



# Yerkes–Dodson Law: The Relationship Between Stress and Performance



Written by **[Cole Abbott](#)** • Updated: September 27, 2024 • 11 Minute Read

*Welcome to Founder's Framework, offering full access to objective, informational, and researched articles on core business frameworks — aggregated into a single, organized space.*

This article provides a detailed overview and expert insights on the Yerkes–Dodson Law to help leaders select the appropriate framework to support business growth and sustainability.

# At a Glance

**Framework:** The Yerkes–Dodson Law

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**Creator:** Robert M. Yerkes and John Dillingham Dodson

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**Stage of Development:** [Stage 3: Scale](#)

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**Core Competency:** [People](#)

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**Business area:** [People](#), [Productivity](#)

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**Change required:** Low change management level

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**Key pain points addressed:**

- Suboptimal performance
  - Stress management
  - Productivity issues
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## Who Created the Yerkes–Dodson Law?

The Yerkes–Dodson Law was developed by psychologists **Robert M. Yerkes** and **John Dillingham Dodson** in the early 1900s. Their groundbreaking research on the relationship between arousal (or stress) and performance laid the foundation for understanding how stress impacts human productivity and effectiveness in the workplace.

Since the original research paper was published in 1908, many interpretations of this law have been considered. In it, Yerkes and Dodson detailed their experiments involving “**discrimination learning**” in mice and the mice’s response to different levels of “non-injurious” electrical stimuli.

They discovered that moderate electrical shocks could motivate mice to complete a task in fewer steps than when they received mild shocks. But when the researchers increased the shocks to maximum intensity, the animals’ performance would suffer again. This demonstrated that increasing stress levels can elevate motivation and focus on the task at hand – but only to a certain point.

The original experiments are far removed from how the law and its broad application to stress and performance in humans are perceived today.



“THE YERKES–DODSON LAW STATES THAT THERE IS AN EMPIRICAL RELATIONSHIP BETWEEN STRESS AND PERFORMANCE AND THAT THERE IS AN OPTIMAL LEVEL OF STRESS CORRESPONDING TO AN OPTIMAL LEVEL OF PERFORMANCE.”



**SIMPLY PSYCHOLOGY**

## The Yerkes–Dodson Law Defined

The Yerkes–Dodson Law is a psychological principle that suggests there’s an optimal level of stress for performance. Too little arousal leads to a lack of focus and poor performance, while too much causes elevated levels of stress and anxiety that decrease performance. Based on this principle, the relationship between arousal and performance is often represented as an inverted U-shaped curve.

### KEY TERM

## Optimal Stress Zone

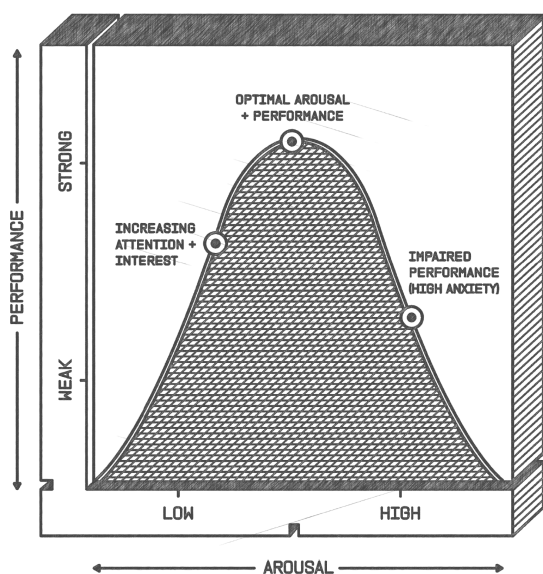
The level of arousal where stress is high enough to boost performance but not so high that it causes a decline, as described by the Yerkes–Dodson Law.

**Key Concepts of the Law include:**

**Optimal arousal:** This suggests that there's a stress "sweet spot" (also known as the optimal stress zone) where peak performance is achieved. This occurs when the right amount of stress is present to complete a task without causing "overstress" and performance decline.

**Task complexity:** This dictates that the optimal level of arousal varies depending on task complexity. Simple tasks may benefit from higher arousal, while complex tasks require lower arousal for optimal performance.

**Individual differences:** Individuals possess different optimal arousal levels based on personality, experience, and other unique factors.



*Yerkes-Dodson Law in action: Performance is maximized at the optimal level of arousal and descends with under- and overarousal.*

**Also known as:** The Yerkes-Dodson Law can also be connected to alternative terms or phrases that emphasize aspects of the model, such as optimal arousal theory, arousal-performance relationship, inverted-U hypothesis, stress performance curve, or performance anxiety curve.

## Key Pain Points Addressed

The Yerkes-Dodson Law addresses key pain points related to stress and human performance:

- ✔ **Employee burnout and disengagement:** The law recognizes that too little or too much arousal (stress) leads to poor performance, manifesting in burnout, lack of engagement and motivation, and elevated performance anxiety. The law suggests that achieving an optimal level of arousal — such as setting realistic, attainable goals; enhancing work culture; and being creative to make work tasks more stimulating — can improve performance in many ways.
- ✔ **Inconsistent performance levels:** Team members can struggle with identifying the optimal level of stress to achieve peak performance. The Yerkes-Dodson Law provides a framework that supports self-evaluation and reflection on performance in relation to stress levels. This can help individuals identify their "zone of optimal performance" across tasks.

- ✔ **Diminished productivity:** Decreased team performance can quickly lead to process slowdowns (or even breakdowns). The law offers a framework to guide leaders in evaluating and elevating suboptimal workflows.

Pain points can be triggered when organizations are undergoing large-scale change and/or facing new issues, such as market volatility, organizational restructuring, or supply chain breakdown. By addressing these pain points, the Yerkes-Dodson Law provides a framework for understanding and optimizing the relationship between stress and performance in various situations.

## When to Apply the Yerkes-Dodson Law

The Yerkes-Dodson Law is applicable across all stages of organizational development. It's particularly useful when:



Employees are experiencing burnout or disengagement.



Performance levels are inconsistent or suboptimal.



An organization is undergoing significant changes or facing new challenges.



There's an identified need to optimize productivity.

## Pros and Cons of the Yerkes-Dodson Law

As you evaluate this framework, consider the top pros and cons:

### Pros

- ✔ Provides a framework for understanding the relationship between stress and performance
- ✔ Helps in creating optimal work environments for different types of tasks
- ✔ Can improve overall productivity and the well-being of your team members
- ✔ Applicable across various industries and job roles
- ✔ Is ranked at low-moderate effort on the change management scale

## Cons

- ✗ May oversimplify the complex relationship between stress and performance
- ✗ Doesn't account for all individual differences in stress response
- ✗ Can be challenging to accurately measure arousal levels in a work setting
- ✗ Implementing strategies based on the law may require significant changes for some organizations

## TLDR: In Summary

The Yerkes-Dodson Law offers organizations a valuable framework for understanding and optimizing the relationship between arousal/stress and performance. By recognizing that there's an optimal level of arousal for peak performance and that this level varies based on task complexity and individual differences, organizations can create more effective work environments and management strategies.

Implementing the law requires a thoughtful approach to stress management, task allocation, and performance monitoring. While it presents some challenges in terms of measurement and individual variability, the potential benefits in terms of improved productivity, employee well-being, and overall organizational performance make it a worthwhile consideration for many businesses.

As with any psychological principle, it's important to approach the Yerkes-Dodson Law with flexibility and ongoing assessment within the workplace. It's also important to stay current on relevant research and its application in the area of stress and performance. Regular feedback from team members and performance data should guide the application of this principle, ensuring that it truly serves to enhance both individual and organizational outcomes.



# Actionable Guidance

If you believe the Yerkes–Dodson Law is applicable to your organization, consider the following steps for implementation:

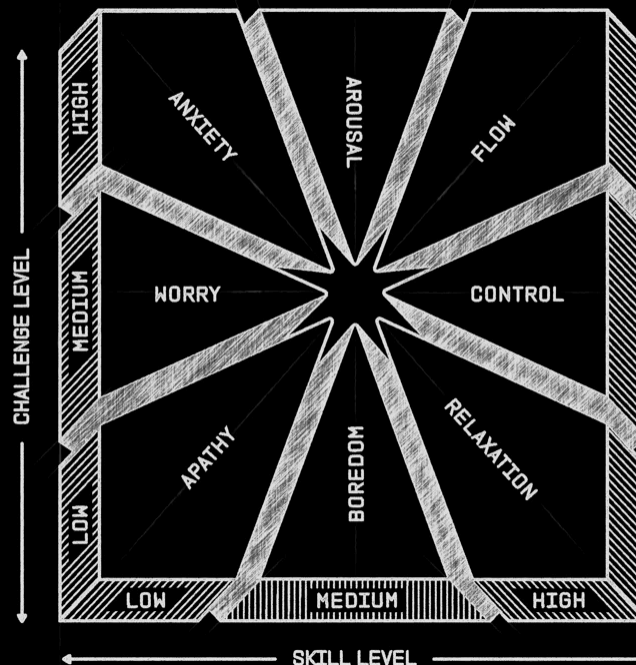
- **Ensure a deep understanding of the model:** Research the framework’s core concepts, including optimal arousal, task complexity, individual differences, and performance curve. Also stay informed about current organizational psychology research to ensure up-to-date evidence-based practices are applied.
- **Assess current stress levels:** Use surveys or interviews to gauge employee stress levels and perceived performance. This supports accurate measurement of implementation success, as you’ll have pre-application data to compare to.
- **Identify task complexity:** Categorize tasks based on their complexity to understand optimal arousal levels across different roles.
- **Provide performance feedback:** Regularly assess and provide feedback on employee performance in relation to perceived stress levels. This will help inform when individuals or teams are well outside the **state of optimal experience** (or the concept of “flow”).
- **Optimize your work environment:** Create a workspace that balances stimulation and calm to support optimal arousal levels.
- **Offer training:** Educate employees and leaders about the Yerkes–Dodson Law and how to apply it in their work. Repeat training throughout the year as needed.
- **Monitor and adjust:** Continuously evaluate the effectiveness of strategies and course correct as needed. Consistent monitoring is key to the success of any framework implementation.

# Take Ninety

At Ninety, we know the importance of finding that “just right” level of challenge to keep individuals and teams motivated to achieve [business goals](#) that support your organization’s larger vision. We believe that a certain degree of both success and failure leads to [flow](#). And when flow is realized, it supports the level of engagement required to push ourselves to the limit and achieve something great.

***“Flow is the state in which a person is fully immersed in an activity, experiencing a balance between their skill level and the challenge at hand.”***

**— Mark Abbott, Founder’s Framework**



The Yerkes-Dodson Law complements the flow framework by illustrating the relationship between stress (or arousal) and performance. According to the law, performance improves with increased arousal but only up to a point. Beyond this optimal stress zone, performance declines. The goal is to reach that “in the zone” flow state to keep our teams focused, aligned, and thriving.

If you’re an [early-stage business](#), you’re operating at one level, and the outcomes should be clear, straightforward, and appropriately simple. As your team gets better, you’ll decide when it’s time to push your organization to the next level. Our [Grow or Die series](#) provides more detail on achieving flow to grow and thrive.



# Next Steps

For those ready to take action, consider these actionable steps:

- ① Are you setting the right goals for growth? **Discover the types of goals** your company needs to succeed.
- ① Don't know what Stage of Development your company is in? Complete the **Stages of Development Assessment** to find out.
- ① What other frameworks would help a company focus on scaling? Find more options in our **Stage 3 frameworks**.
- ① What does it mean to master the People Competency in your company? **Discover the areas to focus on.**
- ① Are you being intentional about how your business operates? Find out **where your company's approach ranks.**

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🏷️ Tagged with: **Productivity**, **People**, **Stage 3: Scale**, **Organizational Structure**, **Stage 2: Sustain**, **Stage 1: Survive**, **Stage 4: Succeed**, **Stage 5: Steward**