

Sleep, Health, and Gender Study

Caroline El Jazmi, Evan Chard, and Andy Comfort



Overview

- **Goal**
ID patterns in specific variables impact on sleep health across 2 genders (male/female)
- **Implications**
Findings could inform strategies for healthy sleep routines and ID vulnerable gender segments

Objective



- Tom and David :)
- **Health Care Professionals**
May guide treatment strategies or research
- **General Public**
Interest in improving or understanding their own relationship with sleep

Target Audience



- Sleep Health dataset
- Schema and Diagrams
- Normalization Proof
- Front-end interface that facilitates data filtration

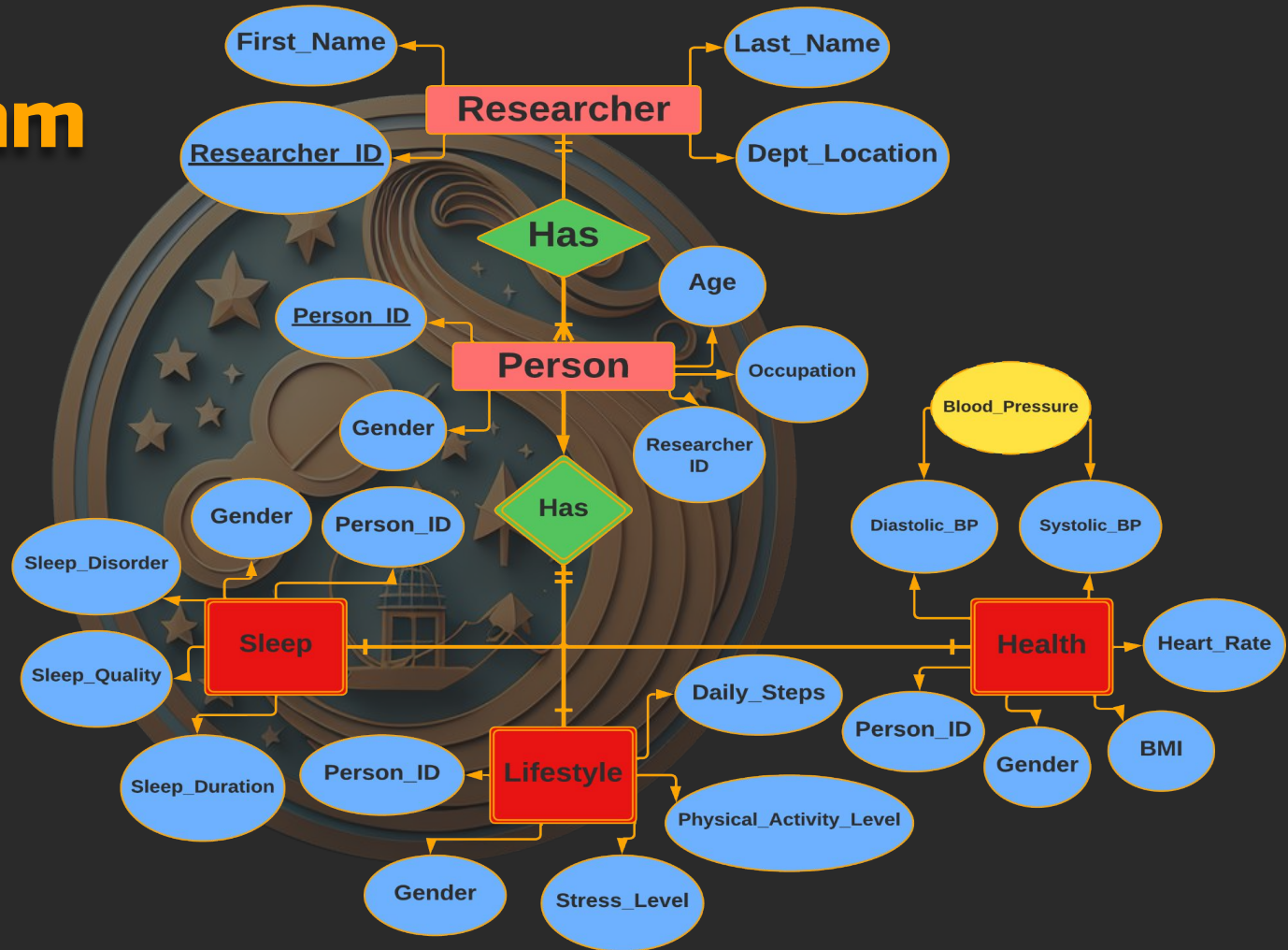
Main Features



Prototype



ER Diagram



Relational Schema

RESEARCHER		
PK	<u>Researcher_ID</u>	<u>INTEGER</u>
	First_Name	VARCHAR(45)
	Last_Name	VARCHAR(45)
	Dept_Location	VARCHAR(45)

PERSON		
PK	<u>Person_ID</u>	<u>INTEGER</u>
	Gender	VARCHAR(6)
	Age	INTEGER
	Occupation	VARCHAR(100)
FK	Res_ID	INTEGER

HEALTH		
FK	Person_ID	INTEGER
	Gender	VARCHAR(6)
	BMI	VARCHAR(25)
	Heart_Rate	INTEGER
	Systolic_BP	INTEGER
	Diastolic_BP	INTEGER
	Blood_Pressure	VARCHAR(12)

LIFESTYLE		
FK	Person_ID	INTEGER
	Gender	VARCHAR(6)
	Stress_Level	INTEGER
	Daily_Steps	INTEGER
	Physical_Activity	INTEGER

SLEEP		
FK	Person ID	INTEGER
	Gender	VARCHAR(6)
	Sleep_Disorder	VARCHAR(20)
	Sleep_Duration	NUMERIC
	Sleep_Quality	INTEGER

Normalization Proof



Researcher

- {Researcher_ID} -> {First_Name, Last_Name, Dept_Location}

Person

- {Person_ID} -> {Gender, Age, Occupation, Res_ID}*

Health

- {Person_ID} -> {Gender, BMI, Heart_Rate, Systolic_BP, Diastolic_BP, Blood_Pressure}

Lifestyle

- {Person_ID} -> {Gender, Stress_Level, Daily_Steps, Physical_Activity}

Sleep

- {Person_ID} -> {Gender, Sleep_Disorder, Sleep_Duration, Sleep_Quality}

Challenges and Future Improvements

Challenge

Translation from Raw SQL Queries to Java Spring Boot's JPA Queries

- Implementing dynamic querying based on specific input parameters.
- Including WHERE clauses to apply filters based on the values (for dropdown options such as gender, Blood pressure, ect)

Improvement

Collecting real sleep and health data while including more genders

- Surveying people for real data instead of using a premade dataset.
- Incorporating a broader range of genders for comparative analysis beyond those initially included in the original dataset.



Thanks!

★ Questions or Comments?

Andy Comfort - acomfort@uw.edu
Caroline El Jazmi - eljazmi@uw.edu
Evan Chard - echard@uw.edu