Investigating Empathy in Software Engineering Based on the Practitioners' Perspective

Lidiany Cerqueira Santos

Advisor: Manoel Mendonça

Co-advisor: José Amancio Macedo Santos

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Ficha do trabalho*

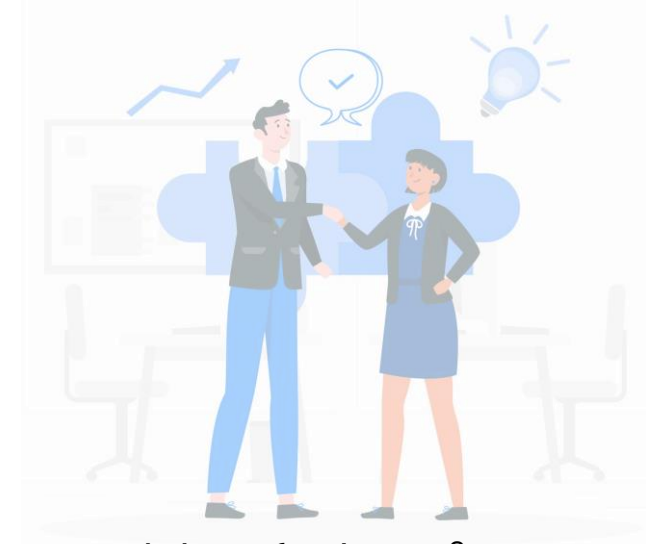|	
Título	Investigating Empathy in Software Engineering Based on the Practitioners' Perspective
Nome	Lidiany Cerqueira Santos
Curso	Doutorado
Orientador(es)	Manoel Mendonça José Amancio Macedo Santos
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Bolsista?	Não

Context

- Human aspects of practitioners have a strong influence on software engineering (SE).[1]

- Studying human factors is crucial for understanding judgments and decisions made by software practitioners, as they can directly affect software quality.[1]

- Research on human factors in SE is still underrepresented. [1]

- Empathy is one of the aspects influencing software development activities.[2]

What is Empathy?

- The ability to
  - understand others,
  - take an active interest in them,
  - recognize and respond to changes in their emotional states, and understand their feelings.[3]

- It is required to understand other people's emotions, feelings, and perspectives. [3]

- It is a critical ability for effective communication.[4]

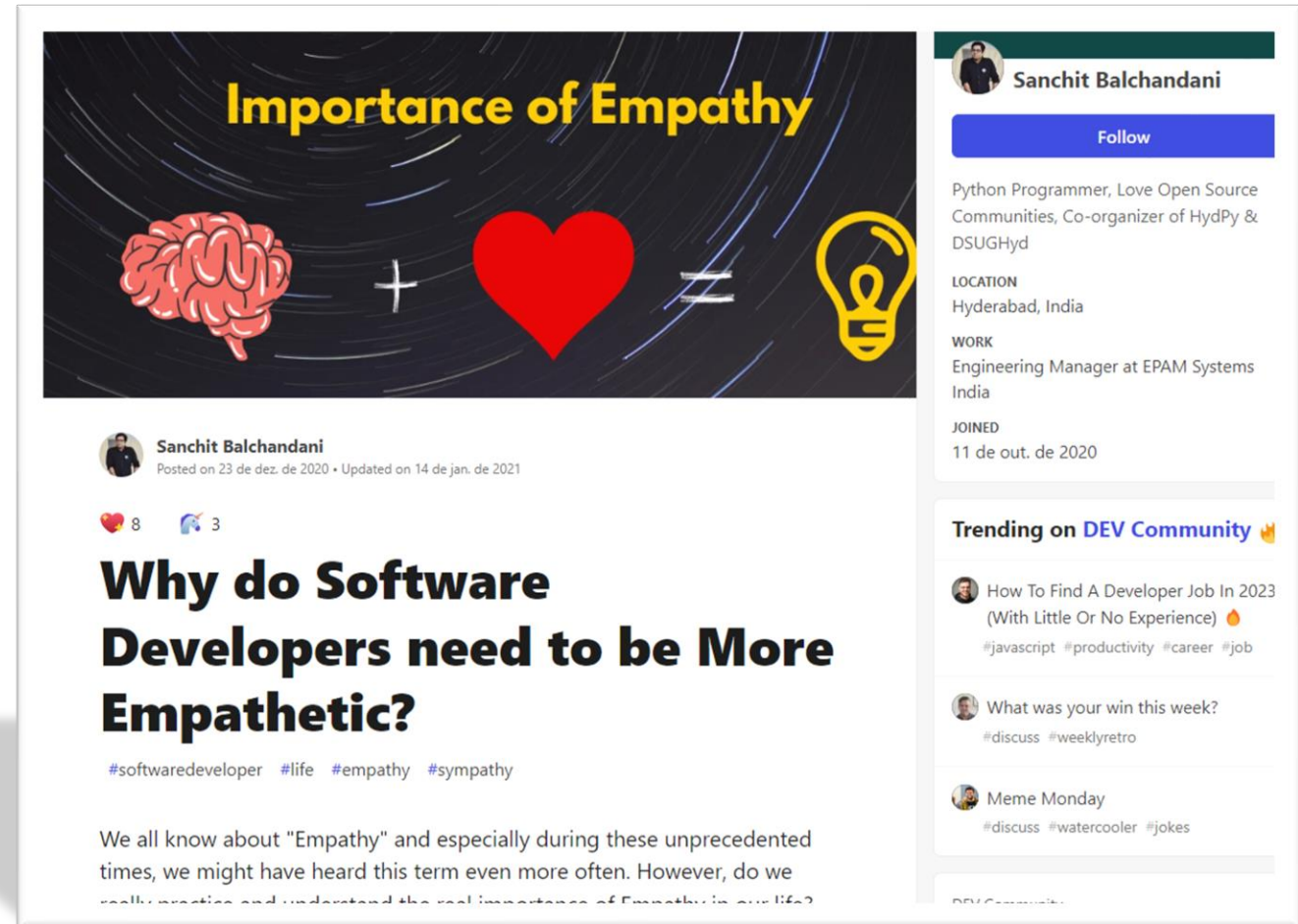- It is still an overlooked topic in SE research. [5]

Empathy in professional practice

PRACTITIONERS	TAKEAWAYS
Nurses	The importance of empathy has been explored for some time in nursing literature. It is fundamental to nursing practice.[6]
Physicians	Empathy plays a critical role in the physician-patient relationship and has a positive impact on health outcomes.[7]
Social workers	Empathy is critical for social workers. Emphasizes the need to take action and ways for practitioners to develop empathy.[8]
Engineers	The model of empathy in engineering conceptualizes empathy as a skill, a practice orientation, and a professional way of being.[9]

Motivation

- Lack of research addressing empathy in SE.

- Public discussions about the importance of empathy in SE.

- Lack of conceptual clarity regarding the role of empathy in SE.

- Gap between research and practice.

- Need to understand the impact of empathy in SE.

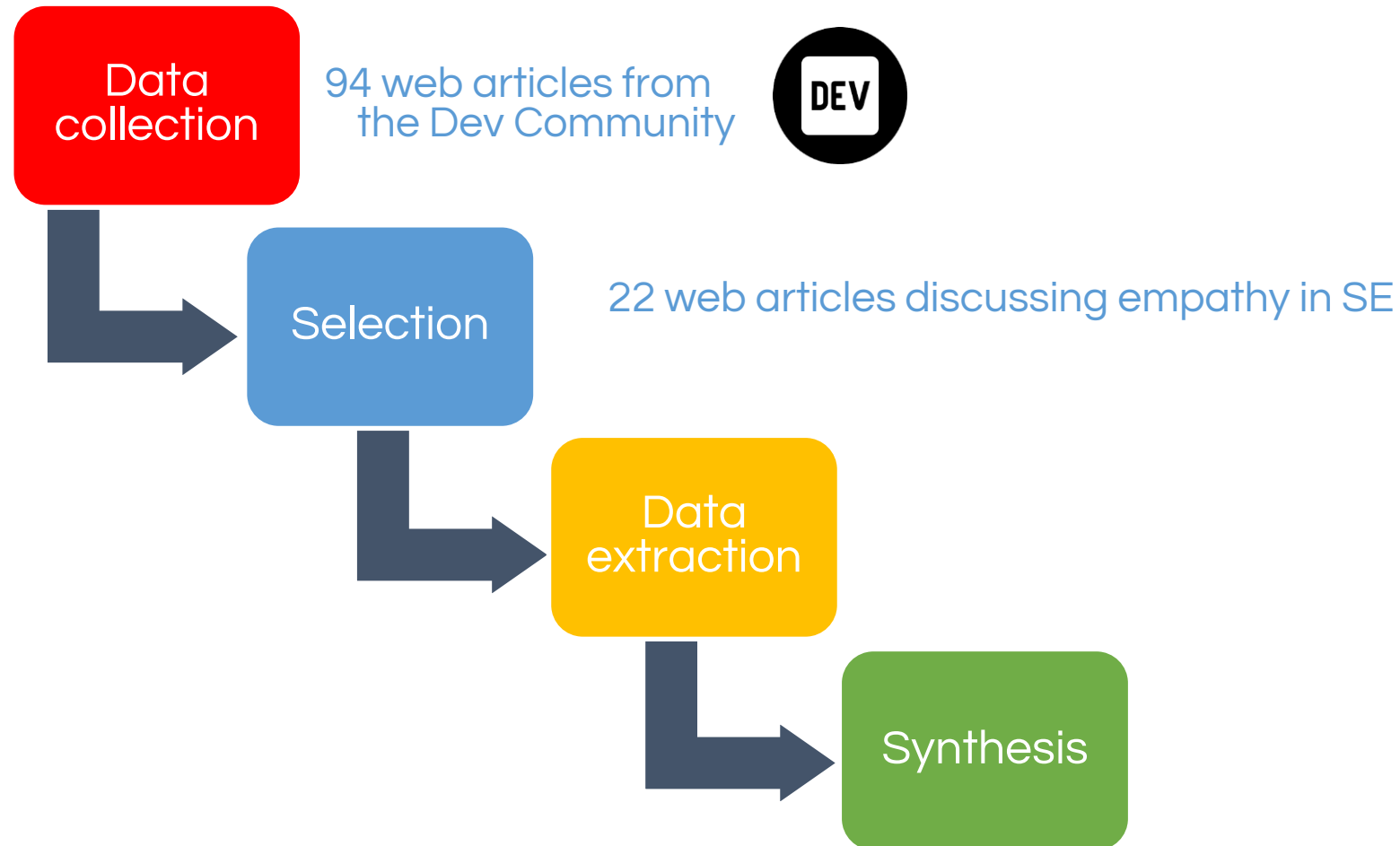[Why do Software Developers need to be More Empathetic?](#) [10]

Goals

- Build a **framework** to **support empathetic practices** in **software engineering activities.**

- Investigate the **meaning** and **value** of empathy for software practitioners, **how they apply it,** and the **effects** of **empathic practices** in software engineering.

Research questions

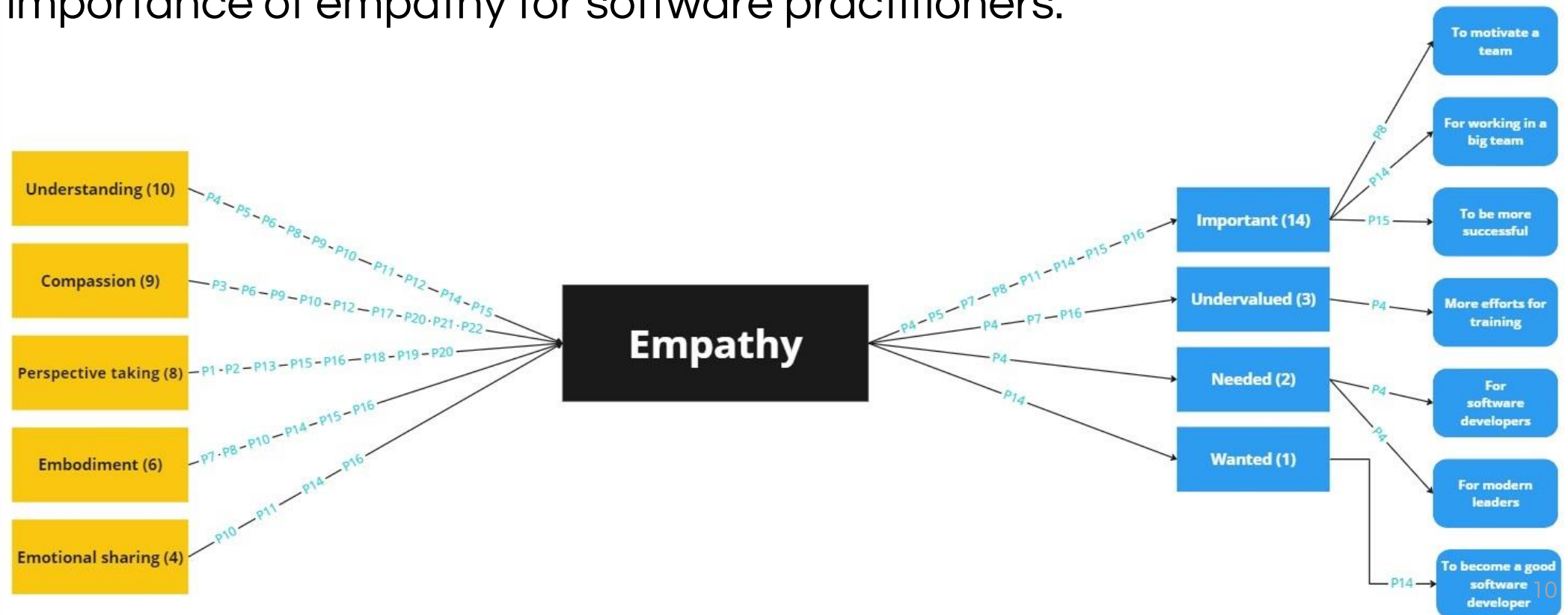| ID	RQ
RQ1	What is the meaning of empathy for software practitioners?
RQ2	What is the value of empathy for software practitioners?
RQ3	In which SE activities empathy can be applied?
RQ4	How to practice empathy in SE?
RQ5	What are the effects of practicing empathy in SE?

Study 1: A Thematic Synthesis on Empathy in Software Engineering based on the Practitioners' Perspective

Data collection

94 web articles from the Dev Community

DEV

Selection

22 web articles discussing empathy in SE

Data extraction

Synthesis

Results

- Empathy has different meanings for software practitioners.
- A body of knowledge organized in a conceptual map of the meaning and importance of empathy for software practitioners:
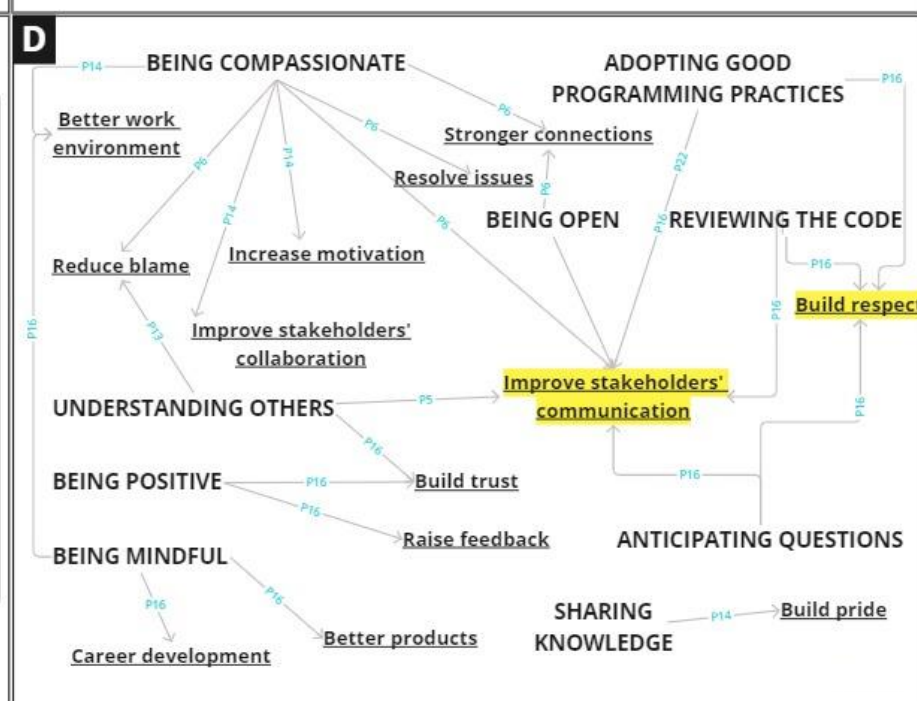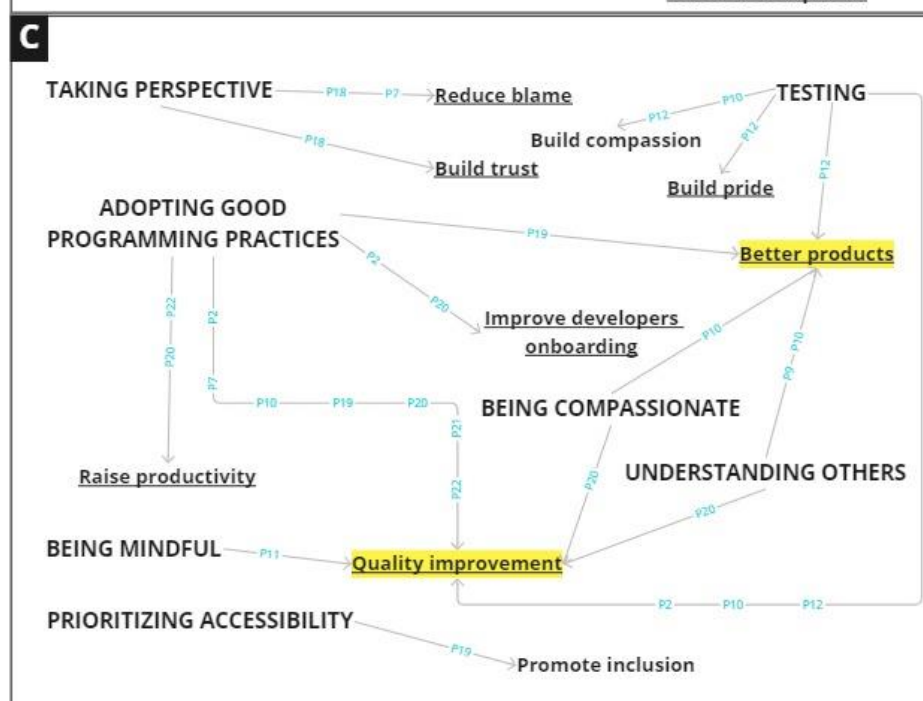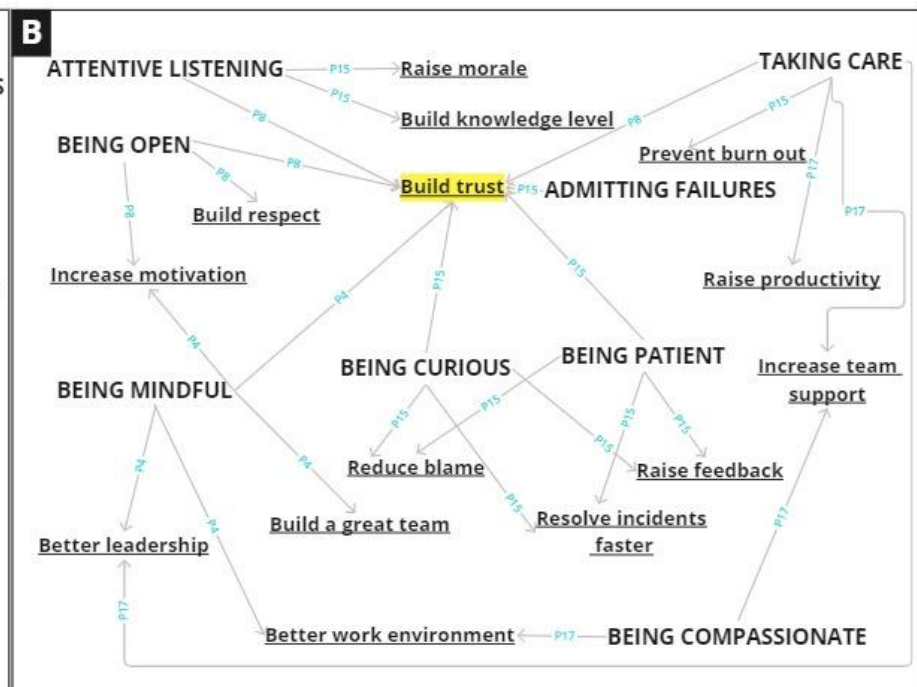
Results

(A) Communication and collaboration

(B) Management and leadership

(C) Coding

(D) Code review

Schedule

YEARS	ACTIVITIES	PUBLICATIONS
2021	Research on human aspects in SE	The who, what and how of the current research at the Brazilian Symposium on Software Engineering – SBES 2022.[11]
2022	Study 1: Research on empathy in SE	A Thematic Synthesis on Empathy in Software Engineering based on the Practitioners' Perspective – SBES 2023.[2] Distinguished paper @ 37th Brazilian Symposium on Software Engineering (SBES). Empathy and its Effects on Software Practitioners' Well-being and Mental Health - (Submitted – IEEE Software 10/23)
2023	Study 2: Collect data from other sources of Grey Literature to refine the results	Paper - Study 2
2024	Qualification Study 3: a survey to empirically assess the framework	Paper - Study 3
2025	Defense	Paper - Framework

Any questions?

lidiany.cerqueira@ufba.br

Thanks!

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