

REVIEW ARTICLE

The Weddinger Modell – A Systematic Review of the Scientific Findings to Date and Experiences from Clinical Practice

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Abstract.

Establishing a stable and trusting therapeutic relationship is of particular relevance in the treatment of people with (severe) mental disorders and plays a crucial role in preventing escalations and avoiding coercive measures. However, rigid ward structures and rules leave little room and flexibility for the individual needs and explanatory models of persons in acute crises. Considering this background and based on practical experience, a new recovery-oriented treatment concept, the *Weddinger Modell*, was developed and implemented in 2010 at the Department of Psychiatry of the Charité at the St. Hedwig Hospital (PUK SHK) in Berlin. After having worked with the *Weddinger Modell* for over 10 years, the model's effectiveness for promoting treatment quality and therapeutic relationship and preventing coercion has been proven in numerous scientific studies and in daily clinical practice. This literature review aims at providing a systematic overview of the scientific findings to date on mechanisms and effects of the *Weddinger Modell*. For this purpose, a literature search was conducted in all relevant bibliographic databases. Overall, eight studies examining the *Weddinger Modell*, either as a whole model or focusing on specific parts of the model, were included in this study and systematically analyzed with regard to the following variables: aim of the study, sample, evaluated aspect of the *Weddinger Modell*, measured variable (method used), date of evaluation, and outcome. Three main dimensions of effects (promotion of treatment quality, prevention of coercion, reduction of negative effects after coercion) of the *Weddinger Modell* were found. The findings of this review are presented with regard to the specific requirements in the treatment of people in acute psychiatric crises and linked with different phases in the course of psychiatric treatment (Fig. 2). Furthermore, the findings are considered in light of their practical relevance and the flexible and resource-efficient implementation of the *Weddinger Modell* in (acute) psychiatric settings is discussed.

Keywords: Weddinger Modell, prevention of coercion, recovery, acute psychiatric treatment

1 Introduction

In recent decades, the focus of science and clinical practice in psychiatry has shifted from a strictly biomedical model towards a more holistic, person-centered and recovery-oriented approach to treating people with mental health conditions. Implementing this approach involves continuous efforts by researchers and practitioners to explore factors that promote recovery and the structural changes necessary to create psychiatric services that truly meet patients' needs.¹

In this regard, individualization of treatment is a recurring focus, as is the quality of the

therapeutic relationship. Numerous research findings demonstrate that meeting patients with openness, adaptability and a willingness to accept and engage with individual explanatory models of illness and recovery is essential.^{1,2} Transparency, coherence and open communication with patients and their caregivers about all aspects of treatment allow for the development of a strong and trusting therapeutic relationship which often is a fundamental cornerstone and the first goal on a patient's recovery journey.²

However, implementing a recovery-oriented and person-centered approach in clinical practice entails many challenges, especially

in acute psychiatric inpatient settings. Rigid ward structures and rules often leave little room and flexibility for addressing individual needs and engaging with a person's particular explanatory model of illness and recovery. In turn, these surroundings often require a high degree of adaptability from patients in acute psychiatric crises and distress, situations where adapting to a new environment and set of rules can be highly challenging or even impossible.²

A further challenge that needs to be considered when implementing recovery-oriented models of treatment in acute psychiatric settings is the use of coercive measures.^{3,4} Coercion in psychiatry is an often debated and highly controversial topic among practitioners and the scientific community. Although coercive measures such as seclusion and restraint can be considered serious violations of patients' human rights, they remain regularly used interventions on psychiatric wards worldwide. Numerous scientific studies show that these coercive measures impact negatively on patients' recovery prospects and can cause a wide range of detrimental consequences including higher rates of subsequent involuntary admissions, symptoms of posttraumatic stress and a high risk for re-traumatization among persons with pre-existing trauma and past experiences of violence. Therefore, psychiatric treatment must be considered and understood not only in terms of its efficacy but also, and

especially, in terms of its freedom from harm.⁵⁻⁸

The findings outlined above have led to an increased effort by practitioners and scholars to develop and implement interventions aiming at the prevention of coercive measures and many of these interventions including comprehensive deescalation trainings, improving the physical environment on wards and offering patients to set up advance plans and directives have been studied and have proven to be effective in this regard.⁹ Consequently, in order to maximize effectiveness, complex intervention programs combining some of these individual measures have been developed offering a holistic and well-rounded approach to successfully reducing coercive measures and achieving a more person-centered and recovery-oriented psychiatric care.⁹ Research results evaluating some of these complex intervention programs such as the *Engagement Model*, *Six Core Strategies* and *Safewards* indicate high levels of effectiveness when it comes to preventing coercive measures.¹⁰⁻¹²

With the *Weddinger Modell*, Mahler et al¹³ have developed an innovative complex intervention program focussing on recovery, participation, supported-decision making and prevention of coercive measures. The *Weddinger Modell* was designed for implementation on acute psychiatric wards and specifically addresses the challenges likely to be encountered in this setting. The core elements of the *Weddinger Modell* are presented below.

Weddinger Modell: Core Elements:^{2,13}*Structural transformation towards full participation and transparency*

A fundamental objective of the *Weddinger Modell* is the transformation of existing clinical structures towards full participation and transparency in all staff-patient interactions. Patients take up an active role in all decision-making processes regarding their care and course of treatment. This is achieved by actively involving the patient in all rounds and meetings and by the multidisciplinary team talking **with** the patient, not **about** the patient at all times.

Individualized & person-centered therapy planning and rounds

With support of the multidisciplinary team, patients develop their therapeutic goals and an individualized therapy plan making sure that all interventions offered during inpatient treatment meet their current personal goals and needs. This approach creates an open space for individualized and person-centered models of illness and recovery.

Multidisciplinary therapeutic team

Close collaboration within the multidisciplinary team is a fundamental basis of the *Weddinger Modell*. Combining the skillsets of different professions ensures a holistic approach to treatment and at the same time allows for prioritization of the expertise of a specific occupational group depending on relevance in addressing the patient's needs and requirements.

Flexibility in treatment settings and continuity with multidisciplinary team

In the *Weddinger Modell*, patients can transition between inpatient, dayclinic and outpatient settings while being able to keep the same multidisciplinary team of therapists.

Open door policy and normalizing the psychiatric experience

As a general rule, the entrance door to the ward remains open. This also applies under the circumstance where some patients might currently be prohibited by law to leave the ward by themselves. Individual arrangements and close personal contact with patients render the closed door obsolete. Special attention to a modern, well-maintained and milieu-therapeutic ward environment including common spaces, individualized electronic keys to patient rooms and renunciation of rigid rules and regulations contribute to normalizing the psychiatric experience.

Triadogue

The unique circumstances as well as social- and support networks of patients are considered as vitally important for recovery and are hence consistently involved in the treatment.

Peer-support

1:1 peer support as well as peer support groups in inpatient, dayclinic and outpatient settings are inherent components of the *Weddinger Modell*. Peer support workers for patients as well as for relatives become part of the multidisciplinary team and are highly valued among patients, relatives and staff. Their presence on the ward further strengthens the well-rounded, holistic approach of the *Weddinger Modell*.

Recovery-orientation

A core value of the *Weddinger Modell* is recovery-oriented treatment and care. The focus lies on developing individualized and person-centered models of illness and recovery with each patient. Listening, understanding and accepting different perspectives is key to achieving a therapeutic relationship built on mutual trust and respect. Expertise from patients' lived experience has the same value as the expertise of mental health professionals.

Preventing coercion and standardized post-coercion review sessions

Focusing on full participation, a strong therapeutic relationship as well as increased awareness and expertise in de-escalating tense situations, the *Weddinger Modell* achieves a noticeable reduction in the use of coercive measures. Furthermore, the *Weddinger Modell* works with a specially designed guideline to review and reflect on every case where coercive measures were used together with the affected patient, staff and a neutral moderator. This enables the sharing of perspectives on the incident and capturing lessons learned for preventing coercion in the future.

The *Weddinger Modell* was first implemented in 2010 at the Department of Psychiatry of the Charité at St. Hedwig Hospital (PUK SHK) and its effects on the use of coercive measures and different aspects of clinical practice have since been evaluated in several studies. The following systematic literature review provides a systematic overview of the scientific findings to date on mechanisms and effects of the *Weddinger Modell*.

2 Method

A systematic literature search was conducted in bibliographic databases (PsycINFO, PubMed, PSYINDEX and Google Scholar) in May 2021, to identify relevant studies published in German or English. Additionally, the authors checked literature references of studies meeting the inclusion criteria as well as already existing publication lists containing articles about the *Weddinger Modell*. The methods used in this systematic review follow the PRISMA-guidelines.¹⁴

2.1 Search strategy and inclusion criteria

Based on the specific rationale of this study, ["*Weddinger Modell*"] was the only keyword used.

Studies had to meet the following inclusion criteria:

- (1) The subject of the study had to be the *Weddinger Modell*, either as a whole model or specific components of the model.
- (2) The study had to analyze the *Weddinger Modell* (or parts of the model) empirically, using quantitative or qualitative methods.
- (3) The study had to be written in German or English language. Unpublished studies were included if they were listed in bibliographic databases.

The flow chart in *figure 1* displays the study selection process of the literature search.



PRISMA 2009 Flow Diagram

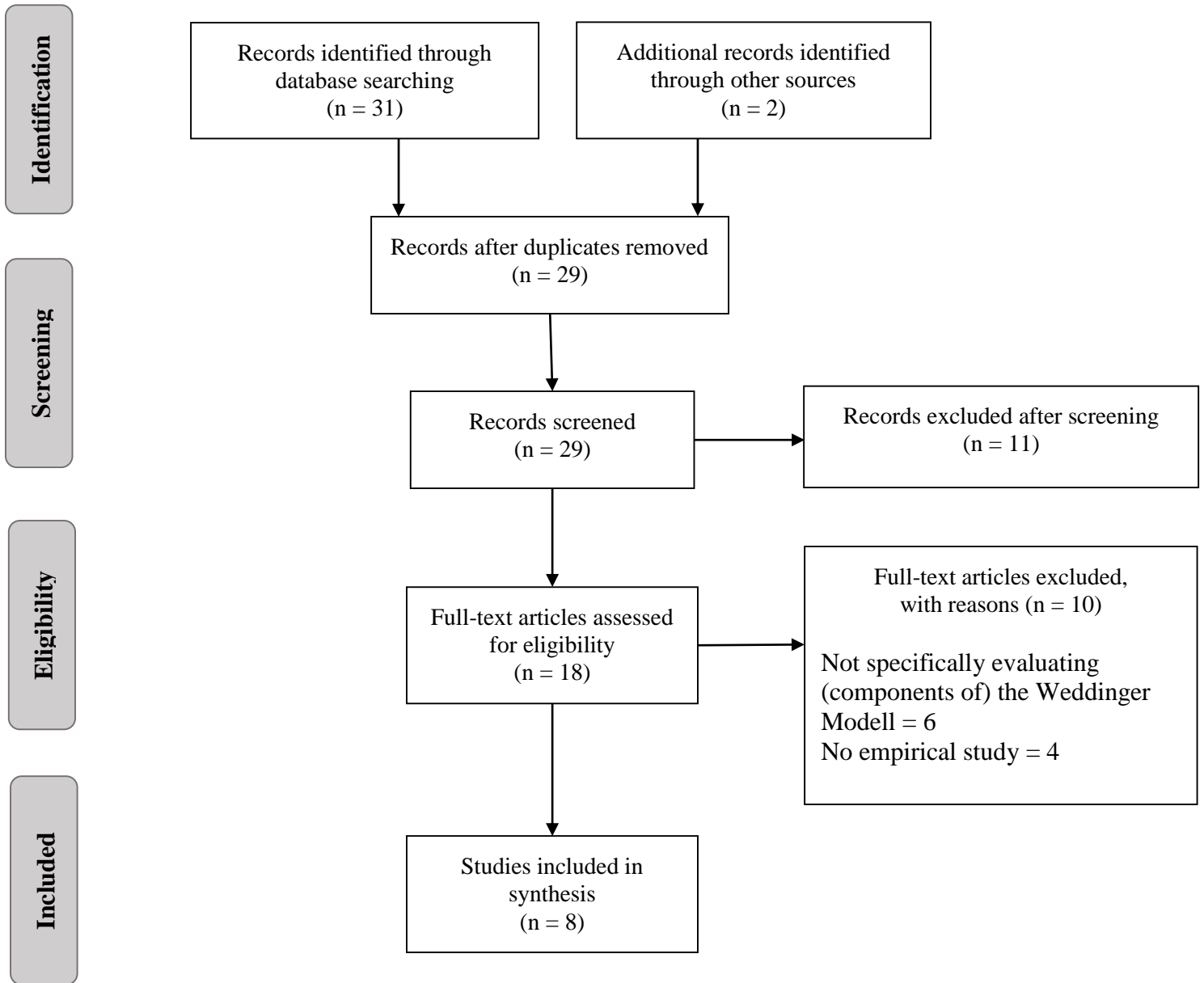


Figure 1. Flow chart of the study selection process

2.2 Data extraction

The findings of the studies were synthesized in a descriptive approach. The following parameters were chosen for the analysis of the final database: aim of the study, sample, evaluated aspect of the *Weddinger Modell*, measured variable (method used), date of evaluation, and outcome.

3 Results

After removing duplicates, 29 potential studies were identified in the literature search. Most of them only mentioned the *Weddinger Modell* as an approved concept used in (acute) psychiatric wards to promote recovery and reduce coercion. Several studies¹⁵⁻¹⁸ explicitly addressed the *Weddinger Modell*, but did not evaluate it empirically. Overall, eight studies corresponded to the inclusion criteria after full-text screening. The included studies were published between 2014 and 2021. All studies were conducted in hospitals located in Berlin, Germany, most of them at the Psychiatric University Clinic of the Charité at St. Hedwig Hospital (PUK SHK).

3.1 Methodological aspects of included studies

The main study characteristics and outcomes are displayed in table 1. Six out of eight studies aimed at evaluating the *Weddinger Modell as a whole*, three of them with regard to an improvement of the treatment quality,^{13,19,20} the other three with regard to prevention of coercive measures.²¹⁻²³ The last two studies aimed at examining the effects of the standardized post-coercive review sessions as part of the *Weddinger Modell* with regard to a reduction of the negative effects of coercive measures on patients.^{8,24} The guideline for these standardized post-coercion review sessions was developed in the context of the *Weddinger Modell* and is based on the model's core aims of transparency, participation and prevention of coercion.

Five of the included studies used questionnaire surveys to assess resilience,¹⁹ treatment satisfaction,²⁰ therapeutic alliance and goal attainment in treatment,¹³ feasibility of post-coercion review sessions,²⁴ and symptoms of PTSD.⁸ Three studies used objective data of patient files to analyze risk factors for coercive measures,²¹ mechanical coercive measures,²² and forced medication as well as maximum daily drug dose.²³

3.2 Improvement of treatment quality

Three of the included studies aimed at evaluating the improvement of treatment quality on different dimensions after implementation of the *Weddinger Modell*. Jacob¹⁹ examined the improvement of patients' resilience comparing two wards at the PUK-SHK before and after implementing the *Weddinger Modell*. A self-developed questionnaire (RSF) was used to assess the construct of resilience on several dimensions. A significant increase in patients' resilience after the implementation of the *Weddinger Modell* was found, as well as a significant increase on the self-esteem subscale. It should be particularly emphasized that the significant differences were shown especially for persons with psychoses (diagnosis group F20.x/F30-31).

Jeschke²⁰ investigated patient satisfaction rated by patients and therapists before and after implementation of the *Weddinger Modell*. Satisfaction was assessed with the self-developed and evaluated *Weddinger* patient questionnaire (WPAZ). The pre/post comparison of this study shows that therapists reported a significant improvement in the satisfaction of patients after implementation of the *Weddinger Modell*.

Mahler et al¹³ aimed at examining the quality of the therapeutic relationship and patients' goal attainment in treatment. The therapeutic relationship was measured with the Working Alliance Inventory (WAI-SR)²⁵ before and after *Weddinger Modell* implementation. The WAI-SR is a questionnaire to assess the

therapeutic relationship on the dimensions of *commitment, process* and *goals*. Patients reported a significant improvement of the therapeutic relationship on the subscale *affective therapeutic commitment* after the implementation of the *Weddinger Modell*. In addition, the Goal Attainment Scale (GAS)²⁶ was used to obtain objective measures of therapeutic goal attainment. For this purpose, three to five individual therapeutic goals are set and their achievement is rated using the GAS. The results show that the number of patients who could not state a therapeutic goal decreased significantly from 14.3% to 3.5%.

3.3 Prevention of coercion and aggression

In a retrospective study, Cole et al²¹ showed that after the implementation of the *Weddinger Modell* the majority of coercive measures are used in the first 24 hours after admission. For this purpose, all psychiatric emergency department contacts of the St. Hedwig Hospital in Berlin in 2018 were evaluated. Overall, 14.8% (218) of the 1477 cases in the sample experienced coercion in the course of treatment. In 81.2% (n = 177) of cases, coercion occurred in the first 24 hours. In 56.9% (n = 124) of the cases who experienced coercion, the coercive measures occurred exclusively in the first 24 hours. The study also revealed particular risk characteristics of patients predicting coercive measures. Physical aggression against persons or objects, involuntary admission, police referral to the emergency room and younger age were found as significant risk factors for patients experiencing coercive measures. These results have recently been replicated in a second study (in prep.) examining all psychiatric emergency department contacts of the St. Hedwig Hospital in Berlin in 2019.

In another retrospective study Czernin et al²² show that in a comparison between two wards that had introduced the *Weddinger Modell* and a ward with a comparable patient sample that had not introduced the model, the use of

mechanical restraints decreased significantly after implementation of the *Weddinger Modell*. Specifically, the study found a significant decrease in the cumulative duration of restraints (10.34 hrs vs. 51.75 hrs), as well as a decrease in the proportion of duration of hospitalization spent in restraints (0.36% vs. 3.45%). In addition, the average duration of seclusions decreased (5.22 h vs. 15.84 h). The pre-post comparison before and after the implementation of the *Weddinger Modell* on the two wards also showed that the number of restraints was significantly reduced after the introduction of the model.

In a second study using the same sample, Czernin et al²³ showed that the described reduction in mechanical coercive measures also led to a significant reduction in forced medication. In the pre-post comparison, a significant reduction in the maximum dose of compulsory medication of haloperidol, as well as in the maximum daily dose of clozapine, haloperidol and risperidone could be found after implementation of the *Weddinger Modell*. This result also applies to the maximum daily dose of these medications that were taken by patients on a voluntary basis.

3.4 Reduction of post-coercive negative effects

Wullschleger et al²⁴ examined the feasibility of the standardized post-coercion review sessions using a guideline developed in the context of the *Weddinger Modell*. The review session is conducted with the patient concerned, a member of staff who was involved in the coercive measure and a neutral third party who serves as a moderator. During the session, the coercive measure including the preceding escalation are reflected from both perspectives and participants openly discuss alternatives for handling and de-escalating tense situations in the future without resorting to a coercive measure. The quantitative and qualitative evaluation of the review sessions showed that

the sessions are considered helpful by both patients and staff members, leave enough room for sharing different perspectives and can create mutual understanding. Also, the structured guideline proved helpful and the moderation by a neutral staff member was considered beneficial. The setting of the standardized post-coercive review sessions thus proved to be a safe and supportive framework for jointly reflecting on incidents of coercion and for making the decision-making processes preceding coercive measures transparent for the patient.

In a second study, Wullschleger et al⁸ aimed at examining the effect of the standardized post-coercion review sessions on symptoms of PTSD in persons diagnosed with psychosis. Measured with the German version of the Impact of Events Scale (IES-R)²⁷, the study found significantly less symptoms of intrusion and hyperarousal in the group that received the standardized review sessions compared to the control group that received non-standardized reviews (treatment as usual). It should be emphasized that the intervention and control groups did not differ with regard to peritraumatic stress induced by the experience of coercion. These results indicate that, especially in people diagnosed with psychotic disorders, the standardized form of joint reflection on coercive measures reduces the risk of developing PTSD, even if the coercive measure was initially experienced as highly distressing and potentially traumatizing.

3.5 Synopsis of the research findings

The results of the studies evaluating either the *Weddinger Modell* as a whole or single components of the model are in line with the need for promoting and adopting a recovery-

oriented approach to mental health care and preventing and reducing violence and coercion on psychiatric wards. Figure 2 combines the individual findings into an overall working model of the *Weddinger Modell*. The findings are presented with regard to the specific requirements in the treatment of people in acute psychiatric crises and linked with different phases in the course of psychiatric treatment. The therapeutic relationship as core element of treatment quality and prevention of coercive measures is the main working mechanism of the *Weddinger Modell*, starting to show an effect shortly after admission and strengthening their efficacy during the time of treatment. Focusing on building strong and trusting therapeutic relationships through transparent decision-making processes, triological communication and individualized therapy planning facilitates the admission situation and reduces additional stress. Especially shortly after admission and in the beginning of inpatient psychiatric treatment, it should not be the patient who has to adapt to a rigid set of rules on the ward, but rather the multi-professional team that adapts and engages with the patient's individual needs. Existing regulations need to be flexible and considered in light of their usefulness for recovery in individual cases.

The *Weddinger Modell's* focus on building and fostering strong therapeutic relationships forms the essential basis for the prevention of violence and coercion. Thus, these two aspects need to be understood less as parallel to each other and rather as building on each other. Individual rules, person-centered therapies and low adaptation requirements from patients also reduce potential for conflict.

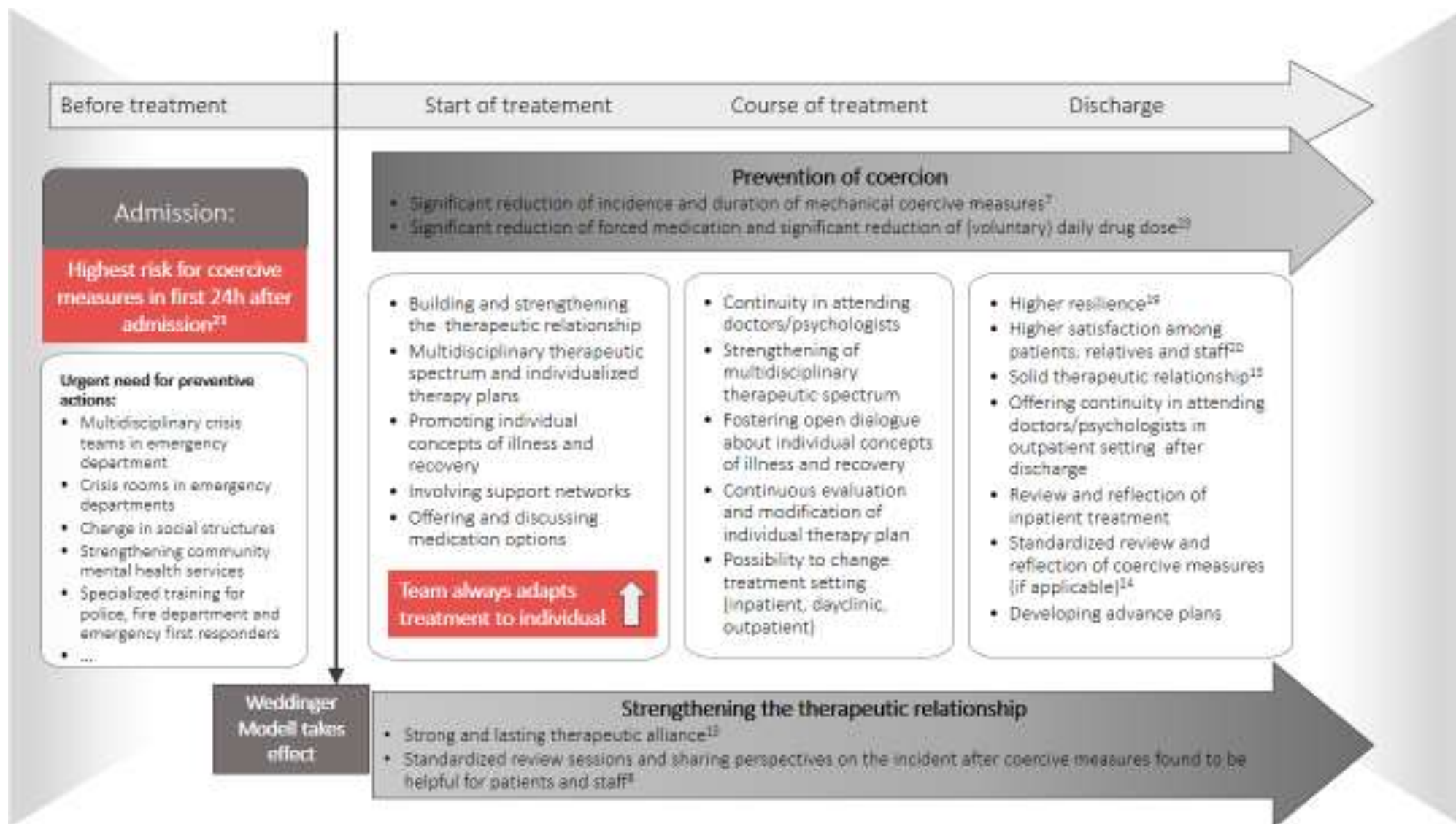


Figure 2. Work mechanisms of the Weddinger Modell – strengthening the therapeutic relationship and preventing coercion

Table 1

Study (author, year)	Study aim	Sample	Aspect of the Weddinger Modell	Measured variable (used survey)	Timepoint of evaluation	Relevant Outcome
Improving treatment quality						
Jacob (2021)	Analyzing the effect of the Weddinger Modell on patients' resilience and self-efficacy	First timepoint: <i>N</i> = 90 patients, <i>N</i> = 85 staff members Second timepoint: <i>N</i> = 109 patients, <i>N</i> = 62 staff members	Whole model	Resilience (Resilienz-fragebogen [RFB])	9/2010 - 11/2010; 9/2011 - 12/2011	Significant increase of resilience on RFB total score and on "self-esteem" subscale; significant interaction with diagnosis with regard to a stronger increase in resilience for people with psychotic disorder
Jeschke (2015)	Examining if the Weddinger Modell affects patient satisfaction rated by patients and staff	First timepoint: <i>N</i> = 90 patients, <i>N</i> = 85 staff members Second timepoint: <i>N</i> = 109 patients, <i>N</i> = 62 staff members	Whole model	Treatment satisfaction of patients (Weddinger Patienten-zufriedenheitsbogen [WPAZ])	9/2010 - 11/2010; 9/2011 - 12/2011	Significant improvement in patient satisfaction rated by therapists; no significant increase rated by patients
Mahler, Jarchov-Jadi, Montag & Gallinat (2014)	Examining the treatment goal attainment of psychiatric patients before and after implementation of the Weddinger Modell	First timepoint: <i>N</i> = 90 patients, <i>N</i> = 85 staff members Second timepoint: <i>N</i> = 109 patients, <i>N</i> = 62 staff members	Whole model	Therapeutic alliance (Working Alliance Inventory [WAI]), goal attainment in treatment (Goal Attainment Scale [GAS])	9/2010 - 11/2010; 9/2011 - 12/2011	Significant increase on "affective bonding" subscale rated by patients; significant decrease on the same scale rated by therapists Significant decrease in number of patients who could not state a therapeutic goal (14.3% to 3.5%); no significant change in grade of goal attainment
Prevention and reduction of coercion						
Cole, Vandamme, Bermpohl, Czernin, Wullschleger & Mahler (2020)	Identifying characteristics of emergency admissions predicting coercive measures in an inpatient psychiatric setting including high-risk time points	<i>N</i> = 1477 cases admitted to inpatient psychiatric treatment via emergency room at PUK SHK during 2018	Whole model	Patient characteristics of emergency admissions serving as predictors for coercive measures; Time of coercive measures	2018	Of the 1477 cases, 218 cases (14.8%) experienced coercive measures Highest risk of coercive measures within first 24h after admission (81.2% [n = 177] of these cases; 56.9% [n = 124] of cases only experienced coercive measures within the first 24 hours)

						Significant predictors of coercive measures: physical aggression against persons and objects, involuntary admission, police referral, younger age
Czernin, Bermpohl, Heinz, Wullschleger & Mahler (2020)	Analyzing the effects of the implementation of the Weddinger Modell on mechanical coercive measures	$N = 375$ patients; intervention group $n = 122$, control group $n = 235$	Whole model	Incidents and duration of seclusion and restraint	2005 (Nov 16-17); 2009 (Nov 18-19); 2011 (Nov 16-17); 2013 (Nov 13-14)	Comparison of study/control group: Significant decrease in the cumulative duration of coercive measures; Significant decrease in the proportion of duration of hospitalization spent subjected to a coercive measure; Significant decrease in average and cumulative duration of seclusion
						Pre-post comparison in study group: Significant decrease of incidents of restraint
Czernin, Wullschleger, Bermpohl & Mahler (under review)	Analyzing whether the implementation of the Weddinger Modell does lead to a measurable change in forced medication and the maximum DDD	$N = 234$ patients; control group $n = 112$, intervention group $n = 122$	Whole model	Incidents of forced medication and maximum daily drug dose	2005 (Nov 16-17), 2009 (Nov 18-19), 2011 (Nov 16-17) and 2013 (Nov 13-14)	Significant reduction in forced medication dose of haloperidol Significant reduction in daily drug dose of clozapine, haloperidol and risperidone
Reducing negative consequences of coercion						
Wullschleger, Vandamme, Ried, Pluta, Montag & Mahler (2018)	Investigating a guideline for and the feasibility of a standardized post-coercion review session	$N = 12$ patients and staff members + $N = 8$ expert-interviews	Standardized post-coercion review	Feasibility of intervention	2018	Quantitative analysis: guideline and review sessions were helpful; moderation was beneficial for patients and staff; moderators stated no difficulties with the application of the guideline; finding alternatives to coercion was rated low Qualitative analysis: Standardized review sessions after coercive measures are helpful for patients and staff; timepoint for the review session has to be set individually related to the personal needs of the affected patient

Wullschleger, Vandamme, Mielau, et al. (2020)	Examining the influence of a standardized post-coercion review session on the development or exacerbation of PTSD symptoms in patients with psychotic disorders	<i>N</i> = 82 patients with psychotic disorders; control group <i>n</i> = 46, intervention group <i>n</i> = 36	Standardized post-coercion review	PTSD symptoms (Impact of Events Scale [IES])	Nov 2017 - May 2019	Significant reduction in PTSD symptoms on subscales intrusion and hyperarousal; no significant reduction on avoidance subscale No difference in peritraumatic stress induced by experience of coercion
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4 Discussion

Considering mental illness in its diversity and multidimensionality, it is inevitable to see it as the duty of psychiatry to create flexible, person-centered structures that adapt to the specific needs of patients and provide space for individual concepts of illness and recovery. With the *Weddinger Modell* as a complex intervention designed for acute psychiatric settings such a holistic approach to psychiatric treatment can be achieved.

4.1 Feasibility of the *Weddinger Modell*

The *Weddinger Modell* has been developed and implemented without any changes in human or financial resources. The basic idea was not only to increase therapeutic efficacy, but also to make more efficient use of existing human, temporal and spatial resources. The concept proved to be economically efficient in every respect. Close multidisciplinary collaboration, transparent communication, flat hierarchies and joint decision-making processes optimize the transfer of information. The time needed for handovers between shifts can be reduced and rounds are more efficient because they do not require pre- and post-debriefings when the patient is absent.

4.2 Limitations

With regard to the research results presented, several points need to be discussed. The majority of the data was gathered between nine months and two years after implementation of the *Weddinger Modell*. This can be considered a rather short period of time for fundamental structural changes to happen that are firmly embedded in the daily ward routine. Although all employees were trained extensively, the management supported the project unanimously and a fixed start date was set for the implementation, it must be assumed that a lasting change in attitudes and practices takes a longer time to set in. Nevertheless, the data show numerous significant results in the expected direction of change, which is remarkable considering the given timeframe.

Furthermore, the *Weddinger Modell* is a complex model and the required changes affect different structural levels of daily clinical practice. Most of the variables measured, such as the therapeutic attitude and multi-professional interaction as well as the strengthening of self-efficacy and individual recovery processes, are latent variables that are difficult to operationalize and assess.

The operationalization of the *Weddinger Modell's* rationale therefore walked a fine line between measurability and meeting the multidimensionality and complexity of the constructs to be assessed. The studies on the *Weddinger Modell* as well as on the post-coercion review sessions were conducted with high external validity within the daily ward routine. This led to a limited internal validity and test strength, so that in part only marginal significances or descriptive trends were found. While the research findings provide promising indications for substantial improvements in treatment, it should be noted that the particular value of the *Weddinger Modell* lies precisely in its practicability and feasibility of implementation.

4.3 Practical implications

Considering recent research results, legal regulations and experiences from clinical practice from both mental health professionals and patients, it is evident and indisputable that modern psychiatric care needs to shift its focus away from strictly biomedical approaches towards strengthening therapeutic relationships and preventing coercion.

The systematic analysis of research findings on the *Weddinger Modell* indicate substantial improvements in these areas on wards working with the model. The presented results confirm the notion that based on trusting therapeutic relationships and active participation of patients in all decision-making processes, coercive measures can be reduced to an absolute minimum during the course of treatment. This is further supported by the results indicating that patients are at the highest

risk of experiencing coercive measures during and shortly after the acute admission situation and before the therapeutic process and the establishment of a strong therapeutic relationship in line with the *Weddinger Modell* can take effect.

Based on the results proving its effectiveness, resource-efficiency and feasibility of implementation, the *Weddinger Modell* offers a suitable framework for achieving recovery-orientation and the reduction of coercive measures in (acute) psychiatric settings. Therefore, the *Weddinger Modell* has recently been adopted and recommended as a complex intervention in a nationwide study on the implementation of the official German S3-Guideline on preventing coercion and violence.²⁸

The guideline-based review session of coercive measures is based on this concept of transparent communication and participatory decision-making processes. If one thinks further about the basic ideas of a modern psychiatry, the transparent handling of coercive measures that take place must follow. In some German states, therefore, the joint review of coercive measures is already required by law. The special type of standardized review based on the guideline provides a safe framework for reflection on a sensitive topic and proves to be supportive and effective.

4.4 Conclusion

The United Nations Convention on the Rights of Persons with Disabilities (CRPD) as well as the new guidance on community mental health services recently published by the World Health Organization^[29] formulate clear goals for the future of psychiatry and psychosocial support. Countries are urged to invest in the implementation of person-centred and rights-based approaches to mental health and psychiatric services and promote and protect the rights of persons with mental health conditions.

Innovative concepts of psychiatric care that focus on full participation, recovery-orientation and the prevention of coercion play an important role in achieving these goals. Implementing and scientifically evaluating the effects of such models in mental health services should from now on be prioritized in national mental health planning and budgeting decisions.

Being in line with the principles set forth by the international community, the *Weddinger Modell* can be recommended for implementation on (acute) psychiatric wards without reservations as it constitutes a valuable and effective contribution to the overall goal of creating a modern psychiatry where treatment is truly person-centered, recovery-oriented and, in the best case, free from coercive measures

5 Literature

- [1] Barber ME. Recovery as the new medical model for psychiatry. *Psychiatr Serv.* 2012. 63(3):277-2799. doi: 10.1176/appi.ps.201100248. PMID: 22388534.
- [2] Mahler L, Oster A & Vandamme A. Weddinger Modell: strengthening the therapeutic relationship and preventing coercion in the treatment of persons with psychosis. *Nervenheilkunde.* 2021; 40:430-435. Doi: 10.1055/a-1389-7279.
- [3] Gooding P, McSherry B, & Roper C. Preventing and reducing 'coercion' in mental health services: an international scoping review of English-language studies. *Psychiatr Scand.* 2020; 142: 27–39. Doi: 10.1111/acps.13152
- [4] Dahm KT, Jensen JO, Husm TL, & Leiknes KA. Interventions for reducing coercion in mental health for adults: a systematic review and the impact of updating. *Journal of Brain Sciences,* 2015, 1(1): 1-23. Doi: 10.18488/journal.83/2015.1.1/83.1.1.23
- [5] Frueh, B. C., Knapp, R. G., Cusack, et al. Special section on seclusion and restraint: Patients' reports of traumatic or harmful experiences within the psychiatric setting. *Psychiatr. Serv.* 2005; 56 (9): 1123-1133. Doi:10.1176/appi.ps.56.9.1123.
- [6] Priebe, S., Katsakou, C., Amos, et al. Patients' views and readmissions 1 year after involuntary hospitalisation. *Br. J. Psychiatry.* 2009; 194 (1), 49-54. Doi:10.1192/bjp.bp.108.052266.
- [7] Pausch MJ. Behandlung von Gewalterfahrungen: Sozialpsychiatrie, Gewalt, Trauma und Posttraumatische Belastungsstörung. *Sozialpsychiatrische Informationen.* 2019; 49: 28-31.
- [8] Wullschleger A, Vandamme A, Mielau J. et al. Effect of standardized post-coercion review session on symptoms of PTSD: results from randomized controlled trial. *Eur Arch Psychiatry Clin Neurosci* 2020. doi:10.1007/s00406-020-01215-x.
- [9] DGPPN. S3-Leitlinie:Verhinderung von Zwang: Prävention und Therapie aggressiven Verhaltens bei Erwachsenen. *AWMF online.*
- [10] Bowers L, James K, Quirk A, et al. Reducing conflict and containment rates on acute psychiatric wards: The Safewards cluster randomised controlled trial [published correction appears in *Int J Nurs Stud.* 2016 Jun;58:102]. *Int J Nurs Stud.* 2015;52(9):1412-1422. doi:10.1016/j.ijnurstu.2015.05.001
- [11] Putkonen A, Kuivalainen S, Louheranta O, Repo-Tiihonen E, Ryyänänen OP, Kautiainen H, Tiihonen J. Cluster-randomized controlled trial of reducing seclusion and restraint in secured care of men with schizophrenia. *Psychiatr Serv.* 2013; 64(9):850-5. doi: 10.1176/appi.ps.201200393. PMID: 23771480.
- [12] Murphy T. *Restraint and seclusion : the model for eliminating their use in healthcare.* HC Pro press, Marblehead, MA. 2005.
- [13] Mahler L, Jarchov-Jádi I, Montag C, Gallinat J. *Das Weddinger Modell: Resilienz- und Ressourcenorientierung im klinischen Kontext.* Köln: Psychiatrie Verlag; 2014.
- [14] Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med.* 2009;6(7):e1000097. doi: 10.1371/journal.pmed.1000097.

- [15] Mahler L, Jarchov-Jadi I, Gervink A, et al. Multiperspectivity and peers on acute wards: the Weddinger Modell. *Nervenheilkunde*. 2015; 34(04): 249-252.
- [16] Mahler L, Heinz A, Jarchov-Jadi I. et al. Therapeutic attitudes and structures in (open) acute psychiatry: the Wedding Modell. *Nervenarzt*. 2019; 90: 700–704. doi:10.1007/s00115-019-0741-3
- [17] Mahler L, Mielau J, Heinz A, Wullschleger A. Same, Same But Different: How the Interplay of Legal Procedures and Structural Factors Can Influence the Use of Coercion. *Front Psychiatry*. 2019; 10:249. doi:10.3389/fpsyt.2019.00249
- [18] von Haebler D & Montag C Self-determination with side effects: experiences and desiderata for a low-coercive/low-compulsory psychiatry. *Forens Psychiatr Psychol Kriminol*. 2019; 13: 22-35.
- [19] Jacob T. *Recovery-orientiertes Arbeiten im klinischen Kontext: stärkt das „Weddinger Modell“ die Selbstwirksamkeitserwartung und Resilienz?* 2021. Unpublished dissertation.
- [20] Jeschke SA. *Das Weddinger Modell: Stationäres Arbeiten im Dialog- eine Vergleichsstudie*. 2015. Unpublished dissertation.
- [21] Cole C, Vandamme A, BERPPOHL F et al. Correlates of Seclusion and Restraint of Patients Admitted to Psychiatric Inpatient Treatment via a German Emergency Room. *J Psychiatr Res* 2020; 130: 201-206. doi:10.1016/j.jpsychires.2020.07.033
- [22] Czernin K, BERPPOHL F, Heinz A et al. Auswirkungen der Etablierung des psychiatrischen Behandlungskonzeptes „Weddinger Modell“ auf mechanische Zwangsmaßnahmen. *Psychiatrische Praxis* 2020; 47: 242-248. doi:10.1055/a-1116-0720
- [23] Czernin K, BERPPOHL F, Wullschleger A et al. Effects of the Recovery-oriented psychiatric care concept "Weddinger Modell" on forced medication and maximum daily drug doses. Under review.
- [24] Wullschleger A, Vandamme A, Ried J et al. Standardisierte Nachbesprechung von Zwangsmaßnahmen auf psychiatrischen Akutstationen: Ergebnisse einer Pilotstudie. *Psychiatr Prax* 2018; 46: 128-134. doi:10.1055/a-0651-6812
- [25] Wilmers F, Munder T, Leonhart R et al. Die deutschsprachige Version des Working Alliance Inventory – short revised (WAI-SR) – Ein schulenübergreifendes, ökonomisches und empirisch validiertes Instrument zur Erfassung der therapeutischen Allianz. *Klinische Diagnostik und Evaluation* 2008; 1: 343-358.
- [26] Baier S. *Goal Attainment Scale*. 2009. Im Internet: https://www.baier-smolagluck.de/fileadmin/files/downloads/pdf/1.2.3.1_Dok_Zielerreichungsskala.pdf; Stand: 28.01.2021
- [27] Weiss DS. The impact of event scale: revised. In Wilson JP, So-kum Tang C. Eds. Cross-cultural assessment of psychological trauma and PTSD. Boston: Springer 2007; 219-238
- [28] Steinert T, Bechdorf A, Mahler, L et al. Implementation of Guidelines on Prevention of Coercion and Violence (PreVCo) in Psychiatry: Study Protocol of a Randomized Controlled Trial (RCT). *Front. Psychiatry* 2020; 11: 579176. doi:10.3389/fpsyt.2020.579176
- [29] Guidance on community mental health services: promoting person-centred and rights-based approaches. Geneva: World Health Organization; 2021 (Guidance and technical packages on community mental health services: promoting person-centred and rights-

based approaches). Licence: CC BY-NC-SA 3.0 IGO. Available at: <https://www.who.int/publications/i/item/guidance-and-technical-packages-on-community-mental-health-services>