

# RANDOMISED CONTROLLED TRIAL OF A FAMILY-, GROUP- AND CBT-BASED INTERVENTION TO PREVENT DEPRESSION IN CHILDREN OF DEPRESSED PARENTS: EFFECTS AT 15-MONTH FOLLOW- UP

**Belinda Platt<sup>1</sup>, Johanna Loechner<sup>1,2</sup>, Kornelija Starman-Wöhrle<sup>1</sup>,  
Keisuke Takano<sup>2</sup>, Lina Engelmann<sup>1</sup>, Alessandra Voggt<sup>1</sup>, Fabian Loy<sup>1</sup>,  
Mirjam Bley<sup>1</sup>, Dana Winogradow<sup>1</sup>, Stephanie Hämmerle<sup>1</sup>, Esther  
Dammer<sup>1</sup>, Inga Wermuth<sup>1</sup>, Katharina Schmitt<sup>1</sup>, Frans Oort<sup>3</sup>,**

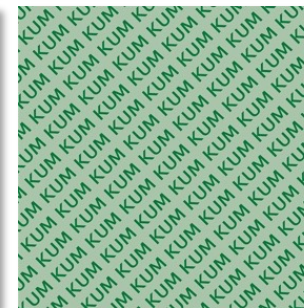
**Gerd Schulte-Körne<sup>1</sup>**



@BelindaJPlatt



Gesund. Leben. Bayern.





KLINIKUM  
DER UNIVERSITÄT MÜNCHEN

CAMPUS CITY CENTER

DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY, PSYCHOSOMATICS AND PSYCHOTHERAPY



Gesund. Leben. Bayern.

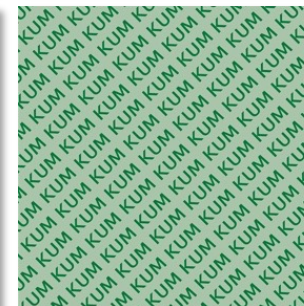
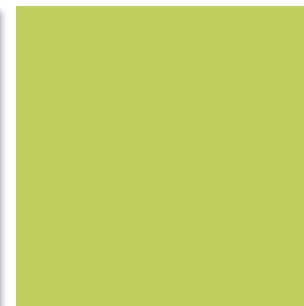
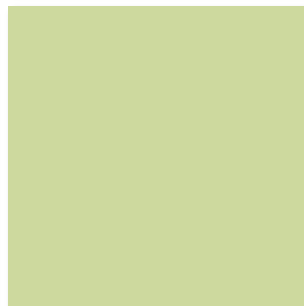


# EVALUATION OF A PREVENTIVE INTERVENTION FOR CHILDREN OF DEPRESSED PARENTS

Belinda Platt, Johanna Loechner



@BelindaJPlatt



# FOLLOW THE "PRODO" RESEARCH GROUP ON SOCIAL MEDIA!

Instagram

The screenshot shows the Instagram profile for 'prodo.group'. The profile picture is a circular logo with a green tree and a person icon, with the word 'PRODO' below it. The bio reads: 'PRODO Research Group | LMU Klinikum München | Prävention psychischer Erkrankungen bei Kindern und Jugendlichen | Kontakt: kjp-prodo@med.uni-muenchen.de | prodo-group.com'. Below the bio are five circular icons representing different research projects: #ECoWeB, #CHIMPS, #Covid, #SUSI, and #KOALA.

The screenshot shows the Twitter profile for 'PRODO Research Group'. The profile picture is the same circular logo as on Instagram. The bio reads: 'Research group @MunichKJPClinic | Prevention of mental illness in children and adolescents'. Below the bio, it says 'Munich', 'prodo-group.com', and 'Joined November 2020'. The follower count is '185 Following' and '63 Followers'. A recent tweet shows five women holding signs with the PRODO logo and the hashtags #ECoWeB, #SUSI, #COVID, and #KOALA.

The screenshot shows the website for the PRODO Research Group. The header has a green gradient and a navigation menu with links: Home, COVID-19, Team, Studies, Publications, Resources, Funding, Events, Contact, Stellen, Impressum, Datenschutzerklärung, and Internal. The main content area features the PRODO logo on the left and a green box on the right with the text: 'Welcome to the PRODO research group! Our primary interest is in developing and evaluating preventive interventions for children at risk of developing depression. We use a variety of methods, from experimental laboratory tasks to randomised controlled trials. We are based in the Departments of Child and Adolescent Psychiatry at the LMU University Hospital under the leadership of Prof. Gerd Schulte-Körne. We are currently looking for participants to take part in our studies. Find out about being a participant here.' The footer contains the copyright notice: '© 2017, Prodo Group, All Rights Reserved.'

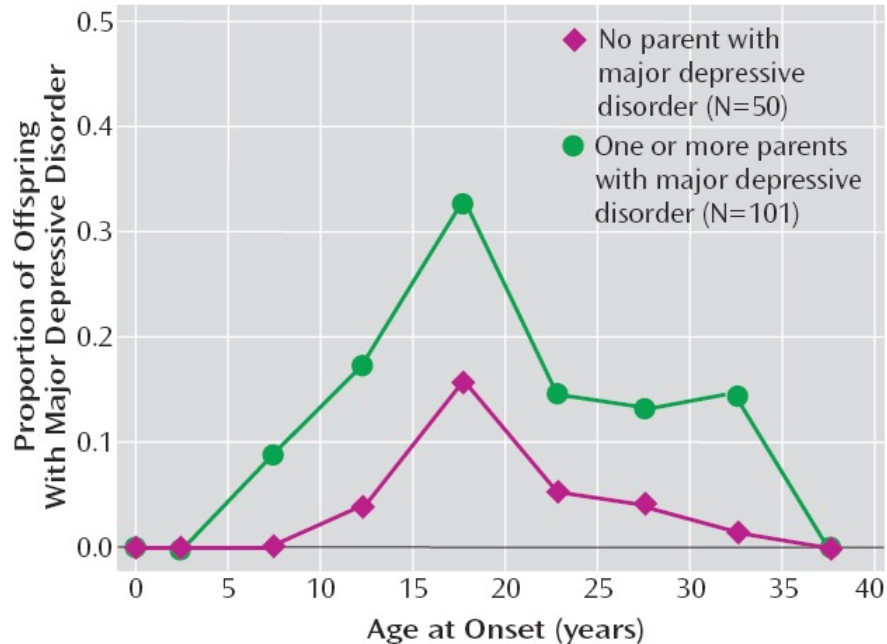
[www.prodo-group.com](http://www.prodo-group.com)

Talk available on YouTube:  
<https://youtu.be/12Ugiw943wI>

University Hospital of the University of Munich, LMU®  
ESCENT PSYCHIATRY, PSYCHOSOMATICS AND PSYCHOTHERAPY

# CHILDREN OF PARENTS WITH DEPRESSION

FIGURE 1. Age-Specific Rates of Major Depressive Disorder Over 20 Years in Offspring of Depressed and Nondepressed Parents



p.1003 from:

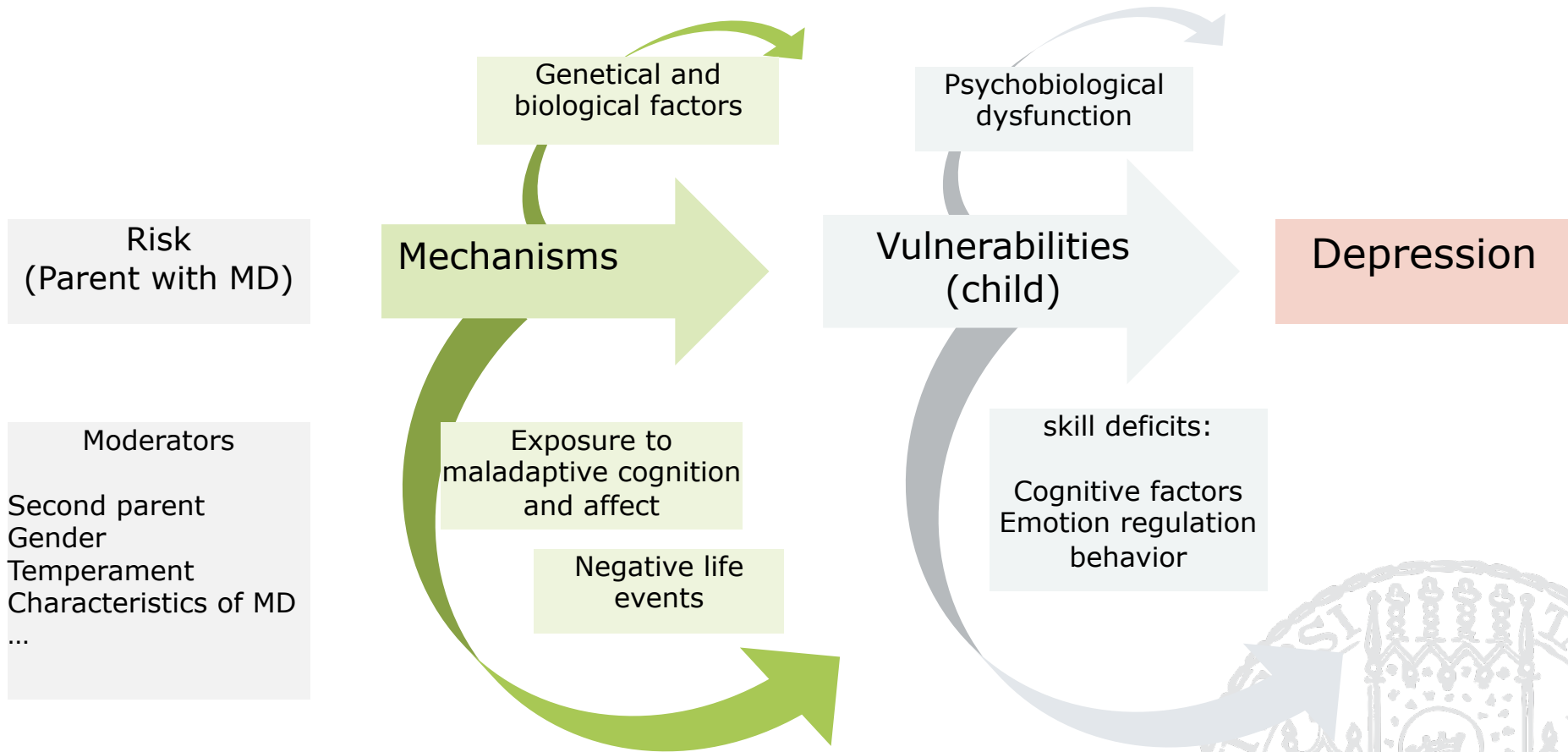
Weissman et al. (2006) Am J Psychiatry, 163(6).

⇒ Prevention of depression as a public health interest (WHO)

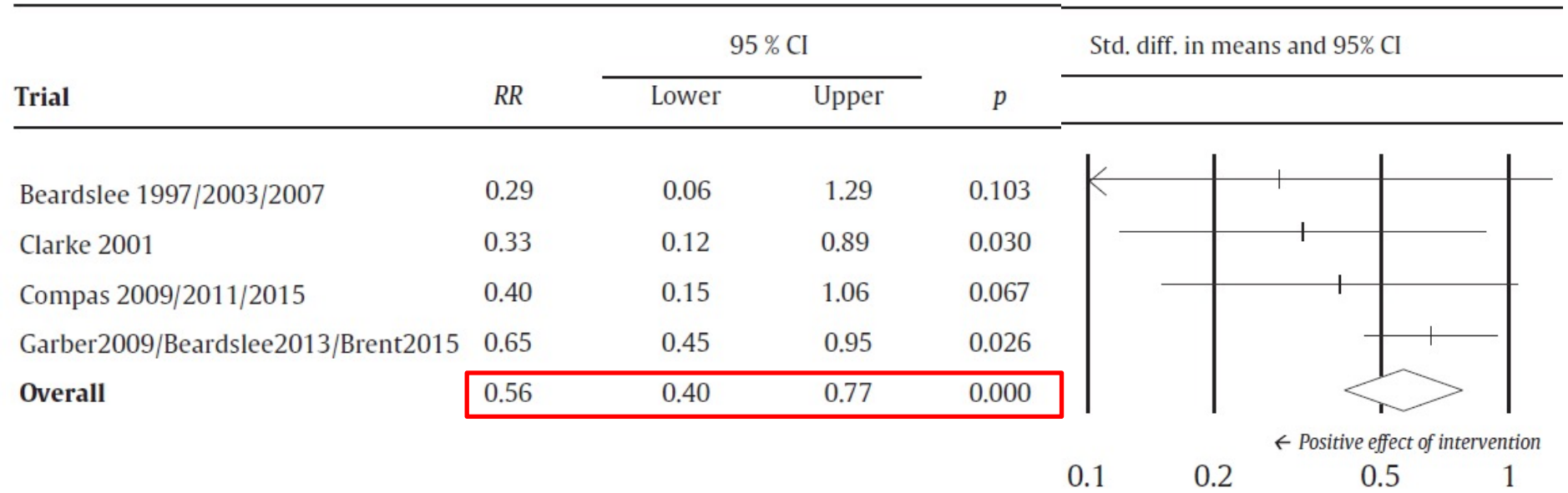
- 3-4 time increased risk for developing depression
- Age of 20 years: approx. 40% already experienced a depressive episode (Beardslee 1993; Mattejat 2002)
- More severe and chronic course of depression (Goodman et al., 2010, Kessler et al. 2012)

# MODEL OF TRANSITION OF DEPRESSION

Goodman & Gotlib (1999)



# META-ANALYSIS – PREVENTIVE INTERVENTIONS FOR CHILDREN OF DEPRESSED PARENTS



DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY

Clinical Psychology Review 60 (2018) 1–14



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Clinical Psychology Review

journal homepage: [www.elsevier.com/locate/clinppsychrev](http://www.elsevier.com/locate/clinppsychrev)



## Review

Preventing depression in the offspring of parents with depression: A systematic review and meta-analysis of randomized controlled trials

Johanna Loechner<sup>a,\*,1</sup>, Kornelija Starman<sup>a,1</sup>, Katharina Galuschka<sup>a</sup>, Jeanette Tamm<sup>b</sup>, Gerd Schulte-Körne<sup>a</sup>, Julian Rubel<sup>b</sup>, Belinda Platt<sup>a</sup>

<sup>a</sup> Department of Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy, University Hospital Munich, Nussbaumstraße 5a, 80336 Munich, Germany

<sup>b</sup> Department of Clinical Psychology and Psychotherapy, University of Trier, Universitätsring 15, 54296 Trier, Germany



# OPEN QUESTIONS

- Do preventive interventions have an impact on depression onset?
- Are effects maintained in the mid-long term?
- What are the mechanisms underlying effective interventions?

→ The “PRODO” study

Clinical relevance:

- In Germany (and elsewhere) preventive interventions for children of depressed parents exist and are implemented
- But: **which interventions** are really effective in preventing depression? **How effective** are they? **What drives their effects** and how can we **improve them**?

# FAMILY AND GROUP COGNITIVE-BEHAVIOURAL INTERVENTION (FGCB)



- Developed and evaluated by Bruce Compas (Compas et al., 2009)
- Group- and family-based intervention for non-depressed children (aged 8-17) with a depressed parent
- Aim: to prevent the onset of childhood depression
- Face-to-face
- Twelve 120-minute sessions
- 4-5 families per group, 2 therapists

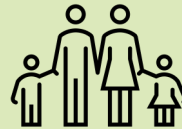


# FGCB INTERVENTION CONTENTS

For the whole family:

Psychoeducation on depression

- What is depression?
- What are potential causes?
- Reducing guilt



For children and adolescents

Learning coping strategies:

- How can I cope with my mother's/my father's illness?
- How can I cope with stress in general? "A-APP":
  - Acceptance
  - Distraction
  - Positive activities
  - Positive (realistic) thinking

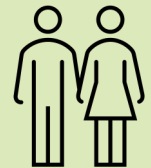


For parents

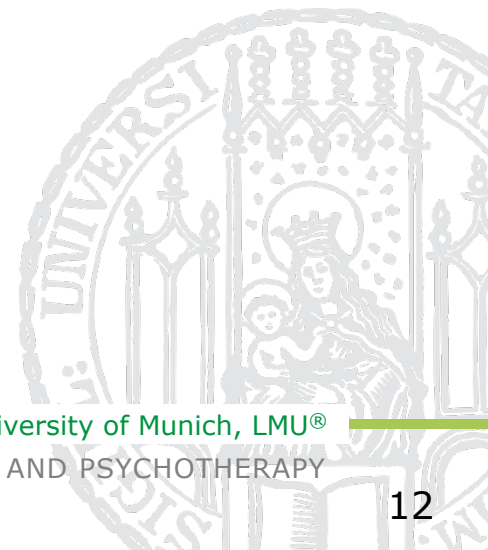
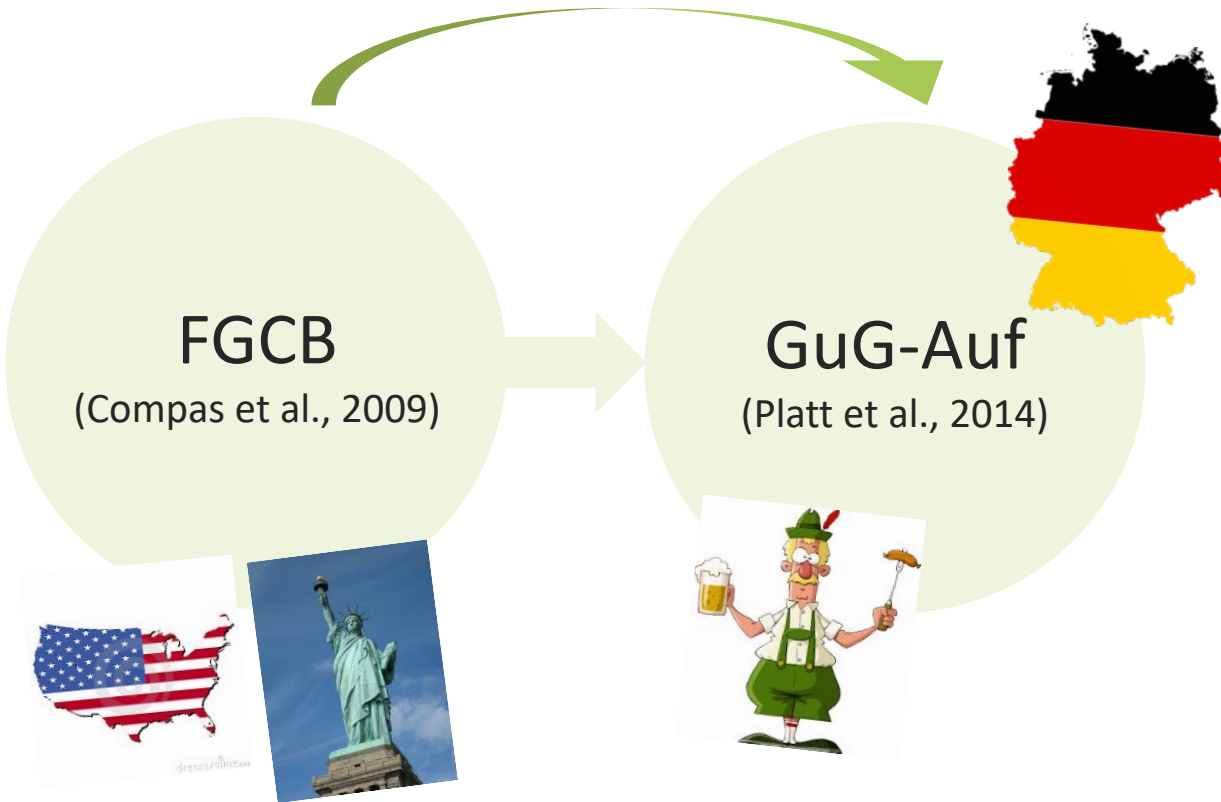
Parenting with depression

Tips for maintaining good parenting during an episode of depression

Building a support network

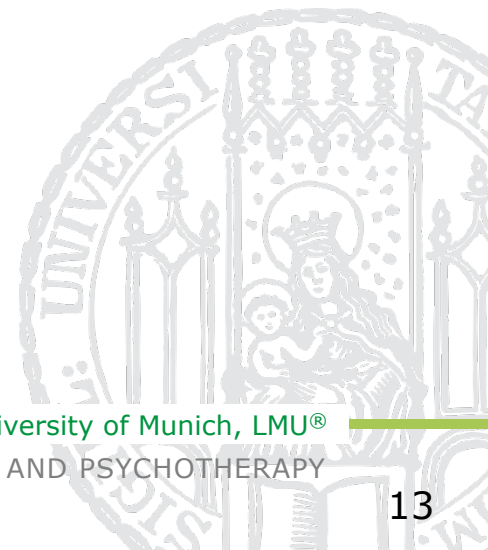


# CULTURAL ADAPTATION AND REPLICATION



# THE PRODO STUDY HYPOTHESES

1. 15 months after baseline assessment, children who receive the FGCB intervention (compared to no intervention) will show:
  - A lower incidence of depression and other mental illnesses
  - Fewer symptoms of depression, internalizing disorders and externalizing disorders



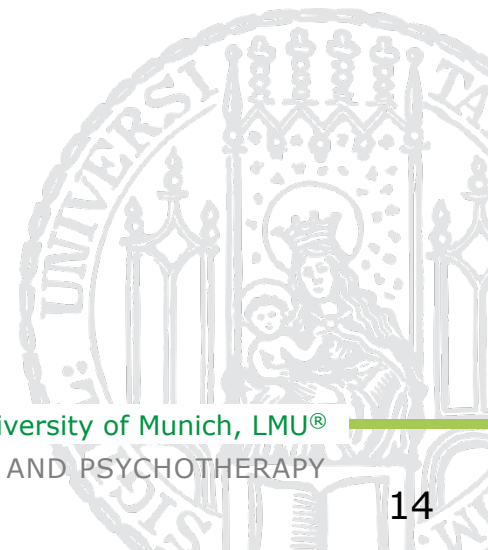
# THE PRODO STUDY OBJECTIVES

2. Intervention effects will be modified by:

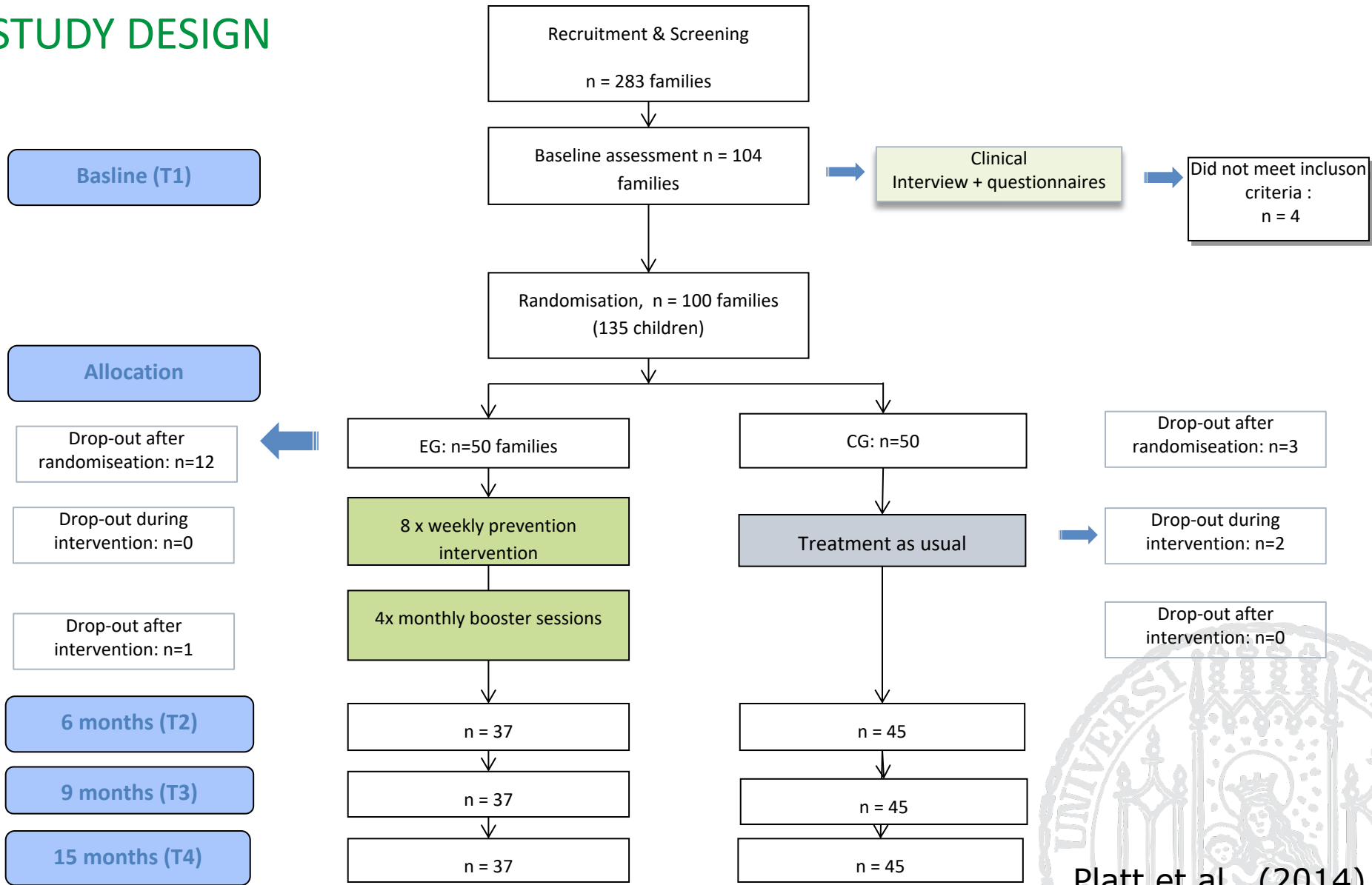
- parental depression severity and
- the number of negative life events children encounter

3. Intervention effects will be mediated by improvements in:

- Emotion regulation
- Parenting style
- Knowledge of depression
- Attributional style



# STUDY DESIGN



Platt et al., (2014)

# GUG-AUF INTERVENTION ACCEPTANCE

RESEARCH ARTICLE

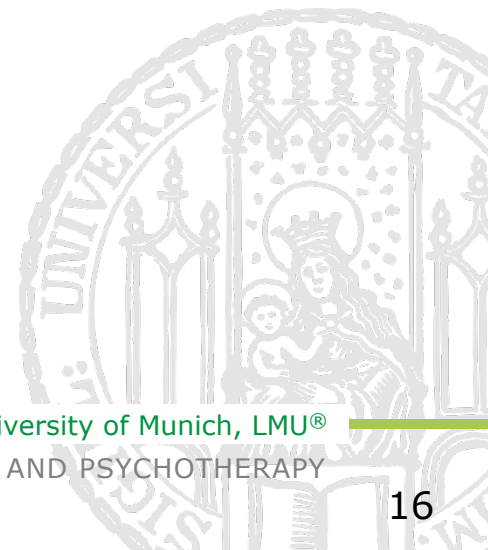
Open Access

Qualitative evaluation of a preventive intervention for the offspring of parents with a history of depression



Nathalie Claus<sup>1,3\*</sup>, Lisa Marzano<sup>2</sup>, Johanna Loechner<sup>1,3</sup>, Kornelija Starman<sup>3</sup>, Alessandra Voggt<sup>3</sup>, Fabian Loy<sup>3</sup>, Inga Wermuth<sup>3</sup>, Stephanie Haemmerle<sup>3</sup>, Lina Engelmann<sup>3</sup>, Mirjam Bley<sup>3</sup>, Gerd Schulte-Koerne<sup>3</sup> and Belinda Platt<sup>3</sup>

- Quantitative: weekly evaluation forms
- Qualitative: semi-structured interviews and focus group
- **Families:**
  - The chance to openly share and discuss their experiences of depression within and between families.
  - Generally content with the intervention but commented on how tiring and time consuming it was.
- **Children:**
  - Learning coping strategies for dealing with stress.
  - Many still used them in everyday life.
- **Parents:**
  - Positive family time.



# IMMEDIATE EFFECTS ON SYMPTOMOLOGY



In Review

Child and Adolescent Psychiatry and Mental Health BMC

Loechner et al. (2021; PrePrint)

This preprint is under consideration at *Child and Adolescent Psychiatry and Mental Health*. A preprint is a preliminary version of a manuscript that has not completed peer review at a journal. Research Square does not conduct peer review prior to posting preprints. The posting of a preprint on this server should not be interpreted as an endorsement of its validity or suitability for dissemination as established information or for guiding clinical practice.

[» Learn more about In Review](#)

## RESEARCH ARTICLE

### A randomised controlled trial of a cognitive-behavioural preventive intervention for the children of parents with depression: short-term effects on symptoms and possible mechanisms

Johanna Löchner, Kornelija Starman-Wöhrle, Keisuke Takano, Lina Engelmann, Alessandra Voggt, Fabian Loy, Mirjam Bley, Dana Winogradow, Stephanie Hämmerle, Esther Neumeier, Inga Wermuth, Katharina Schmitt, Frans Oort, Gerd Schulte-Körne, Belinda Platt

DOI: [10.21203/rs.3.rs-162743/v1](https://doi.org/10.21203/rs.3.rs-162743/v1) Download PDF



## BADGES



Prescreen

## PEER REVIEW TIMELINE

CURRENT STATUS: **UNDER REVISION**

### Version 1

Posted 04 Feb, 2021

No community comments so far

Editorial decision: **Major revision**

On 12 Apr 2021

<https://www.researchsquare.com/article/rs-162743/v1>

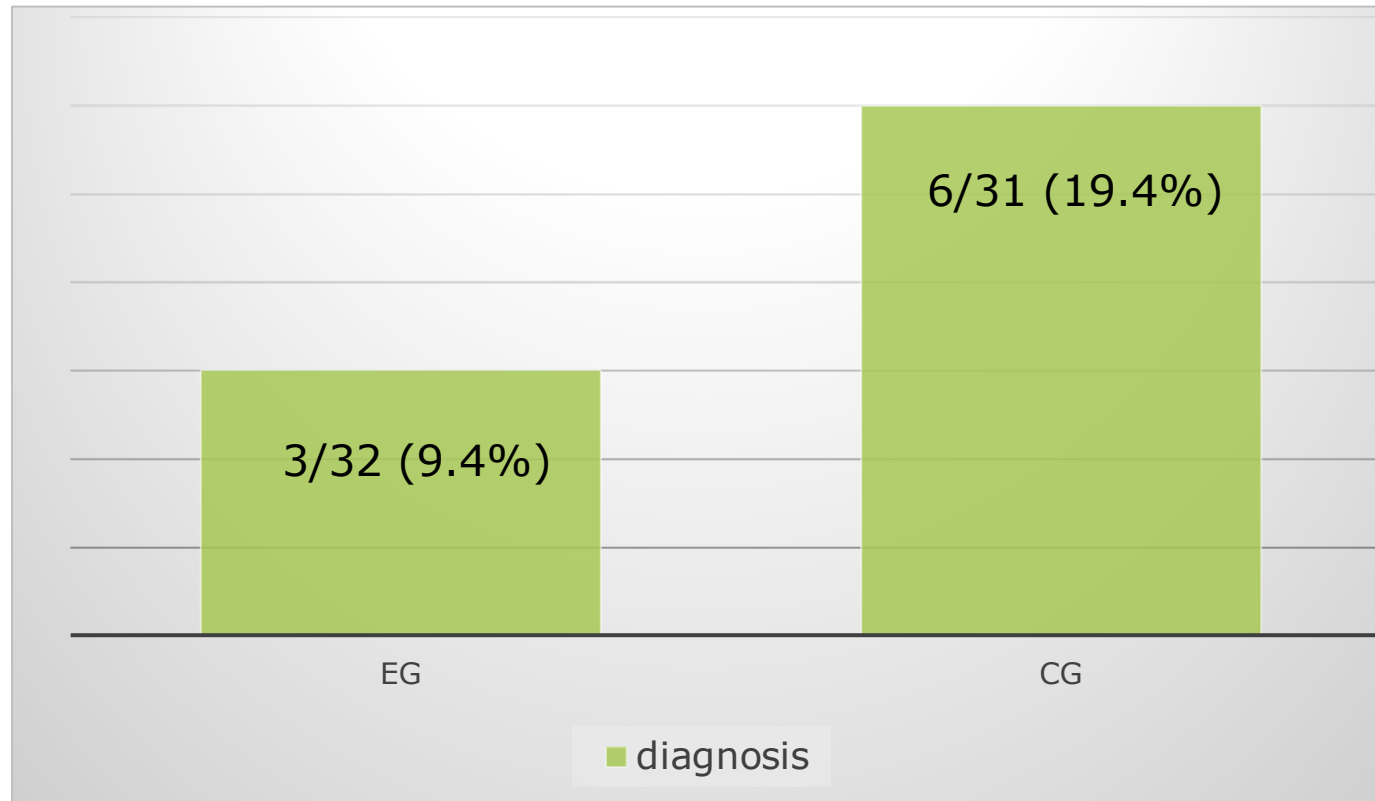
University Hospital of the University of Munich, LMU®

DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY, PSYCHOSOMATICS AND PSYCHOTHERAPY

# EFFECTS ON INCIDENCE OF MENTAL ILLNESS AFTER 15 MONTHS

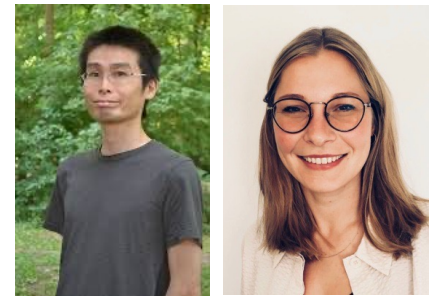


Loechner, Platt et al. (in prep.)





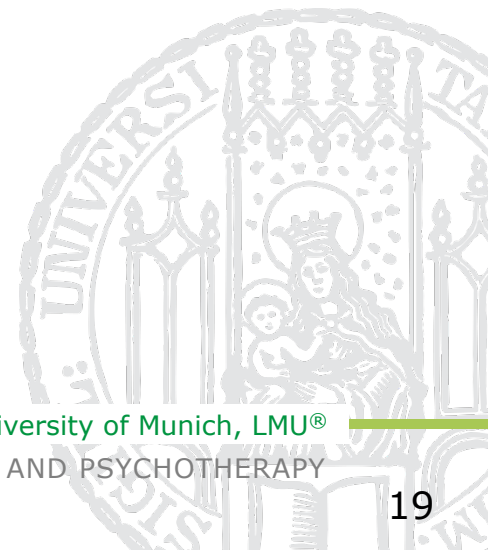
# MID-TERM EFFECTS ON SYMPTOM SEVERITY



Loechner, Platt et al.  
(in prep.)

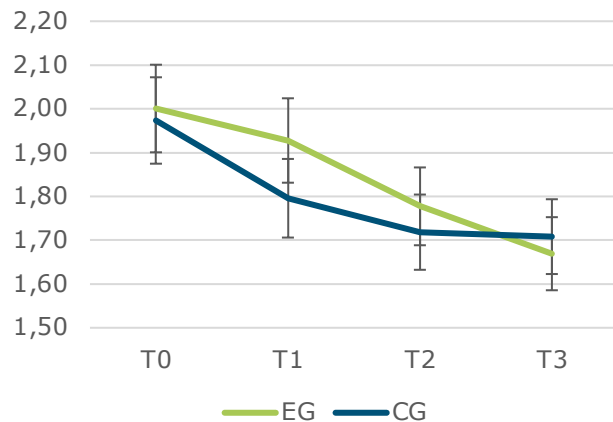
MLM analysis across 4 time points (0, 6, 9, 15 months)

- Allows for missing data & multiple children in one family
- Outcomes:
  - depressive symptoms (self-report; DIKJ)
  - internalizing symptoms (self- and parent-report; YSR/CBCL)
  - externalizing symptoms (self- and parent-report; YSR/CBCL)



# EFFECTS ON DEPRESSIVE SYMPTOM SEVERITY

- No significant group differences ( $P_s > 0.45$ ,  $d_s = 0.12 - 0.20$ )
- However: significant decreases in both groups ( $d_s = 0.42 - 0.58$ )



	EG	CG
6 mos	<b>No change</b> 0.05, SE = 0.12, t = 0.40, p = .69, d = 0.07	<b>No change</b> -0.09, SE = 0.14, t = -0.66, p = .51, d = -0.13
9 mos	<b>Slight reduction</b> -0.22, SE = 0.12, t = -1.89, p = .06, d = -0.32	<b>Significant reduction</b> -0.31, SE = 0.14, t = -2.26, p = .03, d = -0.46
15 mos	<b>Significant reduction</b> -0.29, SE = 0.13, t = -2.30, p = .02, d = -0.42	<b>Significant reduction</b> -0.39, SE = 0.14, t = -2.78, p = .01, d = -0.58

Loechner, Platt et al. (in prep.)

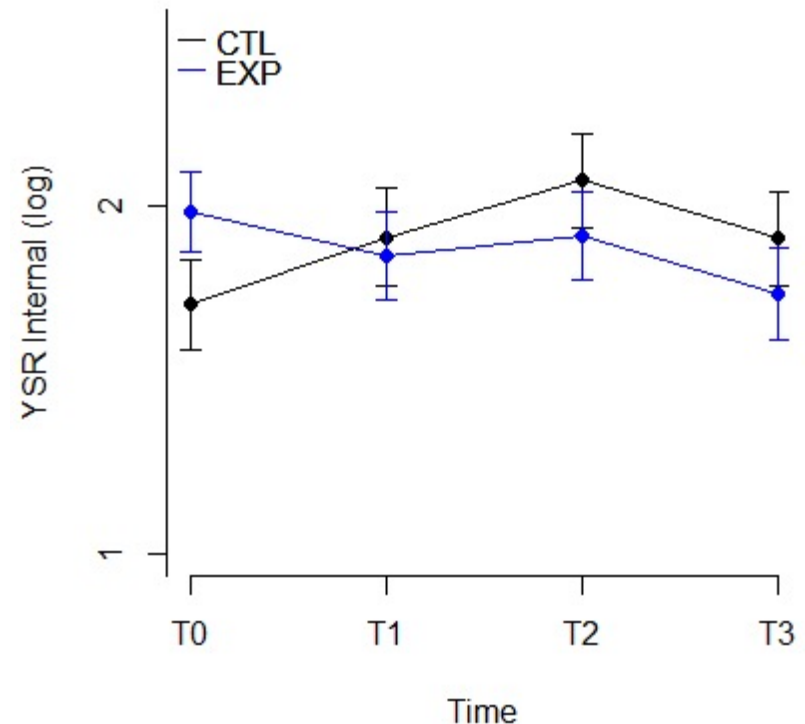
# EFFECTS ON SELF-REPORTED INTERNALIZING SYMPTOMS (YSR)

Significant group interactions at:

- 9 months (estimate = -0.43, SE = 0.18,  $t = -2.32$ ,  $p = .02$ ,  $d = -\mathbf{0.46}$ )
- 15 months (estimate = -0.43, SE = 0.19,  $t = -2.28$ ,  $p = .02$ ,  $d = -\mathbf{0.46}$ )

Driven by:

- Significant increase in CG at 9 mos (estimate = 0.36, SE = 0.14,  $t = 2.59$ ,  $p = .01$ ,  $d = -0.37$ )
- No change in symptoms in EG



Loechner, Platt et al. (in prep.)

# EFFECTS ON OTHER OUTCOMES

- Self-reported externalizing symptoms
  - Significant group difference at 9 months  
(estimate = -0.31, SE = 0.14,  $t = -2.30$ ,  $p = .02$ ,  $d = -0.44$ )
  - No significant change in CG  
(estimate = 0.11, SE = 0.10,  $t = 1.10$ ,  $p = .027$ ,  $d = 0.15$ )
  - Significant reduction in EG  
(estimate = -0.20, SE = 0.09,  $t = -2.23$ ,  $p = .03$ ,  $d = -0.29$ )
- Parent-reported symptoms
  - No significant group differences
  - $P_s > 0.08$ ,  $d_s < -0.34$

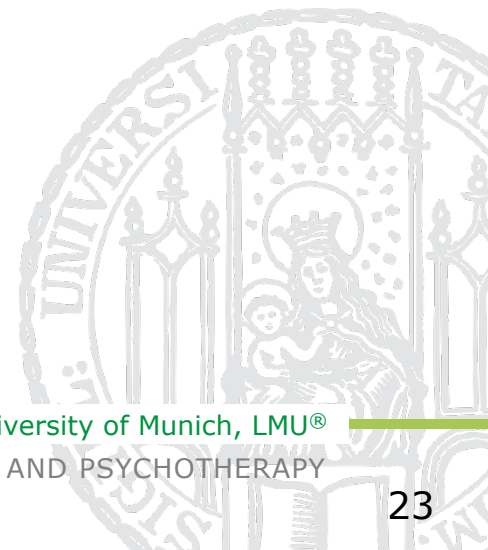
Loechner, Platt et al. (in prep.)

# POTENTIAL MEDIATORS

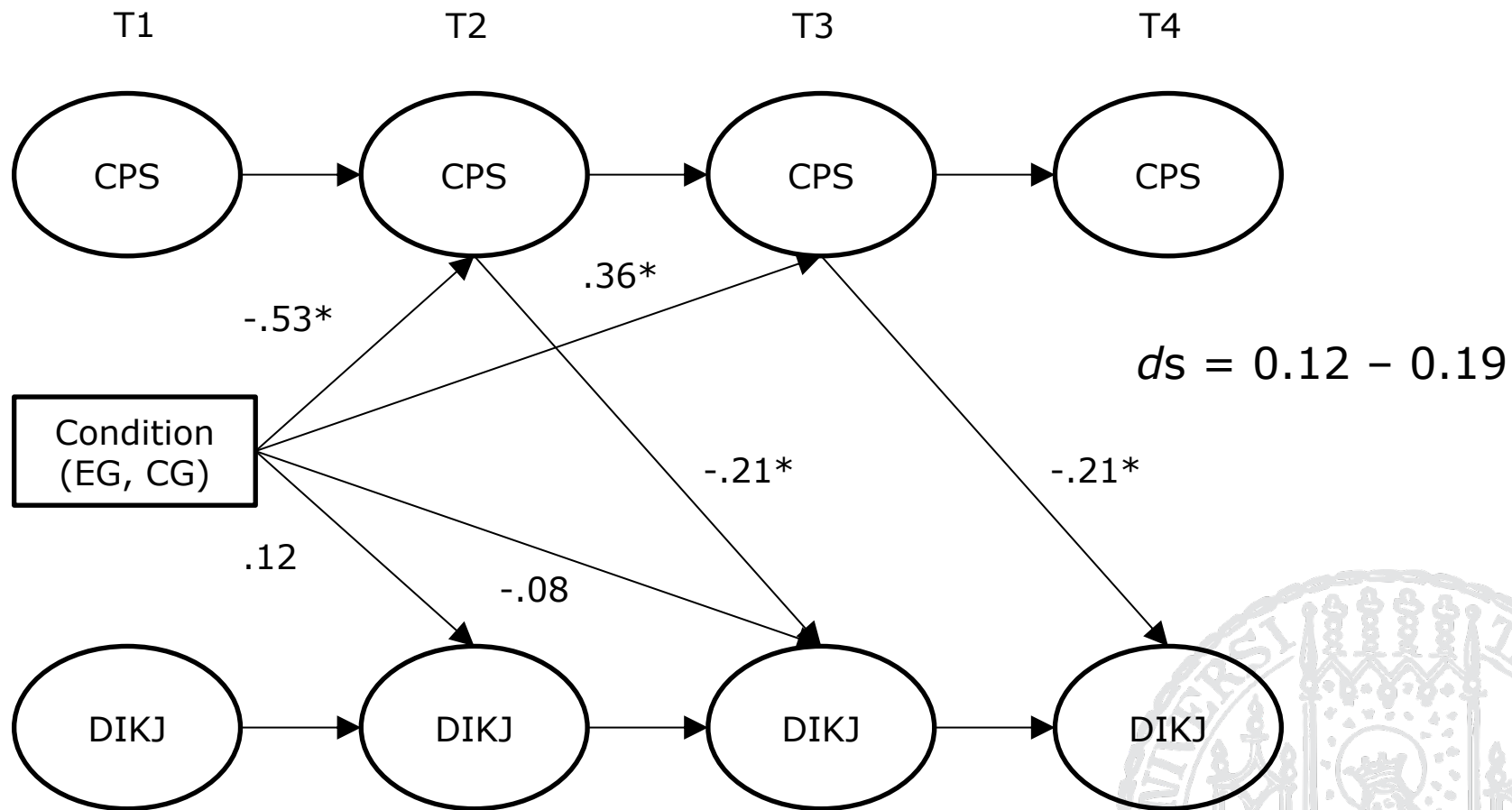
- Structural Equation Modelling (SEM)
- Assuming lagged effect of mediator (e.g. emotion regulation) on outcome (e.g. depressive symptoms)

## Results

- Evidence that reductions in depressive symptoms mediated via increased cognitive reappraisal
  - Unexpected: mediation in the CG (not EG!)
- No evidence of mediating role of
  - Parenting style
  - Attributional style
  - Knowledge of depression



# SEM – MEDIATIONAL ANALYSIS



Note: Neg values indicate increase in CG rather than decrease in EG

# INTERPRETATION OF FINDINGS

## 1. Expected intervention effect on internalising symptoms

- Replication of findings from original study
- One of few studies to show effects in mid-term
- Increase in symptoms in the CG indicates true “prevention” effect
- Supports use of the intervention in German healthcare system

## 2. No intervention effect according to parent-reported symptoms

- Function of parental depression or social desirability?
- Supports data triangulation (multiple perspectives)

## 3. Improvements in depressive symptoms in both groups

- Treatment effect of recruitment process and diagnostic interviews?
- Caution interpreting DIKJ due to psychometric properties

# INTERPRETATION OF FINDINGS

## 4. Intervention effects show lagged effect

- Studies investigating short-term effects may miss valuable information

## 5. Mediators of intervention effects unclear

- relative role of psychoeducation, parenting training and child coping skills unclear
- caution in the interpretation of the intervention effects in this (and other!) studies
- Nevertheless: changes in ER do seem to predict changes in depressive symptoms!

## 6. Missing data

- Effects over- or under-estimated?





# STRENGTHS OF THE STUDY

- Addresses important clinical issue:
  - there are numerous preventive interventions in Germany for children of depressed parents
  - unclear whether/how they really work
- Sample well characterised at baseline
- Multiple sources of outcomes
- Measurement of effects in mid-term
- High retention during intervention: acceptance

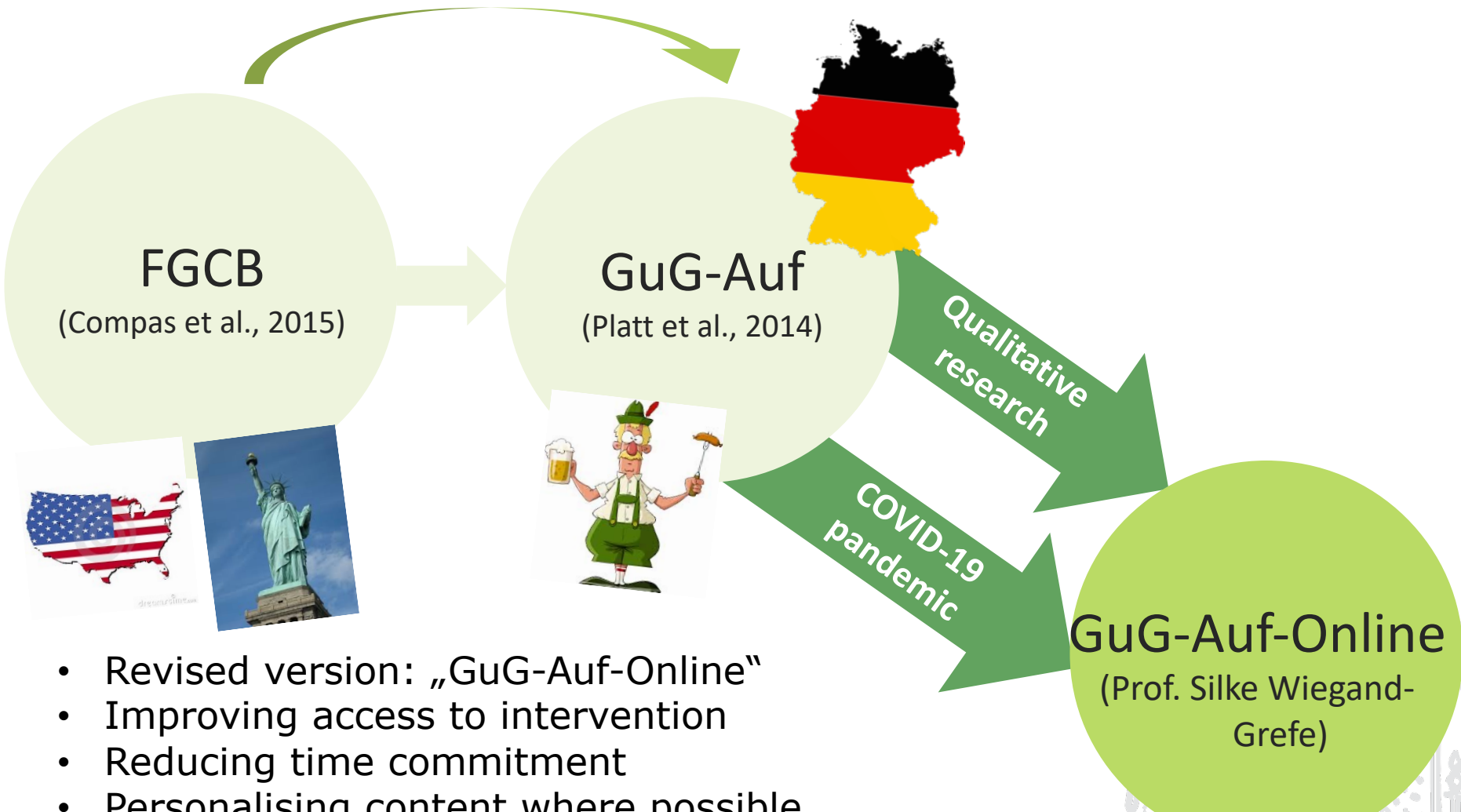


# LIMITATIONS OF THE STUDY

- Biased sample of high SES families
- Drop-out in EG group prior to intervention due to time constraints suggests implementation could be difficult
- Large amounts of missing data
  - Reflects level of stress families under
  - Over or under estimating effects?
- No indication of what families in control group did during the time



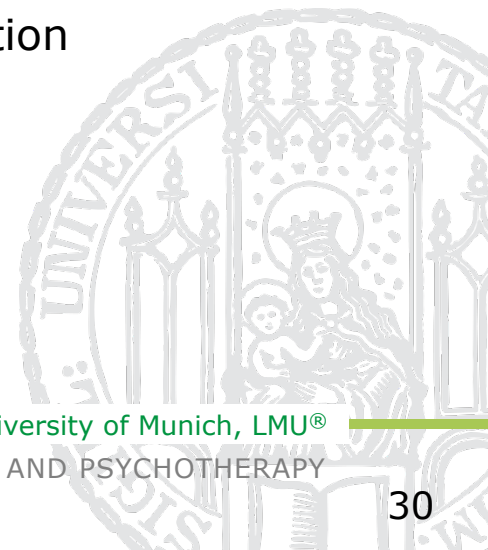
# FUTURE DIRECTIONS



- Revised version: „GuG-Auf-Online“
- Improving access to intervention
- Reducing time commitment
- Personalising content where possible
- Digital support
- Interested? [Kjp-prodo@med.uni-muenchen.de](mailto:Kjp-prodo@med.uni-muenchen.de)

# TAKE HOME MESSAGE

- Preventive interventions for children of depressed parents can work but few evidence-based interventions are implemented in practice
- The FGCB intervention shows medium effect sizes on symptom severity which have been replicated in Germany
- Mediators of the intervention effects remain unclear: necessary for development of more effective interventions
- High acceptance and efficacy for participating families → need to improve accessibility
- Benefits of CG: → activation for seeking support and information



# REFERENCES

- Beardslee, W. R., Salt, P., Porterfield, K., Rothberg, P. C., van de Velde, P., Swatling, S., Hoke, L., Moilanen, D. L., & Wheelock, I. (1993). Comparison of preventive interventions for families with parental affective disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32(2), 254–263. <https://doi.org/10.1097/00004583-199303000-00004>
- Claus, N., Marzano, L., Loechner, J., Starman, K., Voggt, A., Loy, F., Wermuth, I., Haemmerle, S., Engelmann, L., Bley, M., Schulte-Koerne, G., & Platt, B. (2019). Qualitative evaluation of a preventive intervention for the offspring of parents with a history of depression. *BMC psychiatry*, 19(1), 290. <https://doi.org/10.1186/s12888-019-2273-6>
- Compas, B. E., Forehand, R., Keller, G., Champion, J. E., Rakow, A., Reeslund, K. L., McKee, L., Fear, J. M., Colletti, C. J., Hardcastle, E., Merchant, M. J., Roberts, L., Potts, J., Garai, E., Coffelt, N., Roland, E., Sterba, S. K., & Cole, D. A. (2009). Randomized controlled trial of a family cognitive-behavioral preventive intervention for children of depressed parents. *Journal of consulting and clinical psychology*, 77(6), 1007–1020. <https://doi.org/10.1037/a0016930>
- Goodman, S. H., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal depression and child psychopathology: a meta-analytic review. *Clinical child and family psychology review*, 14(1), 1–27. <https://doi.org/10.1007/s10567-010-0080-1>

# REFERENCES

- Loechner, J., Starman, K., Galuschka, K., Tamm, J., Schulte-Körne, G., Rubel, J., & Platt, B. (2018). Preventing depression in the offspring of parents with depression: A systematic review and meta-analysis of randomized controlled trials. *Clinical psychology review, 60*, 1–14. <https://doi.org/10.1016/j.cpr.2017.11.009>
- Löchner, Starman-Wöhrle, Takano et al.(2021) A randomised controlled trial of a cognitive-behavioural preventive intervention for the children of parents with depression: short-term effects on symptoms and possible mechanisms, 04 February 2021, PREPRINT (Version 1) available at Research Square [<https://doi.org/10.21203/rs.3.rs-162743/v1>]
- Mattejat F: Kinder depressiver Eltern. In: Braun-Scharm H (Hrsg.): De-pressionen bei Kindern und Jugendlichen. Stuttgart: Wissenschaftliche Verlagsgesellschaft mbH 2002; 231–45.
- Platt, B., Pietsch, K., Krick, K., Oort, F., & Schulte-Körne, G. (2014). Study protocol for a randomised controlled trial of a cognitive-behavioural prevention programme for the children of parents with depression: the PRODO trial. *BMC psychiatry, 14*, 263. <https://doi.org/10.1186/s12888-014-0263-2>
- Weissman, M. M., Wickramaratne, P., Nomura, Y., Warner, V., Pilowsky, D., & Verdeli, H. (2006). Offspring of depressed parents: 20 years later. *The American journal of psychiatry, 163*(6), 1001–1008. <https://doi.org/10.1176/ajp.2006.163.6.1001>

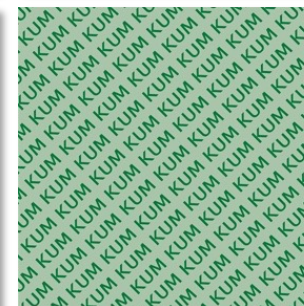
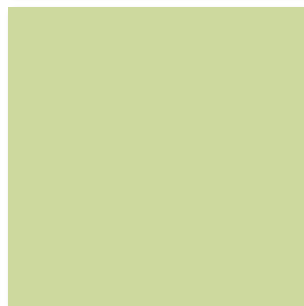


# RANDOMISED CONTROLLED TRIAL OF A FAMILY-, GROUP- AND CBT-BASED INTERVENTION TO PREVENT DEPRESSION IN CHILDREN OF DEPRESSED PARENTS: EFFECTS AT 15-MONTH FOLLOW- UP



@BelindaJPlatt

**Belinda Platt**<sup>1</sup>, **Johanna Loechner**<sup>1,2</sup>, Kornelija Starman-Wöhrle<sup>1</sup>, Keisuke Takano<sup>2</sup>, Lina Engelmann<sup>1</sup>, Alessandra Voggt<sup>1</sup>, Fabian Loy<sup>1</sup>, Mirjam Bley<sup>1</sup>, Dana Winogradow<sup>1</sup>, Stephanie Hämmerle<sup>1</sup>, Esther Dammer<sup>1</sup>, Inga Wermuth<sup>1</sup>, Katharina Schmitt<sup>1</sup>, Frans Oort<sup>3</sup>, **Gerd Schulte-Körne**<sup>1</sup>



# ADDITIONAL SLIDES



KLINIKUM DER UNIVERSITÄT MÜNCHEN®

KLINIK UND POLIKLINIK FÜR KINDER- UND JUGENDPSYCHIATRIE, PSYCHOSOMATIK UND PSYCHOTHERAPIE



# SAMPLE

## 100 FAMILIES, 135 CHILDREN

	EG	CG	Total	
Children	n = 65	n = 70	N = 135	<i>p</i> -value
Age, mean (SD)	11.35 (2.68)	11.84 (2.96)	11.63 (2.84)	n.s.
Gender (%) female	50.0	55.1	53.0	n.s.
IQ, mean (SD)	106.55 (16.24)	106.89 (13.23)	106.62 (14.66)	n.s.
Siblings (%)	85.2	73.3	78.9	n.s.
Parents	n = 50	n = 50	N = 100	<i>p</i> -value
Age, mean (SD)	45.14 (5.80)	47.23 (6.98)	46.12 (6.43)	n.s.
Gender (%) female	60.0	62.7	61.4	n.s.
Depressive Symptoms (BDI-II)	16.7(10.04)	17.7 (12.29)	17.20 (11.10)	n.s.
Currently depressed (%)	58.0	56.9	57.4	n.s.

*Note.* SD = standard deviations, Min = minimum, Max = maximum, BDI-II = Beck's Depression Inventory.

	Measure	Instrument
<b>Eligibility criteria</b>	Diagnostic status (child)	K-DIPS
	Intelligence (child)	CFT 20-R
	Diagnostic status and history of Depression (parent)	DIPS
	Personality disorder (parent)	SKID II
	Psychopathology (2 <sup>nd</sup> parent)	BDI-II, SCL-90-R
<b>Outcome measures</b>	Symptoms of depression (child)	DIKJ
	Symptoms of general psychopathology (child)	YSR, CBCL
	Emotion regulation strategies (child)	FEEL-KJ
	Attributional style (child)	ASF-KJ
	Stressful life events (child)	CASE (C/P)
	Parenting Style	ESI
	Depressive symptoms (parent)	BDI-II

# TRANSLATION & CULTURAL ADAPTATION

- Translate Manual: 322 pages → modifying wording
- Adapt to German culture:
  - identify sections that don't fit into German children's environment → turn baseball to soccer and burgers to sausage
  - Find a therapeutic attitude, that still covers the manual but is more „German“ → many discussions
- Movie → important „icebreaker“ at the beginning



# CONDUCTING THE PROGRAM: TRAINING

- Groupleaders: 2 doctoral students (psychologist in clinical training) + 2 physicians of child and adolescent psychiatry (2 per group)
- Study the manual: timing, content, balancing group needs + treatment fidelity
- Role plays to test group sessions for each group leader
- Ongoing supervision by Bruce Compas and Emily Hardcastle



# CONDUCTING THE PROGRAM

## TREATMENT FIDELITY:

- Ongoing video recording of group sessions
- Supervision of every session by PI (Belinda Platt) – monitor videos
- Treatment fidelity testing: checklist of content
- Video rating: 25% re-watched, and rated for adherence on the pre-defined adherence-checklist by an independent researcher (AH).
  - High content completeness rate (98.9 %, range 96.0-100%)
  - no sig. differences between groups ( $F_{7, 39} = 1.16, p = .351$ )