



Ergonomics & Hygiene 2023

*Collaboration for Sustainable
Health in Future of Work*

Workplace Wellbeing

Daryl Sng



About Me...



2008 – 2011

➤ Diploma in Biotechnology

2008 – 2013

➤ TSO / Edu-kit R&D Project



2013 – 2016

➤ BSc. Degree in Chemical Engineering



2016 – 2018

➤ IH Technical Assistant



2018 – 2021

➤ EHS Engineer



2020 – 2022

➤ MSc. Degree in Safety, Health and Environmental Technology



2021 – Present

➤ Snr. EHS Engineer



EHS Ergonomic Design for a Seated Activity
Daryl Sing Jingle, Senior EHS Engineer

Abstract: Back pain is the common signs of work-related musculoskeletal disorder (WRMSD) which is a result of poor working conditions. From June 2021 till May 2022, MSB site clinic has seen 189 documented cases of back-related issues with a total of 1267 lost workdays in medical leave and light duties. WRMSD is contributed by ergonomics hazards in the workplace that results in the Team Members working in biomechanically incompatible work environments with their anthropometry. The process of using Safety by Design approach to design and prototype a new work aid for the Production Operators to access the lower primitive of a test equipment was used as a case example to demonstrate the applicability to achieve a safe and ergonomic change in the work process. The approach included the ergonomics assessment through biomechanical compatibility and anthropometry to determine the desired dimensions of the designed work aid to improve the human-machine interface of the lowest level primitive of a tester equipment which reduces the ergonomic and safety risks to As Low As Reasonably Practicable (ALARP) when performing the activities, and at the same time also increasing the production capacity.

Index Terms: Biomechanics, Design, Human Factors and Ergonomics.

<p>I. INTRODUCTION</p> <p>Safety by Design approaches the safety and health concerns proactively as the main factor to be addressed by the design and development processes. The aim in the approach of Safety by Design is to anticipate and prevent injury to the worker when using or exposed to the implemented</p>	<p>with potential signs of WRMSD reported was back-related issues with a total of 115 documented cases, and a total of 433 lost workdays in medical leave.</p> <p style="text-align: right; font-size: small;">Table 1 Documented reported cases to Marine MSB in-house clinic from June 2021 to May 2022.</p>
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“Life is about its journey, not its destination...” – every motivational speaker ever

The Essentials Pillars of Wellbeing



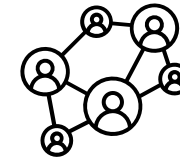
Mental (mind)

- Emotional
- Psychological
- Psychosocial
 - Financial
- Cognitive
 - Intellectual



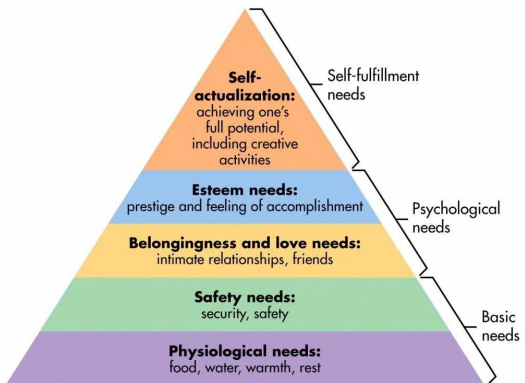
Physical (body)

- Physiological
 - Injury
 - Physical Disability
 - Terminal Illness



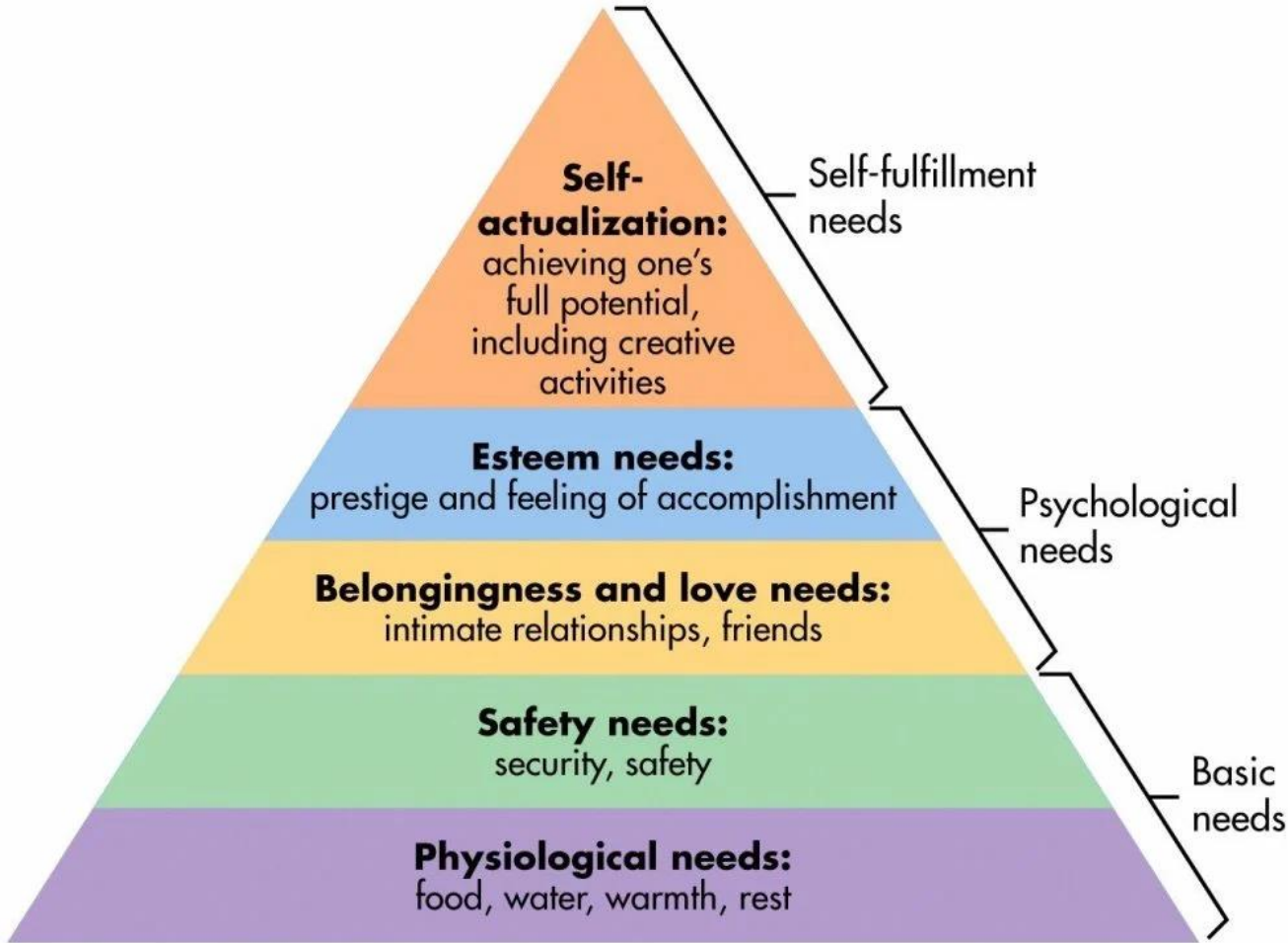
External (surrounding)

- Social
- Occupational






Maslow's Hierarchy of Needs

The Essentials Pillars of Wellbeing



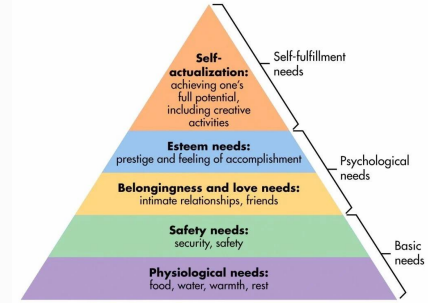
Maslow's Hierarchy of Needs

		
<p>Mental (mind)</p> <ul style="list-style-type: none"> • Emotional • Psychological • Psychosocial <ul style="list-style-type: none"> ▪ Financial • Cognitive <ul style="list-style-type: none"> ▪ Intellectual 	<p>Physical (body)</p> <ul style="list-style-type: none"> • Physiological <ul style="list-style-type: none"> ▪ Injury ▪ Physical Disability ▪ Terminal Illness 	<p>External (surrounding)</p> <ul style="list-style-type: none"> • Social • Occupational

Wellbeing is a **Leading** Indicator

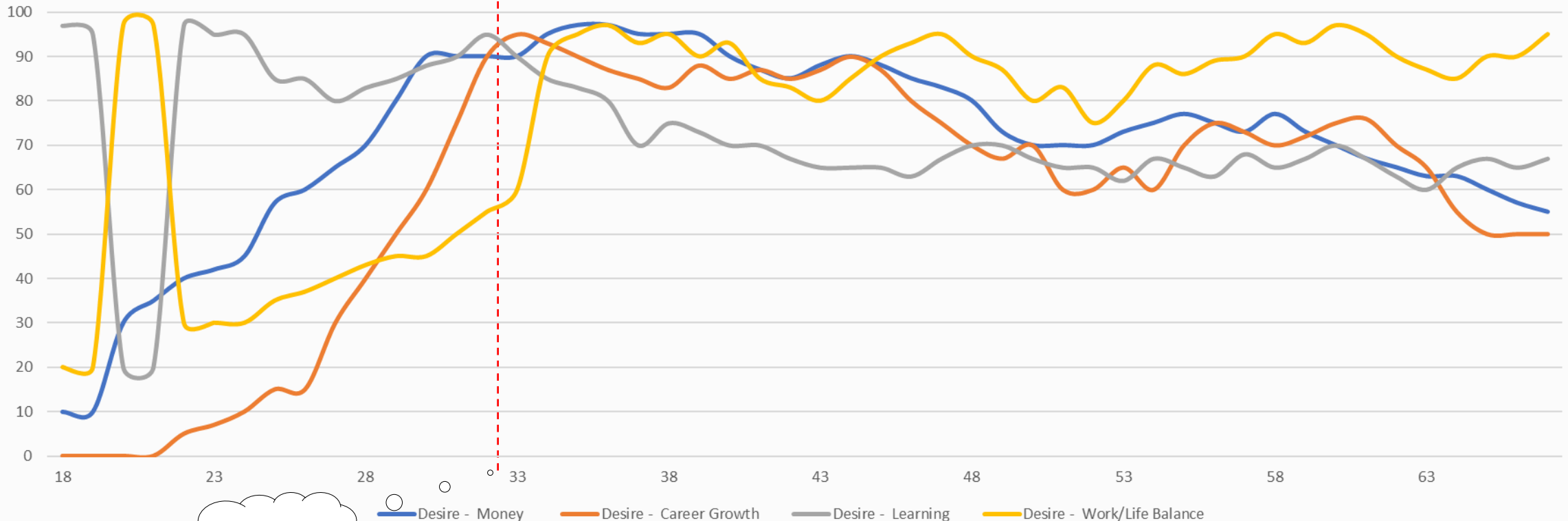


What Can Organizations Do?



"People want different things at different stages of their life.. It is your job to figure what Daryl wants at 18, 27, 35. He is not going to want the same thing at 18 when he is 30"

Desires



Me

— Desire - Money
 — Desire - Career Growth
 — Desire - Learning
 — Desire - Work/Life Balance

Takeaway

1. Workplace wellbeing is a leading indicator on performance
2. EHS can deliver more than just workplace safety and health with the understanding of effects of wellbeing
3. Wellbeing can be fostered in a workplace or organizational setting by understanding people's motivation by meeting their needs

Thank you!

