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# Early Prediction of Agoraphobia Disease

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**ABSTRACT:** Agoraphobia, a common mental disorder today, involves intense fear and anxiety. Early detection is crucial for effective treatment. Recently, machine learning has been applied to analyze patient records and identify anomalies, including agoraphobia. This study focuses on early detection, exploring machine learning algorithms like Naive Bayes, Random Forest, Decision Tree, KNN, and Support Vector Machine. Early identification is essential for better treatment outcomes.

**KEYWORDS:** Agoraphobia, Early detection, Machine learning algorithms, Naïve Bayes.

## I. INTRODUCTION

In the ever-evolving landscape of mental health, agoraphobia stands as a formidable challenge, marked by debilitating anxiety and fear, particularly in open or public spaces. Acknowledging the urgency of addressing this complex condition, our survey embarks on an exploration of innovative technologies aimed at revolutionizing the early detection and intervention strategies for agoraphobia.

Our focus centers on a pioneering specialized website designed to detect agoraphobia in its nascent stages. This platform harnesses the power of cutting-edge machine learning algorithms, including Naive Bayes, Random Forest, Decision Tree, KNN, and Support Vector Machine, to meticulously analyze patient records. By leveraging these advanced techniques, our survey aims to shed light on the efficacy and nuances of employing these algorithms in identifying subtle patterns and anomalies indicative of agoraphobia, thereby providing a crucial early warning system for individuals who may be unaware of their evolving condition.

However, the impact of this website extends beyond its primary role of detection. It aspires to be a comprehensive resource in the mental health domain, equipped with user-friendly interfaces and robust data handling mechanisms. Through these features, the platform empowers individuals, enabling them to gain profound insights into their mental well-being. This empowerment facilitates informed decision-making, guiding users in the direction of seeking professional assistance when necessary.

By offering not only early detection but also accessible insights, our surveyed website emerges as a significant contributor to the advancement of mental health awareness. Its potential as a transformative tool becomes evident in its ability to improve the lives of individuals affected by agoraphobia and related conditions.

Through a nuanced exploration of this innovative technology, our survey aims to unveil the underlying mechanisms, challenges, and opportunities associated with integrating cutting-edge technologies into the realm of mental health.

As we navigate through the various facets of agoraphobia detection and intervention, our survey seeks to provide a comprehensive understanding of the current state of research and pave the way for future advancements in leveraging technology to enhance mental health outcomes.

## II. LITERATURE SURVEY

“Evaluating a Hybrid Web-Based Training Program for Panic Disorder and Agoraphobia: Randomized Controlled Trial”, by Lara Ebenfeld, (2021): The existing web-based intervention, GET.ON Panic, incorporates a guided hybrid

training program rooted in cognitive behavioral therapy for adults with panic disorder symptoms. Its structured format combines web-based accessibility with guided support, featuring the Panic and Agoraphobia Scale for self-assessment. A randomized controlled trial validates its efficacy, demonstrating a significant reduction in panic symptoms.[1]

“Are Internet- and mobile-based interventions effective in adults with diagnosed panic disorder and/or agoraphobia? A systematic review and meta-analysis”, by Matthias Domhardt(2020):The meta-analysis underscores the efficacy of Internet- and mobile-based interventions (IMIs) for diagnosed panic disorder and/or agoraphobia. Results from 16 trials reveal IMIs' positive impact on panic and agoraphobia symptom severity compared to waitlist controls, along with superior outcomes in addressing anxiety, depression, and improving quality of life.[2]

“Estimating the Economic Value of Automated Virtual Reality Cognitive Therapy for Treating Agoraphobic Avoidance in Patients With Psychosis: Findings From the gameChange Randomized Controlled Clinical Trial”, by James Altunkaya:

The study examines gameChange, a virtual reality therapy for agoraphobia in psychosis patients. It analyzes data from 346 participants, assessing quality of life and costs, suggesting a cost-effective therapy price. To improve, they should check long-term effectiveness, gather detailed patient feedback, assess technology usability for diverse users, and consider real-world factors. Involving patients and comparing gameChange to other treatments would enhance the study's usefulness[3].

“Predicting the 9-year course of mood and anxiety disorders with automated machine learning: A comparison between auto-sklearn, naïve Bayes classifier, and traditional logistic regression”, by panelWessel A.: The study evaluates predictive methods for mood and anxiety disorders using data from the Netherlands Study of Depression and Anxiety. It compares traditional logistic regression, basic machine learning, and Auto-sklearn over 2 to 9 years, finding comparable success rates in predicting mental health status, with Auto-sklearn showing superiority in handling complex datasets.[4]

“A descriptive study of agoraphobic situations and correlates on a panic disorder”, by Habibeh Barzegar: In the existing approach, structured interviews were employed as a systematic and standardized method for data collection. The primary objective was to ensure a consistent and uniform approach to gathering information from participants. Structured interviews typically involve a predetermined set of closed-ended questions or a questionnaire. This method aimed to generate quantitative data, allowing for statistical analysis and comparison across participants. The reliability of the data collection process was emphasized, minimizing interviewer bias and ensuring efficiency in covering a broad range of topics.[5]

“Intensive one-week internet-delivered cognitive behavioral therapy for panic disorder and agoraphobia: A pilot study Author links open overlay panel Eileen” by P. Stech a c:

The core of the internet-delivered CBT program, the curriculum includes lessons with comics, summaries, worksheets, and videos, guiding participants through psychoeducation, exposure techniques, and relapse prevention.[6]

“The Role of Intolerance of Uncertainty and Working Alliance in the Outcome of Cognitive Behavioral Therapy for Generalized Anxiety Disorder Delivered by Videoconference: Mediation Analysis” by Michel J Dugas This research explored the efficacy of a customized internet-based platform tailored for anxiety disorders among 49 adults. The findings revealed noteworthy [7]enhancements in both anxiety and depression symptoms, indicating the promising effectiveness of the program.

“User Experience and Effects of an Individually Tailored Transdiagnostic Internet-Based and Mobile-Supported Intervention for Anxiety Disorders: Mixed-Methods Study”,

By Kiona K Weisel: In this research done during a clinical trial using videoconference therapy for generalized anxiety disorder, it looked at how well the connection between therapist and patient, agreement on therapy goals, and tasks related to treatment success. It also checked how intolerance of uncertainty, a key mental process, might influence this connection and affect improvements in anxiety symptoms.[8]

### III. COMPARATIVE ANALYSIS

Unique Feature:

The enhanced web-based program for panic disorder now incorporates daily reminders for consistent engagement, educational modules for continuous learning, and personalized goal-setting for motivation. These unique features

collectively address the challenge of limited ongoing support, fostering a more comprehensive and effective intervention

Existing Challenge:

In the current web-based program for panic disorder, one notable challenge is the lack of ongoing support and reinforcement beyond the structured sessions. Users may find themselves navigating the complexities of panic disorder without continuous guidance, potentially impacting the consolidation of therapeutic concepts and coping strategies.

Unique Feature:

It innovates by exploring adherence, response, remission, and quality of life while introducing real-time support, extended follow-up, and improved user experience for more effective and lasting panic disorder management.

Existing Challenge:

The current meta-analysis of Internet- and mobile-based interventions (IMIs) for panic disorder primarily focuses on symptom severity, potentially neglecting critical aspects like treatment, response rates, and improvements in overall quality of life. This limited scope may hinder a comprehensive assessment of the holistic impact of IMIs on individuals with panic disorder.

Unique Feature: our project considers long-term effects, detailed patient feedback, and real-world factors for broader applicability

Existing Challenge:

The study evaluates game Change, a virtual reality therapy for agoraphobia, using trial data.

Unique Feature: the project could involve lifestyle factors, social support, life events, physical health, treatment history, and genetic considerations.

Existing Challenge:

The study currently utilizes demographic data, and mood/anxiety disorder status, and follows participants over 2- to 9-year periods, employing traditional and automated predictive models.

Unique Feature: Introduce qualitative interviews as a unique feature to capture in-depth insights into individuals' subjective experiences with agoraphobia. This qualitative component aims to complement the quantitative findings.

Existing Challenge: Structured interviews were used to collect data systematically, ensuring consistency in the data collection process.

Unique Feature:

New Peer Support Forum :Introducing a Peer Support Forum enhances the program, creating a virtual space for participants to connect, share experiences, and offer mutual encouragement, fostering a supportive community for shared healing.

Existing Challenge:

Program Curriculum: The core of the internet-delivered CBT program, the curriculum includes lessons with comics, summaries, worksheets, and videos, guiding participants through psychoeducation, exposure techniques, and relapse prevention

Unique Feature:

Our project considers a personalized online program that adapts to each person's specific traits, preferences, and needs, aiming to better help individuals with anxiety disorders and their diverse situations.

Existing Challenge:

This study investigated how well a personalized online program for anxiety disorders worked for 49 adults, showing significant improvements in anxiety and depression symptoms, suggesting its potential effectiveness.

Unique Feature:

The unique feature of this study is its exploration of the mediating role of intolerance of uncertainty in the relationship between specific components of the working alliance and treatment outcome in cognitive behavioral therapy delivered



via videoconference for generalized anxiety disorder.

Existing Challenge:

Within this clinical trial exploring videoconference therapy for generalized anxiety disorder, the investigation delved into the quality of interaction between therapist and patient, consensus on therapy objectives, and tasks linked to treatment efficacy. Additionally, it examined the potential impact of intolerance of uncertainty, a fundamental cognitive process, on this relationship and its effect on alleviating anxiety symptoms.

#### IV. CONCLUSION

In conclusion, while traditional approaches remain robust in predicting mental health outcomes, the study highlights the promising role of automated ML methods, especially in managing complex datasets. The nuanced findings encourage further exploration of automated ML's potential for enhancing prediction accuracy and efficiency in clinical settings, emphasizing the need for an integrated approach that leverages both traditional and advanced machine learning techniques for a comprehensive understanding of mood and anxiety disorders' onset and progression.

#### REFERENCES

- [1] "Evaluating a Hybrid Web-Based Training Program for Panic Disorder and Agoraphobia: Randomized Controlled Trial" <https://www.jmir.org/2021/3/e20829>
- [2] "Are Internet- and mobile-based interventions effective in adults with diagnosed panic disorder and/or agoraphobia? A systematic review and meta-analysis" <https://pubmed.ncbi.nlm.nih.gov/32697696/>
- [3] "Estimating the Economic Value of Automated Virtual Reality Cognitive Therapy for Treating Agoraphobic Avoidance in Patients With Psychosis: Findings From the Game Change Randomized Controlled Clinical Trial" <https://www.jmir.org/2022/11/e39248/>
- [4] "Predicting the 9-year course of mood and anxiety disorders with automated machine learning: A comparison between auto-sklearn, naïve Bayes classifier, and traditional logistic regression", <https://www.sciencedirect.com/science/article/pii/S0165178121001207>
- [5] "A descriptive study of agoraphobic situations and correlates on a panic disorder" <https://ouci.dntb.gov.ua/en/works/4v5xvgK7/>
- [6] "Agoraphobia by Kripa Balaran" <https://www.ncbi.nlm.nih.gov/books/NBK554387/>
- [7] "Assessment of agoraphobia—II: Measurement of clinical change Author links open overlay" [www.sciencedirect.com/science/article/abs/pii/S0005796786901920](https://www.sciencedirect.com/science/article/abs/pii/S0005796786901920)
- [8] "Acceptance and Commitment Therapy (ACT) in panic disorder with agoraphobia: A case study" [www.researchgate.net/publication/28073153\\_Acceptance\\_and\\_Commitment\\_Therapy\\_ACT\\_in\\_panic\\_disorder\\_with\\_agoraphobia\\_A\\_case\\_study](https://www.researchgate.net/publication/28073153_Acceptance_and_Commitment_Therapy_ACT_in_panic_disorder_with_agoraphobia_A_case_study)



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