

# I Music Therapy and Wellbeing Models in Dementia Care in Germany, Australia, and South Africa

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## I.1 The History of German-Australian Collaboration in the MWD-Song and MUSE-CARE Projects

This book is the culmination of a 6-year collaboration (2017–2023) between the Technical University of Applied Sciences Würzburg-Schweinfurt (THWS) and the University of Melbourne (UoM). During that time, two “DAAD-PPP Australien” (*German Academic Exchange Service Programmes for Project-Related Personal Exchange with Australia*) projects were successfully funded by the Universities Australia “Australia-Germany Joint Research Cooperation Scheme” initiative. The first project, MWD-Song (Melbourne-Würzburg Dementia Songwriting project), ran from 2017–2018 and was the first proposal submitted and led by Felicity Baker in Australia and Thomas Wosch in Germany (see all team members and their roles in each project in Table 1). The second project – MUSE-CARE (Music Empowerment of Caregivers) – ran from 2022–2023. The subsequent paragraphs describe the pre-stage, overview, results, and impact of the MWD-Song and MUSE-CARE projects, beginning with the pre-stage in 2001.

**Table 1**  
*MWD-Song and MUSE-CARE project team members*

Germany – Technical University of Applied Sciences Würzburg-Schweinfurt (THWS)								
Team member	Role						Project	
	Principal Investigator (PI)	Early Career Researchers (ECR)	Supporting Researcher	Health Economist	Music Therapist	Neuropsychologist	MWD-Song	MUSE-CARE
Thomas Wosch	×				×		×	×
Elsa Campbell		×			×			×
Jasmin Eickholt		×			×		×	×
Carina Petrowitz		×			×			×
Tabea Thurn		×			×		×	×
Sven Warnke			×	×				×

Australia – University of Melbourne (UoM)								
	Role						Project	
Team member	Principle Investigator (PI)	Early Career Researchers (ECR)	Supporting Researcher	Health Economist	Music Therapist	Neuropsychologist	MWD-Song	MUSE-CARE
Felicity Baker	×				×		×	×
Imogen Clark		×			×		×	
Young-Eun Claire Lee		×			×	×	×	
Kate McMahon		×			×			×
Karyn Stuart-Röhm		×			×			×
Jeanette Tamplin		×	×		×		×	×
Zara Thompson		×			×			×
Tanara Viera Sousa			×	×				×

\*As a supporting researcher

### 1.1.1 The Pre-Stage and Context of the Australian-German Collaboration

The PhD programme at Aalborg University in Denmark, led by Tony Wigram, set the stage for the first Australian-German collaboration, which eventually resulted in the MWD-Song in 2001. This programme provided a platform for international research and academic education networks, evidenced by the years' long publication and teaching collaboration between Baker and Wosch after having met in Aalborg. Following Wosch's development of a novel approach to microanalysis (Smeijsters, 2005; Wosch, 2002), Baker contributed a chapter to Wosch and Wigram's (2007) book *Microanalysis in Music Therapy* on voice analysis in music therapy (Baker, 2007). Baker also contributed to teaching at THWS, providing annual therapeutic songwriting workshops and courses on neurorehabilitation in music therapy for traumatic brain injury.

Wosch and other international drama, dance, and art therapy colleagues were invited to UoM with the vision to merge the National Music Therapy Unit (NaMTRU) with the newly established Creative Arts and Music Therapy Research Unit (CAMTRU). The unit was to include an arts therapies PhD programme, with regular teaching and support for international research proposals and projects at UoM. CAMTRU also supported cross-disciplinary publications such as a systematic review on arts therapies for late life depression, authored by CAMTRU professors and PhD students (Dunphy et al., 2019). Furthermore, the Fine Arts and

Music Research Office at UoM recommended the DAAD Universities Australia call as a potential funding source for the MWD-Song and MUSE-CARE projects.

The next stage of research collaboration focused on spousal caregiver-directed music interventions, i.e. training caregivers in music-based strategies to apply at home, which Baker began researching in 2012 (Baker et al., 2012). Baker and Wosch participated in a roundtable on international models of education and practice of music-based strategies at the 15<sup>th</sup> World Congress of Music Therapy in Tsukuba, Japan (McDermott et al., 2017) and co-authored the resulting publication (McDermott et al., 2018<sup>1</sup>). These events and publications led towards the successful acquisition of funding in 2016 for the MWD-Song project, which ran from 2017–2018, investigating training in music-based strategies in dementia care.

### 1.1.2 The MWD-Song Project

The target of the “Australia-Germany Joint Research Cooperation Scheme” is to connect Australian and German Early Career Researchers (ECRs) in collaborative pairs to increase scientific impact and networks. The first of these research collaboration grants funded the MWD-Song project, which focused on developing three models of music therapy in dementia care. These models were: (1) a theoretical model of cognitive resources for dementia care, (2) an intervention model of therapeutic songwriting for depression in dementia care and in later life, and (3) an intervention model of situational songwriting for training informal caregivers to apply music-based strategies (see Figure 1).

#### 1.1.2.1 Objective 1: A Theoretical Model of Cognitive Resources for Dementia Care

In the cognitive resources theoretical model, Lee et al. (2016) and Wosch (Fachner & Wosch, 2016) extended their collaboration to include Didier Grandjean (Frühholz et al., 2014), director of the “Neuroscience of Emotion and Affective Dynamics Lab” at the University of Geneva, Switzerland. Their joint focus was autobiographical musical memory in dementia, resulting in models describing music and episodic memory as a specific resource in dementia care, procedural memory with multisensory music therapy, and active whole-brain networks for the “reactivation of episodic memories and related feelings during music listening” (Wosch et al., 2017). These first results were presented in a symposium entitled “Medial temporal and frontal neuronal networks in autobiographical musical memories in dementia” at the 15<sup>th</sup> World Congress of Music Therapy in Tsukuba, Japan (Wosch et al., 2017). Based on this complex model of the brain in musical memory, Lee and Wosch developed a theoretical model outlining mechanisms of autobiograph-

1 The terminology in the original publication refers to training, education and practice of music-based strategies as “skill-sharing” or “indirect music therapy”. While we acknowledge the transfer of techniques, training in music-based strategies is possibly more representative of music therapists sharing techniques with formal and informal caregivers rather than relaying skills that have been acquired during years of music therapy training.

ically-oriented music therapy for dementia (Lee & Wosch, 2018). The model proposes that the goal-directed application of biographically-relevant music activates the reward system in the brain, which impacts biological functions such as blood pressure and pulse, leading to the person with dementia either being activated or calmed. This model was presented at the “2018 Music Therapy and Dementia Melbourne-Würzburg Symposium” in Würzburg (Lee & Wosch, 2018).

#### *1.1.2.2 Objective 2: A Therapeutic Songwriting Intervention Model for Depression in Dementia Care and in Late Life*

Eickholt (Werner et al., 2017) (Werner, née Eickholt) (Eickholt et al., 2018), Baker, Tamplin, and Clark (Baker et al., 2018) developed intervention models for therapeutic songwriting for family caregivers of people living with dementia, and for depression in dementia care and later life, which were related to the MWD-Song project and based on Baker’s previous work (2015). Eickholt presented the results at the “2018 Music Therapy and Dementia Melbourne-Würzburg Symposium” in Würzburg (Eickholt, 2018; Eickholt & Thurn, 2018). Subsequently, Eickholt was accepted as a PhD candidate in CAMTRU at UoM in 2018 with a project entitled “An individual therapeutic songwriting program that is merged with positive psychology for older people living with depression” (cf. Eickholt and Thompson, chapter 4). Moreover, Eickholt was also involved in further research projects at CAMTRU, such as a systematic review on music therapy for late life depression (in collaboration with Wosch and Baker), and arts therapies for late life depression (in collaboration with two CAMTRU dance therapy and drama therapy PhD candidates (Dunphy et al., 2019). Eickholt and Wosch reviewed measures examining the effects of singing and receptive music interventions on depression, quality of life, and neuropsychiatric symptoms. In addition, they conducted video microanalyses on emotion, cognition, and social interaction in individual music therapy for people living with dementia to investigate the mechanisms of positive affect, joint attention, and social referencing during singing. These results were presented as part of the MWD-Song project at the “2018 Music Interventions for Dementia in Elderly Care” symposium at UoM (Wosch & Eickholt, 2018) (see Figure 1). During this symposium, the project “Music interventions for dementia and depression in the elderly (MIDDEL)”, funded in Australia by the National Health and Medical Research Council (Baker et al., 2022), was officially launched. The MIDDEL study protocol was based on Eickholt and Gold’s study protocol (Werner et al., 2017) and was part of a collaboration with Baker, Wosch, and researchers from 14 other universities and research institutes (Gold et al., 2019).

#### *1.1.2.3 Objective 3: A Situational Songwriting Intervention Model for Informal Caregivers*

Thurn, Baker (Baker et al., 2012), Clark (i.e., with Clark’s expertise in nursing science), Tamplin, and Lee were involved in developing the intervention model for

training informal caregivers in applying music-based strategies in care (Figure 1). Thurn developed a theoretical model and conducted a trial in Würzburg (Thurn et al., 2021) on training family caregivers to apply music-based strategies (“musical phrases”), presenting her results at the “2018 Music Therapy and Dementia Melbourne-Würzburg Symposium” in Würzburg (Eickholt & Thurn, 2018; Thurn, 2018). Two THWS Master’s theses on developmental music therapy and music therapy for dementia patients (Jochmann, 2018; Ruhsert, 2018), in which the students carried out interviews, were further outcomes of this trial. Thurn’s teaching in the Master’s Programme for Developmental Music Therapy and Dementia Patients in Würzburg (THWS) also offers an outlet to discuss and disseminate the overlap in detailed multisensory elements in both interventions. Thurn further developed her intervention model for formal dementia care as part of the MWD-Song project (cf. chapter 3, Thurn and Stuart-Röhm). which also connected CAMTRU with dementia care institutions in Australia and Germany. Moreover, training in music-based strategies with informal caregivers lay the ground for informal caregivers being educated in and practising music-based strategies (McDermott et al., 2018). In addition to UoM and THWS, three other European universities joined the collaboration and acquired EU-Joint Programme – Neurodegenerative Disease (EU-JPND) Research funding for the HOMESIDE project: “Home-based family caregiver-delivered music and reading interventions for people living with dementia” (Baker et al., 2019, 2023; Odell-Miller et al., 2022), led by Baker. This project focused on the effects of music-based strategies applied by family caregivers and their care recipients living with dementia for the first time, and included subprojects on this intervention in Australia, Germany, UK, Norway, and Poland.

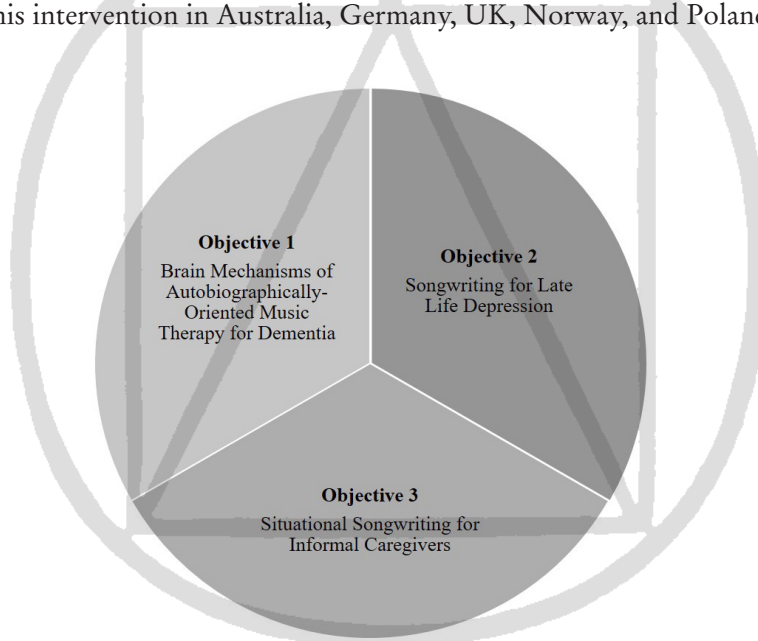


Figure 1: MWD-Song project objectives

Therefore, the MWD-Song project was a precursor to two international research projects (MIDDEL<sup>2</sup> and HOMESIDE<sup>3</sup>), one PhD project on positive psychology in therapeutic songwriting for older people living with depression (Eickholt, CAMTRU), and the symposium “Music Therapy in Geriatric Care” (*Musiktherapie in der Altenpflege*) that took place in 2020 in Würzburg<sup>4</sup>. The large-scale music therapy trials (HOMESIDE and MIDDEL) drew from the previous research on music-based strategies for care in which music therapists delivered training and supported family caregivers to practise these strategies in dementia care and for late life depression respectively. These international trials were also another connecting strand between UoM and THWS, as two of five international partners in the consortium. Autobiographical musical memory, and music therapy or training in music-based strategies for informal caregivers and clients with late life depression – themes from the MWD-Song project – were presented at the “Music Therapy in Geriatric Care” symposium and are common threads running through the partners’ research (Wosch et al., 2021b).

### 1.1.3 The MUSE-CARE Project

The MWD-Song project lay the foundations for the subsequent 2022–2023 MUSE-CARE project. Moreover, HOMESIDE and MIDDEL incorporated a new dimension of music therapy research: health economics. Measurement of health economics was also included in a three-armed randomised controlled trial, *Music Moves: Ettlingen Dementia Study*, a study conducted in collaboration with THWS (Campbell & Wosch, 2022; Campbell et al., 2025). Following a successful funding proposal to the German Television Lottery fund (*Deutsches Hilfswerk/Deutsche Fernsehlotterie*) submitted by the German welfare organisation, Caritas, in collaboration with THWS, Campbell led the *Music Moves* project in Ettlingen and Rheinstetten, two Caritas Karlsruhe region residential care homes. This three-armed study investigated standard care alone compared to a) individual active music therapy plus standard care, and b) individual receptive music therapy including vibroacoustic therapy plus standard care. Following the example of HOMESIDE and MIDDEL, *Music Moves* also measured health economic outcomes. Finally, the ECR tandem groups from UoM and THWS were incorporated into the MUSE-CARE project. This cross-country collaboration is evidenced in the German-Australian co-authored chapters of this book from Carina Petrowitz and Kate McMahon, Tabea Thurn and Karyn Stuart-Röhm, and Jasmin Eickholt and Zara Thompson. These ECRs shared common objectives: (1) Petrowitz and McMahon’s overlap lay in training informal caregivers to implement music-based strategies in the HOMESIDE trial in Germany and Australia, (2) Thurn and Stu-

2 Funded by the Australian Government’s National Health and Medical Research Council dementia scheme (2017) and the EU-JPND research 2019 “*Personalized Medicine*” scheme

3 Funded by the EU-JPND research 2018 “*Health and Social Care*” scheme

4 Funded by the German Federal Ministry of Education and Research and the Alzheimer’s Society of Würzburg/Lower Franconia

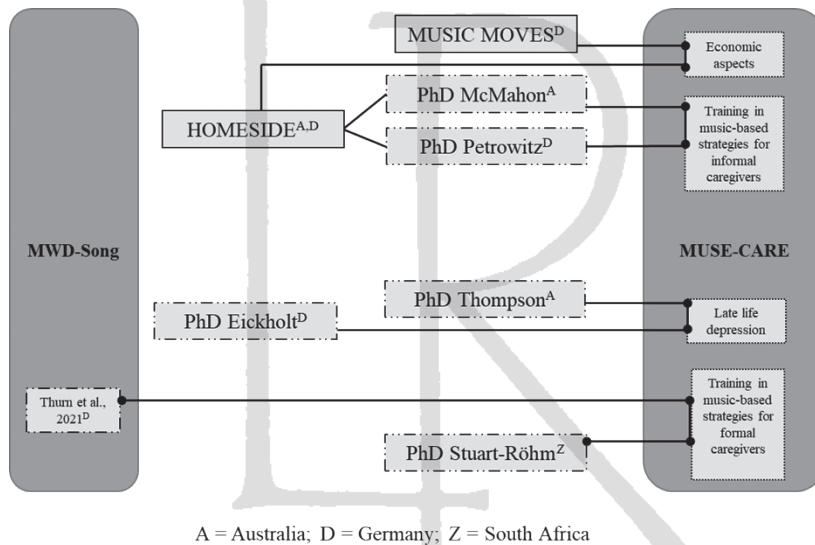


Figure 2: The interconnected strands of the MWD-Song and MUSE-CARE projects showing the country in which the data were collected/the study was conducted

art-Röhm's intersect was training formal caregivers in Germany and South Africa to apply music-based strategies for care (which stemmed from Stuart-Röhm's PhD project at CAMTRU, UoM), and (3) Eickholt and Thompson shared the topic wellbeing. These were investigated in Germany in individual music therapy for late life depression, and in therapeutic, community choirs for people living with dementia and their family caregivers in Australia. These MUSE-CARE tandem partners met in Würzburg and Melbourne, presenting and discussing preliminary outcomes. Petrowitz and McMahon presented a paper entitled "Music and Dementia – Empowerment of Family Caregivers in Music Interventions for People Living with Dementia" (McMahon & Petrowitz, 2022) in Würzburg<sup>5</sup> as part of the 4<sup>th</sup> Bavarian Dementia Week in 2023. Thompson led a seminar for the Würzburg Bachelor and Master's degree students on transferring a music therapy choir for people with dementia and their family caregivers to an online format during the COVID-19 pandemic. In addition to these three MUSE-CARE objectives – training in music-based strategies for (1) formal and (2) informal caregivers, and (3) wellbeing for older adults with dementia and late life depression – a fourth objective was to create cost-effectiveness models for music therapy research in dementia care. ECR Campbell, a postdoctoral researcher, supported by health economists Tanara Vieira Sousa (UoM) and Sven Warnke (THWS) (Baker et al., 2019, 2023; Warnke et al., 2022), led the work on this objective. Vieira Sousa was also a visiting academic in Würzburg during the MUSE-CARE project, at which time she

5 Würzburg is also of related interest as a historical site, as it lies 20km away from Markbreit where the birth house of Alois Alzheimer is located