



Preventative Mental Health Support Shows Astonishing Results



Mental health is a science, and we need data to understand it. In our annual whitepaper, we conduct a full clinical study of nilo users to better understand the efficacy and strategies of mental health support.

We looked at **people with both moderate and severe mental health symptoms**. Using clinical studies, we discovered that across both groups, **mental health and well-being scores went up** after using nilo,

and **anxiety and depression scores went down**.

We also studied self-reported data that showed **improvement for nilo users in sleep, motivation, energy, mood and more**.

The dramatic impact proves both that nilo is highly effective for its users, and that preventative mental health care is a viable use case for businesses. Read on to discover more.

A new study from nilo has shown that preventative support has a massive impact on the mental health and well-being of those suffering from moderate and severe mental health symptoms.

There are many studies out there proving the efficacy of therapy or counseling for patients suffering from pathological mental health symptoms. On the other hand, there's barely any existing evidence about people suffering from moderate mental health issues, simply for the reason that most of them will never seek treatment. These people might experience some day-to-day anxiety, but manage to function through it. They might have mild sleeping issues or work conflicts. They sometimes feel very sad, but they can usually recover. You may recognize them, or feel some sense of familiarity with this group: most of humanity falls into it. Within the wide spectrum of mental health—a continuum which isn't static and which may change for each individual, as frequently as day to day—moderate mental health issues are incredibly common; as is visible in our user group study, in which 65% of our users are moderately impacted by their mental health.

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We often don't recognize psychological challenges until they disrupt our daily lives, when our minds and bodies no longer function as they should.



Dr. Katharina Koch
Head of Psychology at nilo.

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It's common to push through mild or moderate issues, but ignoring them can allow these challenges to worsen and become long-term problems.

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The good news is that early intervention is far more effective.

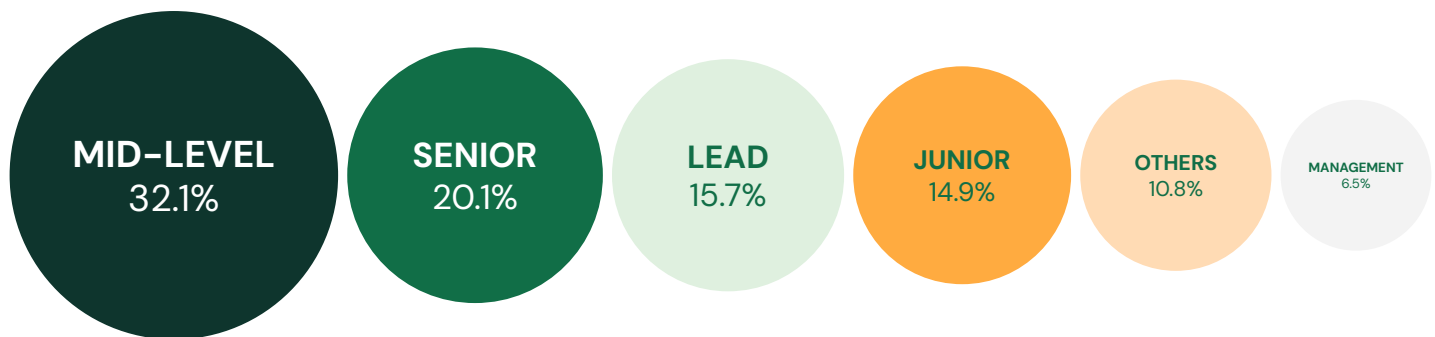
Addressing psychological challenges early helps us recover more quickly and prevents bigger issues from developing.

Because we're used to these symptoms, it's easy to imagine them being a natural part of life. But imagine if they weren't. Imagine if you could push back against that routine feeling of anxiety — imagine if you slept well and soundly most if not every night — imagine if your self-esteem was strong and robust.

The amazing results from nilo show that treating users with moderate mental health issues does just that. Preventative mental health care shows a significant change from poor to positive well-being for users in the moderate group after using nilo. And similarly, for users in the severe group struggling with mental health issues which do impact their day-to-day life, mental health treatment from nilo shows a drop from severely impacted to moderately impacted after using nilo.

Methods

Participants



A total of **798 individuals** participated in the study, comprising 513 females, 272 males, and 13 individuals who identified as other. The mean age of the participants was **35.4 years** (minimum=19, maximum=65).

Participants were categorized into three groups based on the severity of their symptoms: **156 individuals reported mild symptoms**, **524 reported moderate symptoms**, and **118 reported severe symptoms**. Particularly relevant in these results are the moderate and severe groups.

156
reported
mild symptoms

524
reported
moderate symptoms

118
reported
severe symptoms

Moderate Group

Symptoms are mild to moderate and have some impact on daily activities. Individuals in this group may experience feelings of sadness, worry, or stress which affect their ability to function as effectively as they could. They also may experience trouble sleeping, difficulty concentrating and/or some physical symptoms as a result of psychological ones, i.e. headaches or digestive issues.

Severe Group

This group is experiencing a more intense and disruptive level of symptoms, and in accordance has a higher level of impairment in their ability to function in daily life. Individuals in this group may, for example, have ongoing feelings of sadness, worry and stress. They also may have difficulty concentrating as well as experiencing exhaustion, irritation and physical symptoms, such as pain, as a result. Their symptoms classify as pathological.

The Platform

Every participant in this study underwent nilo.sessions, which are 45 minutes long and take place in a confidential video room accessible via the nilo web app. nilo's psychologists are highly qualified and experienced professionals, trained in and utilizing evidence-based methods, such as Cognitive Behavioral Therapy (CBT) and others. The number of sessions conducted is based on the need and preference of the participant.

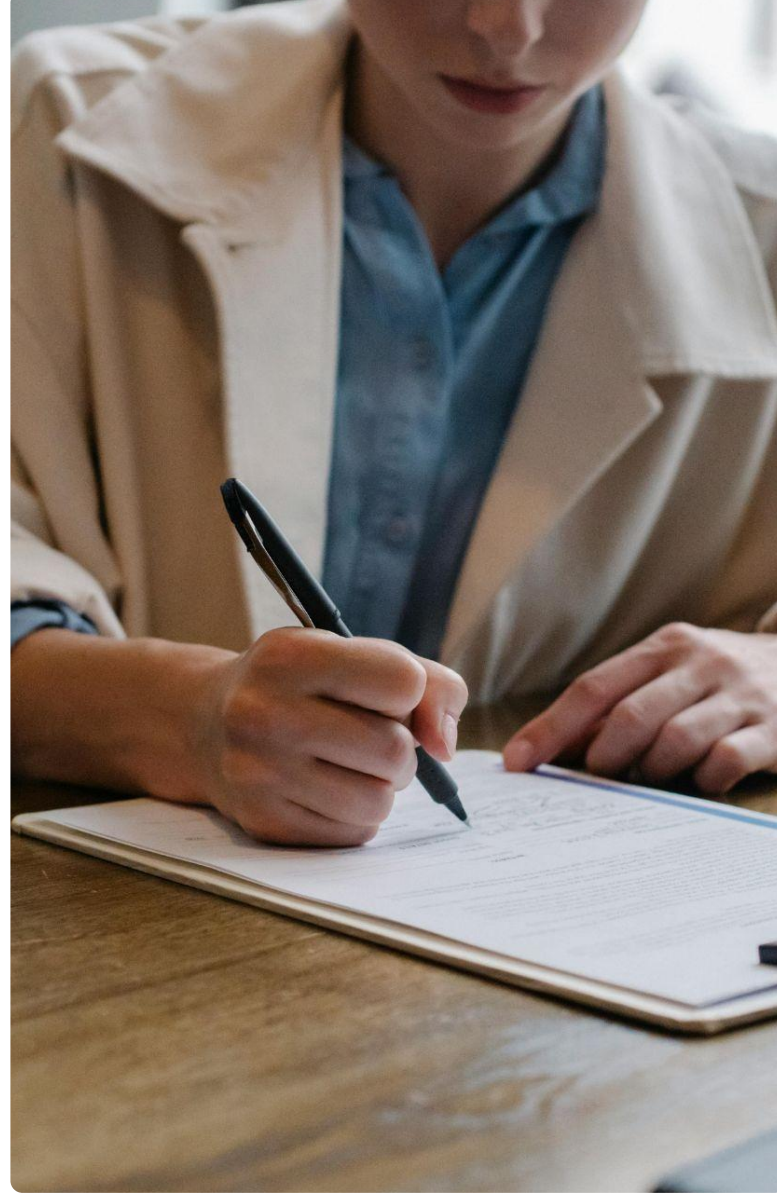
nilo's self-guided content via the app and platform also has a significant impact on mental health improvement. Roughly 40% of nilo's users access both 1-to-1 counseling sessions and self-guided content. It is fair to speculate that the combination of both offers a stronger and more versatile treatment for mental health issues.

Procedure

Participants were asked to complete a series of standardized questionnaires, including the Patient Health Questionnaire-4 (PHQ-4) and the World Health Organization-5 Well-Being Index (WHO-5).

The PHQ-4 is a well-established clinical measure of depression and anxiety. The WHO-5 is a widely recognized measure of overall well-being assessing mood, motivation, sleep, energy, and relaxation.

Additionally, participants self-assessed their stress levels and subjective mental health. These measures were completed at baseline (Time1) and then regularly over time. The average number of sessions between the first



and second measurements reported in this paper was 3.52 in the moderate group and 3.81 in the severe group (Time2) with an average number of 83 days in the moderate and 77 days in the severe group between the first and second measure. The sessions on average took place within a three-month period.

In addition, we collected a sub-sample of 145 participants who provided supplementary information on how their mental health impacted their work performance using the Sheehan Disability Scale (SDS). We used the SDS to measure days of absence, unproductive days, and level of work disruption related to individual mental health.

Results

Changes in Mental Health Over Time

We employed a linear mixed model fit by REML to account for both fixed and random effects. To compare PHQ-4 and WHO-5 scores, as well as self-assessed mental health and stress ratings at two time points (*Time1* and *Time2*) across all severity level groups, then paired samples t-tests were used to assess the significance of mean score changes (*Time1* and *Time2*) within each group. The results of the t-test are presented below.

Participants in the mild severity group did not show significant change over time on both scales, which is expected given their lower symptom intensity. Their focus is typically on strengthening resilience, not addressing worsening symptoms, so no significant changes were observed and therefore not reported here.

For the moderate severity group, there was a significant decrease in PHQ-4 scores from ($M = 5.08$) to *Time2* ($M = 4.18$), with a mean difference of 0.897 ($SD = 2.546$), $t(523) = 8.06$, $p < .001$.

In the severe severity group, PHQ-4 scores significantly decreased from *Time1* ($M = 9.72$) to *Time2* ($M = 6.15$), with a mean difference of 3.568 ($SD = 3.657$), $t(117) = 10.60$, $p < .001$.

Importantly, participants' results decreased from a mean score categorized as "severe" by the PHQ-4 to a mean score categorized as "moderate"³. This substantial change indicates a movement from the "severe" to the "moderate" severity category, reflecting a

critical improvement in mental health in a group pathologically impacted.

WHO-5 scores in the moderate severity group significantly increased from *Time1* ($M = 11.17$) to *Time2* ($M = 13.59$), with a mean difference of 2.416 ($SD = 4.876$), $t(523) = -11.34$, $p < .001$.

The WHO-5 raw scores are transformed to a percentile score from 0 to 100, with a score of ≤ 50 indicating poor well-being. A score of 28 or below is indicative of depression. Through the study, participants' mean score increased from 46.8 (which is categorized as "poor well-being") to 54.36. This increase indicates that the group improved from a state of poor well-being to a state now classified as "average well-being" or better.

For the severe severity group, WHO-5 scores significantly increased from *Time1* ($M = 5.92$) to *Time2* ($M = 11.20$), with a mean difference of 5.280 ($SD = 5.970$), $t(117) = -9.61$, $p < .001$.

Transformed mean scores increased from 23.68 (indicating depression²) to 44.8.

In line with above results, we found that self-assessed mental health ratings significantly improved in both groups from *Time1* to *Time2* with an average increase in the moderate severity group of 0.313 ($SD = 0.855$), $t(523) = -8.38$, $p < .001$ and an average increase of 0.881 ($SD = 1.163$), $t(117) = -8.23$, $p < .001$ in the severe group.

Also, self-assessed stress levels significantly improved in both groups from *Time1* to *Time2*, with an average improvement in the moderate severity group 0.405 ($SD = 0.930$), $t(523) = -9.96$, $p < .001$ and an average improvement of 0.619 ($SD = 1.012$), $t(117) = -6.64$, $p < .001$ in the severe group.

Relationship Between Mental Health and Work Performance

A Pearson correlation analysis was conducted to explore the relationships between anxiety and depression (PHQ-4 scores) and performance-related variables, including absence days, unproductive days, and work disruption ratings.

The results indicated a significant positive correlation between absence days and PHQ-4 scores, $r(145)=.43$, $p<.001$, suggesting that higher levels of anxiety and depression were associated with more frequent absences from work.

Similarly, a significant positive correlation was found between unproductive days and PHQ-4 scores, $r(145)=.56$, $p<.001$, indicating that greater anxiety and depression were linked to reduced productivity.

Furthermore, work disruption ratings were significantly correlated with PHQ-4 scores, $r(146)=.54$, $p<.001$, implying that increased symptoms of anxiety and depression were associated with greater disruption in work performance.



Moderate Severity Group

PHQ-4: Participants showed a significant improvement in their scores, indicating a decrease in anxiety and depression symptoms over time.

WHO-5: Well-being scores significantly increased, moving from "poor well-being" to "average or better well-being."

Self-assessed mental health and stress: Both mental health and stress levels improved significantly in this group. Standout results included:

50.4%

said their **mood improved**

49.8%

said their **sleep improved**

57.6%

said their **relaxation levels improved**

44.3%

said their **motivation improved**

50.5%

said their **energy levels improved**

Severe Severity Group

PHQ-4: Participants moved from the "severe" to "moderate" category, showing marked improvement in mental health.

WHO-5: Well-being scores also significantly improved. They moved from a score indicating depression to one just below average well-being.

Self-assessed mental health and stress: Both measures showed significant improvement, reflecting better mental health and reduced stress levels. Standout results included:

67.36%

said their **moods improved**

53.3%

said their **sleep improved**

69.1%

said their **relaxation levels improved**

51.5%

said their **motivation improved**

60.9%

said their **energy levels improved**

Discussion and Conclusions

Irrespective of gender, age, cultural background and any other factor, mental health issues touch every community, making them a growing global health problem. Despite our growing awareness, however, stigma persists and, coupled with limited resources and geographic constraints, prevents many individuals from receiving their necessary mental health support.

nilo is dedicated to successfully addressing this issue. And the results show great success in a limited time. Additionally, the correlation between absence days and PHQ-4 scores (see Results) also shows that improving mental health preventatively can have a great bottom line impact for companies, reducing absences and increasing workplace engagement and motivation.



¹ Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2009). An ultra-brief screening scale for anxiety and depression: the PHQ-4. *Psychosomatics*, 50(6), 613–621.

² Bech, P. (2004). Measuring the dimension of psychological general well-being by the WHO-5. *Quality of life newsletter*, 15–16.

³ Sheehan DV. *The Anxiety Disease*. New York, NY, USA: Charles Scribners Sons; 1983.

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Preventative mental health is crucial for everyone, as it allows us to address concerns before they become overwhelming.

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Delaying intervention causes issues to become more entrenched and harder to resolve. Early interventions are therefore always critical and especially important for individuals with mild or moderate symptoms, as they help build resilience and prevent more severe issues from developing.

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Our data shows that by providing timely support, we can empower people to take control of their mental health and avoid escalation into more serious conditions.



Dr. Katharina Koch
Head of Psychology at nilo.

Support your employees with the leading platform for workplace mental health

nilo provides easy access to mental health support: 1-on-1 sessions with psychologists, self-guided exercises and tools, group formats, and workshops to strengthen your team's well-being and your company culture.



**Would you like to learn more about how to improve
well-being in your company?**

Let's talk!