). Konvergenz von Skalen zur Erfassung sozialer Ängste: Ein IRT-Linking Ansatz [Convergence of social anxiety scales: An IRT linking approach]. *PPmP – Psychotherapie · Psychosomatik · Medizinische Psychologie, 72*(2), 59–67. https://doi.org/10.1055/a-1519-7259

Castonguay, L. G., Barkham, M., Youn, S. J., & Page, A. C. (2021). Practice-based evidence—Findings from routine clinical settings. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (7th ed., pp. 191–222). John Wiley & Sons.

de Beurs, E., Boehnke, J. R., & Fried, E. I. (2022). Common measures or common metrics? A plea to harmonize measurement results. *Clinical Psychology & Psychotherapy, 29*(5), 1755–1767. https://doi.org/10.1002/cpp.2742

Duncan, B. L., & Reese, R. J. (2015). The Partners for Change Outcome Management System (PCOMS): Revisiting the client’s frame of reference. *Psychotherapy, 52*(4), 391–401. https://doi.org/10.1037/pst0000026

Evans, C., Connell, J., Barkham, M., Margison, F., McGrath, G., Mellor-Clark, J., & Audin, K. (2002). Towards a standardised brief outcome measure: Psychometric properties and utility of the CORE-OM. *The British Journal of Psychiatry, 180*(1), 51–60. https://doi.org/10.1192/bjp.180.1.51

Flückiger, C., Regli, D., Zwahlen, D., Hostettler, S., & Caspar, F. (2010). Der Berner Patienten- und Therapeutenstundenbogen 2000 [The Bern post session report, patient and therapist versions 2000]. *Zeitschrift für Klinische Psychologie und Psychotherapie, 39*(2), 71–79. https://doi.org/10.1026/1616-3443/a000015

Guy, W. (1976). *Clinical Global Impressions Scale (CGI)* [Database record]. APA PsycTests. https://doi.org/10.1037/t48216-000

Harris, R., Murphy, M. G., & Rakes, S. (2019). The psychometric properties of the Outcome Rating Scale used in practice: A narrative review. *Journal of Evidence-Based Social Work, 16*(5), 555–574. https://doi.org/10.1080/26408066.2019.1645071

Hatcher, R. L., & Gillaspy, J. A. (2006). Development and validation of a revised short version of the Working Alliance Inventory. *Psychotherapy Research, 16*(1), 12–25. https://doi.org/10.1080/10503300500352500

Hernández, A., Hidalgo, M. D., Hambleton, R. K., & Gómez-Benito, J. (2020). International Test Commission guidelines for test adaptation: A criterion checklist. *Psicothema, 32*(3), 390–398. https://doi.org/10.7334/psicothema2019.306

Howard, K. I., Moras, K., Brill, P. L., Martinovich, Z., & Lutz, W. (1996). Evaluation of psychotherapy: Efficacy, effectiveness, and patient progress. *The American Psychologist, 51*(10), 1059–1064. https://doi.org/10.1037/0003-066X.51.10.1059

Keetharuth, A. D., Brazier, J., Connell, J., Bjorner, J. B., Carlton, J., Buck, E. T., Ricketts, T., McKendrick, K., Browne, J., Croudace, T., & Barkham, M. (2018). Recovering Quality of Life (ReQoL): A new generic self-reported outcome measure for use with people experiencing mental health difficulties. *The British Journal of Psychiatry, 212*(1), 42–49. https://doi.org/10.1192/bjp.2017.10

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression measure. *Journal of General Internal Medicine, 16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Lambert, M. J., Finch, A. M., Okiishi, J., & Burlingame, G. M. (2005). *OQ-10.2 Manual.* American Professional Credentialing Services, LLC.

Lambert, M. J., Hansen, N. B., Umphress, V., Lunnen, K., Okiishi, J., Burlingame, G. M., & Reisinger, C. W. (1996). *Administration and scoring manual for the Outcome Questionnaire (OQ–45.2).* Wilmington, DE, USA: American Professional Credentialing Services.

Leach, C., Lucock, M., Barkham, M., Stiles, W. B., Noble, R., & Iveson, S. (2006). Transforming between Beck Depression Inventory and CORE-OM scores in routine clinical practice. *British Journal of Clinical Psychology, 45*(2), 153–166. https://doi.org/10.1348/014466505X35335

Lutz, W., de Jong, K., Rubel, J., & Delgadillo, J. (2021). Measuring, predicting and tracking change in psychotherapy. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield`s handbook of psychotherapy and behavior change* (7th ed., pp. 89–133). John Wiley & Sons.

Lutz, W., Rubel, J. A., Schwartz, B., Schilling, V., & Deisenhofer, A.-K. (2019). Towards integrating personalized feedback research into clinical practice: Development of the Trier Treatment Navigator (TTN). *Behaviour Research and Therapy, 120*, Article 103438. https://doi.org/10.1016/j.brat.2019.103438

Orlinsky, D. E., & Howard, K. I. (1986). The psychological interior of psychotherapy: Explorations with the Therapy Session Reports. In L. S. Greenberg & W. M. Pinsof (Eds.), *The psychotherapeutic process: A research handbook* (pp. 477–501). Guilford Press.

Schalet, B. D., Lim, S., Cella, D., & Choi, S. W. (2021). Linking scores with patient-reported health outcome instruments: A validation study and comparison of three linking methods. *Psychometrika, 86*(3), 717–746. https://doi.org/10.1007/s11336-021-09776-z

Scilligo, P. (2000). Il questionario ANINT-A36: Uno strumento per misurare la percezione di se [ANINT-A36 questionnaire: A tool for measuring self perception]. *Psicologia Psicoterapia e Salute, 6*(1), 1–35.

Scilligo, P., D’Aversa, C., & Liverano, A. (1999). Il questionario ESPERO: la misurazione delle ingiunzioni e delle controin-giunzioni [The ESPERO questionnaire: The measurement of injunctions and counter-injunctions]. *Psicologia Psicoterapia e Salute, 5*(2), 137–166.

Snyder, C., Smith, K., Holzner, B., Rivera, Y. M., Bantug, E., & Brundage, M. (2019). Making a picture worth a thousand numbers: Recommendations for graphically displaying patient-reported outcomes data. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, 28*(2), 345–356. https://doi.org/10.1007/s11136-018-2020-3

Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092–1097. https://doi.org/10.1001/archinte.166.10.1092

Stewart-Brown, S., Tennant, A., Tennant, R., Platt, S., Parkinson, J., & Weich, S. (2009). Internal construct validity of the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS): A Rasch analysis using data from the Scottish health education population survey. *Health and Quality of Life Outcomes, 7*, Article 15. https://doi.org/10.1186/1477-7525-7-15

Vitry, G., Pakrosnis, R., Jackson, J. B., Gallin, E., & Hoyt, M. F. (2024). Problem Resolution Scale: A single-item instrument for easily assessing clinical improvement. *Journal of Marital and Family Therapy, 50*(2), 477–494. https://doi.org/10.1111/jmft.12690

Wahl, I., Löwe, B., Bjorner, J. B., Fischer, F., Langs, G., Voderholzer, U., Aita, S. A., Bergemann, N., Brahler, E., & Rose, M. (2014). Standardization of depression measurement: A common metric was developed for 11 self-report depression measures. *Journal of Clinical Epidemiology, 67*(1), 73–86. https://doi.org/10.1016/j.jclinepi.2013.04.019

Waskow, I. E., & Parloff, M. B. (Eds.). (1975). *Psychotherapy, change, measures: Report of the Clinical Research Branch Outcome Measures Project* (Vol. 74). National Institute of Mental Health.

EACLIPT

Clinical Psychology in Europe (CPE) is the official journal of the European Association of Clinical Psychology and Psychological Treatment (EACLIPT).

leibniz-psychology.org

PsychOpen GOLD is a publishing service by Leibniz Institute for Psychology (ZPID), Germany.

Clinical Psychology in Europe

PsychOpen GOLD

Politics and Education

Learning a Practical Psychotherapeutic Skill in Higher Education in Sweden: A Conceptual Paper Concerning the Importance of Constructive Alignment When Teaching Therapeutic Alliance

Ann-Sophie Lindqvist Bagge[1], Rolf Holmqvist[2], Therése Skoog[1],

Malin Hildebrand Karlén[1]

[1] *Department of Psychology, University of Gothenburg, Gothenburg, Sweden.* **[2]** *Department of Behavioral Sciences and Learning, Linköping University, Linköping, Sweden.*

Clinical Psychology in Europe, 2024, Vol. 6(3), Article e12037, https://doi.org/10.32872/cpe.12037

Received: 2023-05-25 • **Accepted:** 2024-04-12 • **Published (VoR):** 2024-09-30

Handling Editor: Anton-Rupert Laireiter, University of Vienna, Vienna, Austria

Corresponding Author: Ann-Sophie Lindqvist Bagge, Department of Psychology, University of Gothenburg, Box 500, S-Gothenburg, Sweden. E-mail: alb@gu.se

Abstract

Background: In addition to theoretical education, clinical psychology programs should include practical skills training. This skill training may be tied to specific assessment and treatment methods; other skills, such as the ability to create a collaborative alliance with patients, are more generic. Previous research has shown that the ability to build a therapeutic alliance (TA) is often not systematically taught in clinical psychology programs and it is uncertain how this competence is examined. A lack of competence in establishing TA on the part of the psychologist might diminish the effects of psychotherapy. To meet the Bologna Declaration, European universities need to demonstrate constructive alignment, i.e. a relationship between elements of the course content and intended learning outcomes in course documents, and show how the acquired knowledge, abilities, and approaches are assessed.

Method: This conceptual paper reviewed the syllabuses for universities in Sweden offering the five-year clinical psychology program to illustrate how higher education in Sweden adheres to the Bologna recommendation on constructive alignment when teaching TA to future clinical psychologists.

Results: Only two universities out of all eleven universities in Sweden offering a psychology program described satisfactory constructive alignment concerning TA.

Conclusion: This conceptual paper raises awareness of the importance of pedagogic structure when teaching TA in higher education by pointing to the prevailing lack of constructive alignment in teaching TA. The increased awareness will hopefully lead to improved structuring in the teaching of TA.

Keywords

constructive alignment, clinical psychology training, psychology education, therapeutic alliance

Highlights

- Shortcomings in TA training may reflect broader challenges in psychotherapy education across European universities.
- TA training should be a core element of future clinical psychology program curricula.
- European institutions are encouraged to integrate TA training consistently into curricula and ILOs.

Background

Research and theoretical reflection about the significance of general relational factors in contrast to more specific techniques and methods in psychological treatment have been in focus for decades (Norcross & Wampold, 2019). Recent theoretical and empirical work indicates a complex interaction between specific and general relational factors for patient outcomes (Heinonen & Nissen-Lie, 2020; Lorenzo-Luaces & DeRubeis, 2018; Uhl et al., 2022; Webb et al., 2010). Considering the importance of relational factors, it is interesting that professional training and clinical experience do not seem to improve the competencies needed to increase patient outcomes (Christensen & Jacobson, 1994). Hayes and colleagues (2022) recently commented on “the paradox that experience in psychological intervention reliably leads to increases in confidence but not in competence” (p. 19). In parallel with this discussion, the issue of the significance of therapists’ adhering to treatment integrity has also evoked research interest. Although the findings on this issue are heterogeneous, it seems apparent that general relational factors contribute substantially to patient change (Heinonen & Nissen-Lie, 2020; Uhl et al., 2022; Webb et al., 2010) The question of how to combine technique with relational competence is complex (Seewald & Rief, 2023).

Studies on Facilitative Interpersonal Skills (FIS; Anderson et al., 2016) have shown that factors like a therapist’s capacity for establishing warmth, persuasiveness, hopefulness, and ability to create an alliance and repair problems are associated with more positive treatment outcomes. Bennett-Levy summarized recent studies about the role of the therapist by stating that effective therapists are characterized by “the relational qualities and skills associated with alliance building and maintenance, and cognitive and emotional personal qualities such as resilience, mindfulness, tolerance of ambiguity, self-confidence, healthy self-doubt, capacity for self-reflection and self-awareness” (Bennett-Levy, 2019, p. 141).

Therapeutic Alliance (TA)

The most studied relational factor is the therapeutic alliance (TA) (Bordin, 1979; Wampold, 2015). The usual definition implies that TA consists of three components: (1) goal – the therapeutic purpose, (2) task – the therapeutic process, and (3) bond – the therapeutic relationship (Bordin, 1979). The creation of the alliance can be seen as a joint effort by the patient and therapist. The alliance contributes significantly to the effects of psychotherapy (Flückiger et al., 2018). The explicit aspect of TA concerns agreement and negotiations about goals and tasks, whereas the bond aspect of TA comprises the patient's emotional ties to the therapist and the therapist's empathetic ability and involvement in the patient's situation (Summers & Barber, 2003). A meta-analysis (Del Re et al., 2021) concludes that average differences between therapists in the alliance with their patients have a stronger influence on outcomes than differences between patients within therapists. This finding underscores the importance of stimulating therapists to improve their ability to create constructive cooperation with the patient.

Studies have shown that the quality of the TA contributes to treatment outcomes (Flückiger et al., 2018; Summers & Barber, 2003). A two-stage individual meta-analysis showed reciprocal within-patient correlations between higher ratings of alliance and lower symptom load in the first seven sessions of psychotherapeutic contact, indicating that better TA contributes to symptom reduction (Flückiger et al., 2020). The authors concluded that at least in the early phase of psychotherapeutic contact, symptoms, and alliance were reciprocally related to one other, generating a positive spiral, increasing the sense of alliance, and lowering symptom load in the subsequent sessions (Flückiger et al., 2020). The causal relationship between alliance and session outcome is complex. Most studies do, however, find that the primary causal link is from better alliance to better outcomes (Crits-Christoph & Gibbons, 2021). The alliance-outcome relationship is a key factor across different psychotherapeutic treatment approaches (Flückiger et al., 2018). This is also valid for patients with personality disorders and severe mental conditions (Caspar, 2019).

Can TA Be Taught?

Summers and Barber (2003) concluded that: (1) the ability to develop TA can improve during training, (2) trainees become more focused on TA with accumulated training and complex case formulations, (3) the goal and task aspects of TA may be more learnable and teachable than the bond aspect, and (4) there are preexisting therapeutic factors that affect the ability to develop TA (Summers & Barber, 2003). Summers and Barber (2003) further argue that of the three factors likely to influence the development of

TA, namely patient characteristics, therapist characteristics, and the therapist's technical activity during treatment, it is probably the therapist's technical activity that is most susceptible to training. Zilcha-Mano (2021) points to the importance of distinguishing between trait-like and state-like aspects of the therapist’s contribution. Therapists need to be able to distinguish between their trait characteristics and their reactions which are more situational (Zilcha-Mano et al., 2019).

Ever since Delaney and Heiman (1966) and later Grace et al. (1995) showed that trainees could be taught increased sensitivity to non-verbal communication, several studies have shown positive outcomes of various forms of alliance training. Crits-Christoph and colleagues (2006) found in a small study with five therapists that TA training improved the quality of therapist- and patient-rated TA, but not patient outcomes. Another study found that guidance from a supervisor that focused on TA ability or the alliance process was associated with a reduction in psychiatric symptoms and retention of positive outcomes in patients in therapy – these patients evaluated the therapy more positively at the end of treatment (Bambling et al., 2006). In still another alliance training study, Smith-Hansen et al. (2011) found improved alliance but no patient outcome effects. Recently, interest has been focused on the restoration of alliance ruptures. Studies have found that therapies where alliance ruptures are repaired attain better outcomes (Eubanks-Carter et al., 2015; Larsson et al., 2018; Safran et al., 2002). For example, The Alliance-Focused Training program (AFT) (Eubanks-Carter et al., 2015; Safran & Muran, 2000; Safran et al., 2011) is based on studies of alliance ruptures and their reparation. This program focuses on training self-awareness, affect regulation, and interpersonal sensitivity to increase therapists’ awareness of strains in the alliance and competence in repairing conflicts and ruptures. Recently, the Facilitative Interpersonal Skills (FIS) model has been combined with the AFT to create another training model, the AFT/FIS training (Perlman et al., 2023). The Personal Practice model created by Bennett-Levy also contains elements that focus on alliance-building (Bennett-Levy & Finlay-Jones, 2018). Studies of the results of skills training of relational variables show varying results. In a research overview, Knox and Hill (2021) conclude that although some persons may have more talent than others for psychotherapy, skills training does improve performance.

Regardless of the specific programs used in training to increase prospective therapists' TA competence, Summers and Barber (2003) recommended the following pedagogical approaches to improve TA: (1) early didactic and tutoring focus on TA concept and its techniques, (2) sustained attention on TA throughout the students' practical clinical TLAs (case formulations, conceptualizations, providing clinical tutor guidance in expected alliance ruptures within the discussed cases, etc.), (3) didactic and tutorial focus on establishing appropriate, realistic, and discussed goals and on identifying the patient’s and therapist's tasks in the therapy context, and (4) the concept ‘to develop TA’ should be integrated with clinical data regarding TA in case formulations and conceptualizations when teaching TA (Summers & Barber, 2003). In addition to the authors' belief that TA should be a central learning aspect of clinical psychology programs given its significant role as TA in psychological treatment, it is important to include clinical practitioners as lecturers when teaching practical skills in higher education courses to obtain a constructive balance between theory and practice (Williams & Joyce, 2009).

The Pedagogic Necessity of Constructive Alignment (CA)

As the therapist's ability to establish and consolidate TA is a significant factor in treatment outcome, it is important to ascertain if and how this skill is taught in clinical psychology courses. It could be expected that training in TA would be a central learning target in clinical psychology programs. As early as 1990, it was suggested that training therapists should attend to the interpersonal processes in treatment relationships (Alberts & Edelstein, 1990). Studies have found, however, that TA is often not taught systematically in higher education (Constantino et al., 2017; Constantino et al., 2013). Since TA is usually not taught systematically there is an obvious need for a pedagogic focus on how TA is taught. If this pedagogic need is not met, graduate clinical psychologists could leave higher education without sufficient TA skills, despite research showing the importance of improving TA during the education of prospective psychologists (Grace et al., 1995).

Constructive Alignment (CA)

To meet the European aim of establishing general standards of teaching in higher education, i.e., The Bologna Declaration of 19 June 1999. Joint Declaration of the European Ministers of Education (European Higher Education Area [EHEA] and Bologna Process, 1999), universities need to demonstrate a logical relationship between elements of the course content and intended learning outcomes (ILOs) in course documents and how the acquired knowledge, abilities, and approaches are assessed (EHEA, 2015; González & Wagenaar, 2003).

The pedagogic idea that a constructive link, or alignment, should exist between ILOs, Teaching and Learning Activities (TLAs) and Assessments was developed by Biggs (1999). According to Biggs, constructive alignment makes explicit the standards needed if the ILOs are to be achieved and maintained. The underlying principle of constructive alignment is that the assessment tasks should comprise an authentic representation of the ILOs (Biggs & Tang, 2011). Constructive alignment could be used as a theoretical tool for planning TLAs and assessment tasks that aim to directly address the ILOs (Biggs & Tang, 2011), where the TLAs include what the teacher does (teaching activities) and what the student does (learning activities). ILOs did not feature in the original Bologna Declaration of 1999 but were included in the 2003 Berlin Communiqué and have since become the core component for evidencing qualifications at the European level, CA has been explicitly referenced from 2015 onwards (Hailikari et al., 2022; Loughlin et al., 2021). CA is today the foundation for the current standards and policies for program specification, and declarations of ILOs, in Europe (Fransson & Friberg, 2015; Ruge et al., 2019; Schmidt, 2019) since the establishment of the European Higher Education Area in 2010 (EHEA, 2021) and the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) in 2015 (ENQA et al., 2015). The ECTS (The European Credit Transfer and Accumulation System) Users' Guide is a tool of EHEA that specifies the responsibility of university teachers to ensure that the constructive alignment of ILOs, TLAs, and assessment is "an essential requirement for educational programmes" (European Commission, Directorate-General for Education, Youth, Sport and Culture, 2015).

An Illustrative Example From Swedish Higher Education

Despite the recommendations of the Bologna process, there is much heterogeneity between European countries regarding clinical psychology training (Laireiter & Weise, 2019). Sweden has been a full member of the Bologna Process/European Higher Education Area since 1999. The Bologna declaration and constructive alignment are highly relevant to the Swedish clinical psychology program. To practice as a clinical psychologist in Sweden, the student must complete five years of master's level university studies in the national Psychology Program (Master of Science in Psychology, 300 European Credit Transfer and Accumulation System [ECTS]) and then complete one year of practical service under continuous supervision (*Swe.* Praktisk Tjänstgöring för Psykologer [PTP]). After approved PTP, the student is granted a license as a clinical psychologist by the Swedish National Board of Health and Welfare (https://www.government.se/government-agencies/national-board-of-health-and-welfare--socialstyrelsen/) and the psychologist can then practice clinical psychological treatment without supervision in private settings or within the Swedish public healthcare system. During the 5-year psychology program, the clinical psychotherapy courses are often taught during the latter part of the program. The psychotherapy courses are taught separately or as integrated into other courses in the psychology programs. During the psychotherapy courses, the psychology student is taught theoretical psychotherapeutic knowledge and is allowed to practice this knowledge during supervised psychotherapeutic treatment with patients with milder forms of psychological problems. To become a licensed psychotherapist in Sweden, as opposed to a licensed clinical psychologist, students who have taken the clinical psychology program must also complete another 3-year program (a graduate diploma course in psychotherapy).

This conceptual paper aimed to illustrate how higher education in Sweden adheres to the Bologna recommendation on constructive alignment when teaching TA to future clinical psychologists. To assess the extent of training in TA, we observed how TA was taught regarding CA. A country-wide overview of the course syllabuses and ILOs of TA-relevant psychotherapy courses in the clinical psychology program was performed in 2019, by two of the authors, for all eleven universities in Sweden offering the five-year clinical psychology program. The two authors analyzed independently of each other the presence of explicit mention of the term TA (or its synonyms cf. working alliance, treatment alliance, etc.) based on the definition of Bordin (1979) in the TA-relevant clinical psychotherapy courses' syllabuses and ILOs.

The reviewed document analysis showed that out of the eleven universities in Sweden offering a clinical psychology program, only two universities specifically stated, 'therapeutic alliance' (or its synonyms) in the ILOs in their course syllabuses. At nine universities, different aspects of the concept of TA were in some (vague) way described in the ILOs. When TA (or its synonyms) is not mentioned in the courses' ILOs and when imprecise TA definitions do not fully correspond to the established definition of TA, a constructive link between ILOs, TLAs, and assessment/examination when teaching TA cannot be said to exist. The obvious lack of CA was due to an absence of a clear and explicit description of TA (or its synonyms) in the ILOs of the clinical courses for nine out of the eleven universities in Sweden offering a clinical psychology program. Definitions of TA should be operationalized in the ILO for programs to be able to teach and examine the students' TA abilities/knowledge when applying the pedagogic concept of CA. The present illustrative example shows that teaching – and training – of TA is not done systematically in Swedish universities when training clinical psychology students' ability to create a viable and constructive cooperative alliance with patients. As the data collection was conducted in Sweden only, the results cannot be generalized to universities in other European countries. The results can, however, hopefully serve as an illustration of a pedagogical problem that has been described in scientific journals (Constantino et al., 2017; Constantino et al., 2013) as well as has been informally discussed among colleagues internationally.

Conclusion

Teaching TA is difficult as it concerns a relational and, to a large extent, implicit skill. Nevertheless, this skill – alliance building and alliance maintenance – is a precondition for effectively using specific methods in psychotherapy. At the same time, psychotherapy is a craft as well as a science, and training programs need to ascertain that the student has acquired sufficient TA competence both theoretically and practically. The craft aspect of TA may be challenging to conceptualize in traditional university teaching contexts. We fear that the illustrative example of the current paper – showing vague descriptions of TA and a lack of constructive alignment between course objectives, ILOs, and examination methods – reflects a situation where TA is not systematically taught in clinical psychology programs in Sweden. Considering the significance for psychologists and their future patients of developing competence in alliance-building, preferably through constructive alignment, and the findings in this study, it is doubtful whether the current structure for teaching TA at Swedish universities offers prospective clinical psychologists an opportunity to develop sufficient TA knowledge and skills. A lack of basic TA competence in this might diminish the efficacy of psychotherapy given by future clinical psychologists. This conceptual paper hopefully directs the focus on the structure around the teaching of practical psychotherapeutic skills in higher education, illustrated by the lack of constructive alignment when teaching TA to clinical psychology students in higher education. It is also hoped that this conceptual paper will stimulate improved structuring of the teaching of TA. Based on the backdrop of the current conceptual paper – and given the important role of TA in enhancing the effectiveness of treatment and fostering positive outcomes for patients – our strong recommendation is to make alliance-building training a core element of future clinical psychology program curricula in Sweden. A good way to start is with TA being specifically mentioned in the ILOs. The importance of TA in clinical psychology education resonates with the ESG's emphasis on fostering student-centered learning outcomes and ensuring education effectiveness (ENQA et al., 2015). The identified shortcomings in TA training may reflect broader challenges in psychotherapy education across European universities, not just in Sweden. We encourage European institutions to adhere to the ESG principles by integrating TA training consistently into curricula and aligning it with program ILOs. Such a strategic approach ensures that future clinical psychologists across Europe receive comprehensive training in TA, promoting quality in psychotherapy delivery across the region.

Funding: The authors have no funding to report.

Acknowledgments: The authors have no additional (i.e., non-financial) support to report.

Competing Interests: The authors have declared that no competing interests exist.

Data Availability: Data supporting this study are not publicly available but can be accessed upon request. Please contact alb@gu.se

References

Alberts, G., & Edelstein, B. (1990). Therapist training: A critical review of skill training studies. *Clinical Psychology Review, 10*(5), 497–511. https://doi.org/10.1016/0272-7358(90)90094-Q

Anderson, T., McClintock, A. S., Himawan, L., Song, X., & Patterson, C. L. (2016). A prospective study of therapist facilitative interpersonal skills as a predictor of treatment outcome. *Journal of Consulting and Clinical Psychology, 84*(1), 57–66. https://doi.org/10.1037/ccp0000060

Bambling, M., King, R., Raue, P., Schweitzer, R., & Warren, L. (2006). Clinical supervision: Its influence on client-rated working alliance and client symptom reduction in the brief treatment of major depression. *Psychotherapy Research, 16*(3), 317–331. https://doi.org/10.1080/10503300500268524

Bennett-Levy, J. (2019). Why therapists should walk the talk: The theoretical and empirical case for personal practice in therapist training and professional development. *Journal of Behavior Therapy and Experimental Psychiatry, 62*, 133–145. https://doi.org/10.1016/j.jbtep.2018.08.004

Bennett-Levy, J., & Finlay-Jones, A. (2018). The role of personal practice in therapist skill development: A model to guide therapists, educators, supervisors and researchers. *Cognitive Behaviour Therapy, 47*(3), 185–205. https://doi.org/10.1080/16506073.2018.1434678

Biggs, J. B. (1999). What the student does: Teaching for enhanced learning. *Higher Education Research & Development, 18*(1), 57–75. https://doi.org/10.1080/0729436990180105

Biggs, J. B., & Tang, C. S.-K. (2011). *Teaching for quality learning at university: What the student does* (4th ed.). Open University Press.

Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy, 16*(3), 252–260. https://doi.org/10.1037/h0085885

Caspar, F. (2019). Plan analysis and the motive-oriented therapeutic relationship. In U. Kramer (Ed.), *Case formulation for personality disorders: Tailoring psychotherapy to the individual client* (pp. 265–290). Elsevier Academic Press.

Christensen, A., & Jacobson, N. S. (1994). Who (or what) can do psychotherapy: The status and challenge of nonprofessional therapies. *Psychological Science, 5*(1), 8–14. https://doi.org/10.1111/j.1467-9280.1994.tb00606.x

Constantino, M. J., Morrison, N. R., Coyne, A. E., & Howard, T. (2017). Exploring therapeutic alliance training in clinical and counseling psychology graduate programs. *Training and Education in Professional Psychology, 11*(4), 219–226. https://doi.org/10.1037/tep0000157

Constantino, M. J., Morrison, N. R., MacEwan, G., & Boswell, J. F. (2013). Therapeutic alliance researchers' perspectives on alliance-centered training practices. *Journal of Psychotherapy Integration, 23*(3), 284–289. https://doi.org/10.1037/a0032357

Crits-Christoph, P., & Gibbons, M. B. C. (2021). Psychotherapy process-outcome research: Advances in understanding causal connections. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (7th ed., pp. 263–295). John Wiley & Sons.

Crits-Christoph, P., Gibbons, M. B. C., Crits-Christoph, K., Narducci, J., Schamberger, M., & Gallop, R. (2006). Can therapists be trained to improve their alliances? A preliminary study of alliance-fostering psychotherapy. *Psychotherapy Research, 16*(3), 268–281. https://doi.org/10.1080/10503300500268557

Delaney, D. J., & Heiman, R. A. (1966). Effectiveness of sensitivity training on the perception of non-verbal communication. *Journal of Counseling Psychology, 13*(4), 436–440. https://doi.org/10.1037/h0023975

Del Re, A. C., Flückiger, C., Horvath, A. O., & Wampold, B. E. (2021). Examining therapist effects in the alliance–outcome relationship: A multilevel meta-analysis. *Journal of Consulting and Clinical Psychology, 89*(5), 371–378. https://doi.org/10.1037/ccp0000637

EHEA. (2021). *Official website of the European Higher Education Area*. Retrieved 12 May 2022 from http://www.ehea.info

ENQA, ESU, EUA, EURASHE, EI, & QEQAR. (2015). *Standards and Guidelines for Quality Assurance in the European Higher Education Area [ESG].* https://www.ehea.info/media.ehea.info/file/ESG/00/2/ESG_2015_616002.pdf

Eubanks-Carter, C., Muran, J. C., & Safran, J. D. (2015). Alliance-focused training. *Psychotherapy, 52*(2), 169–173. https://doi.org/10.1037/a0037596

European Commission, Directorate-General for Education, Youth, Sport and Culture. (2015). *ECTS users' guide 2015*. https://doi.org/10.2766/87192

European Higher Education Area. (2015). *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)*. Brussels, Belgium.

European Higher Education Area and Bologna Process. (1999). *The Bologna Declaration of 19 June 1999. Joint Declaration of the European Ministers of Education.* https://web.archive.org/web/20220331214436/http://www.magna-charta.org/resources/files/BOLOGNA_DECLARATION.pdf

Flückiger, C., Del Re, A. C., Wampold, B. E., & Horvath, A. O. (2018). The alliance in adult psychotherapy: A meta-analytic synthesis. *Psychotherapy, 55*(4), 316–340. https://doi.org/10.1037/pst0000172

Flückiger, C., Rubel, J., Del Re, A. C., Horvath, A. O., Wampold, B. E., Crits-Christoph, P., Atzil-Slonim, D., Compare, A., Falkenstrom, F., Ekeblad, A., Errazuriz, P., Fisher, H., Hoffart, A., Huppert, J. D., Kivity, Y., Kumar, M., Lutz, W., Muran, J. C., Strunk, D. R., . . . Barber, J. P. (2020). The reciprocal relationship between alliance and early treatment symptoms: A two-stage individual participant data meta-analysis. *Journal of Consulting and Clinical Psychology, 88*(9), 829–843. https://doi.org/10.1037/ccp0000594

Fransson, O., & Friberg, T. (2015). Constructive alignment: From professional teaching technique to governance of profession. *European Journal of Higher Education, 5*(2), 141–156. https://doi.org/10.1080/21568235.2014.997264

González, J., & Wagenaar, R. (2003). *Tuning educational structures in Europe: A pilot project by and for higher education institutions supported by the European Commission in the framework of the Socrates programme.* https://ehea.info/media.ehea.info/file/Tuning_project/89/3/Tuning-Educational-Structures-Europe-executive-summary_575893.pdf

Grace, M., Kivlighan, D. M., & Kunce, J. (1995). The effect of nonverbal skills training on counselor trainee nonverbal sensitivity and responsiveness and on session impact and working alliance ratings. *Journal of Counseling and Development, 73*(5), 547–552. https://doi.org/10.1002/j.1556-6676.1995.tb01792.x

Hailikari, T., Virtanen, V., & Vesalainen, M. (2022). Student perspectives on how different elements of constructive alignment support active learning. *Active Learning in Higher Education, 23*(3), 217–231. https://doi.org/10.1177/1469787421989160

Hayes, S. C., Ciarrochi, J., Hofmann, S. G., Chin, F., & Sahdra, B. (2022). Evolving an idionomic approach to processes of change: Towards a unified personalized science of human improvement. *Behaviour Research and Therapy, 156*, Article 104155. https://doi.org/10.1016/j.brat.2022.104155

Heinonen, E., & Nissen-Lie, H. A. (2020). The professional and personal characteristics of effective psychotherapists: A systematic review. *Psychotherapy Research, 30*(4), 417–432. https://doi.org/10.1080/10503307.2019.1620366

Knox, S., & Hill, C. E. (2021). Training and supervision in psychotherapy: What we know and where we need to go. In M. Barkham, W. Lutz, & L. G. Castonguay (Eds.), *Bergin and Garfield's handbook of psychotherapy and behavior change* (7th ed., pp. 327–349). John Wiley & Sons.

Laireiter, A.-R., & Weise, C. (2019). The heterogeneity of national regulations in clinical psychology and psychological treatment in Europe. *Clinical Psychology in Europe, 1*(1), Article e34406. https://doi.org/10.32872/cpe.v1i1.34406

Larsson, M. H., Falkenström, F., Andersson, G., & Holmqvist, R. (2018). Alliance ruptures and repairs in psychotherapy in primary care. *Psychotherapy Research, 28*(1), 123–136. https://doi.org/10.1080/10503307.2016.1174345

Lorenzo-Luaces, L., & DeRubeis, R. J. (2018). Miles to go before we sleep: Advancing the understanding of psychotherapy by modeling complex processes. *Cognitive Therapy and Research, 42*(2), 212–217. https://doi.org/10.1007/s10608-018-9893-x

Loughlin, C., Lygo-Baker, S., & Lindberg-Sand, Å. (2021). Reclaiming constructive alignment. *European Journal of Higher Education, 11*(2), 119–136. https://doi.org/10.1080/21568235.2020.1816197

Norcross, J. C., & Wampold, B. E. (Eds.). (2019). *Psychotherapy relationships that work* (3rd ed.). Oxford University Press.

Perlman, M. R., Anderson, T., Finkelstein, J. D., Foley, V. K., Mimnaugh, S., Gooch, C. V., David, K. C., Martin, S. J., & Safran, J. D. (2023). Facilitative interpersonal relationship training enhances novices' therapeutic skills. *Counselling Psychology Quarterly, 36*(1), 25–40. https://doi.org/10.1080/09515070.2022.2049703

Ruge, G., Tokede, O., & Tivendale, L. (2019). Implementing constructive alignment in higher education – Cross-institutional perspectives from Australia. *Higher Education Research & Development, 38*(4), 833–848. https://doi.org/10.1080/07294360.2019.1586842

Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance: A relational treatment guide.* Guilford Press.

Safran, J. D., Muran, J. C., & Eubanks-Carter, C. (2011). Repairing alliance ruptures. *Psychotherapy, 48*(1), 80–87. https://doi.org/10.1037/a0022140

Safran, J. D., Muran, J. C., Samstag, L. W., & Stevens, C. (2002). Repairing alliance ruptures. In J. C. Norcross (Ed.), *Psychotherapy relationships that work* (pp. 235-254). Oxford University Press.

Schmidt, H.-U. (2019). Learning outcomes: Core issues in higher education. In D. F. Staub (Ed.), *Quality assurance and accreditation in foreign language education: Global issues, models, and best practices from the Middle East and Turkey* (pp. 179-190). Springer International.

Seewald, A., & Rief, W. (2023). How to change negative outcome expectations in psychotherapy? The role of the therapist's warmth and competence. *Clinical Psychological Science, 11*(1), 149–163. https://doi.org/10.1177/21677026221094331

Smith-Hansen, L., Constantino, M. J., Piselli, A., & Remen, A. L. (2011). Preliminary results of a video-assisted psychotherapist workshop in alliance strategies. *Psychotherapy, 48*(2), 148–162. https://doi.org/10.1037/a0022184

Summers, R. F., & Barber, J. P. (2003). Therapeutic alliance as a measurable psychotherapy skill. *Academic Psychiatry, 27*(3), 160–165. https://doi.org/10.1176/appi.ap.27.3.160

Uhl, J., Schaffrath, J., Schwartz, B., Poster, K., & Lutz, W. (2022). Within and between associations of clinical microskills and correct application of techniques/strategies: A longitudinal multilevel approach. *Journal of Consulting and Clinical Psychology, 90*(6), 478–490. https://doi.org/10.1037/ccp0000738

Wampold, B. E. (2015). How important are the common factors in psychotherapy? An update. *World Psychiatry, 14*(3), 270–277. https://doi.org/10.1002/wps.20238

Webb, C. A., DeRubeis, R. J., & Barber, J. P. (2010). Therapist adherence/competence and treatment outcome: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*(2), 200–211. https://doi.org/10.1037/a0018912

Williams, J., & Joyce, M. (2009). Nursing, health and social care. In H. Fry, S. Ketteridge, & S. Marshall (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice* (3rd ed., pp. 391-407). Routledge.

Zilcha-Mano, S. (2021). Toward personalized psychotherapy: The importance of the trait-like/state-like distinction for understanding therapeutic change. *The American Psychologist, 76*(3), 516–528. https://doi.org/10.1037/amp0000629

Zilcha-Mano, S., Roose, S. P., Brown, P. J., & Rutherford, B. R. (2019). Not just nonspecific factors: The roles of alliance and expectancy in treatment, and their neurobiological underpinnings. *Frontiers in Behavioral Neuroscience, 12*, Article 293. https://doi.org/10.3389/fnbeh.2018.00293

EACLIPT

Clinical Psychology in Europe (CPE) is the official journal of the European Association of Clinical Psychology and Psychological Treatment (EACLIPT).

leibniz-psychology.org

PsychOpen GOLD is a publishing service by Leibniz Institute for Psychology (ZPID), Germany.