**D205 Data Acquisition: Performance Assessment**

Arjun Gupta

Student ID: 012296064

MSDA, Western Governors University

A. Do patients with children tend to suffer more from back pain?

1. This question is relevant to hospitals and patients as this would allow doctors and nurses to preemptively avoid back pain by educating patients about the dangers of back pain whether they have children or not.

2. To answer this question, I will use the children column in the patient table found in the medical data database and the back pain column from the mservices csv file. Using these columns, the backpain column will have a varchar data type, while the children column will be an integer.

B. 1. The relationship created between the existing table(patient) and the add-on CSV file (mservices) is a one-to-many relationship. This is because the patient table is associated with multiple other tables (not just the mservices table, but other tables as well).

2. CREATE TABLE mservices (

patient\_id varchar(50),

Services varchar(35),

Overweight varchar(3),

Arthritis varchar(3),

Diabetes varchar(3),

Hyperlipidemia varchar(3),

BackPain varchar(3),

Anxiety varchar(3),

Allergic\_rhinitis varchar(3),

Reflux\_esophagitis varchar(3),

Asthma varchar(3),

PRIMARY KEY (patient\_id),

FOREIGN KEY (patient\_id)

REFERENCES patient (patient\_id)

ON UPDATE no action

ON DELETE no action

);

This SQL statement creates a table allowing us to import the data. Since there is a 1:1 relationship between the mservices table and the patient table, the primary and the foreign key would be patient\_id.

3. [\\copy public.mservices](file://\\copy public.mservices\) (patient\_id, services, overweight, arthritis, diabetes, hyperlipidemia, backpain, anxiety, allergic\_rhinitis, reflux\_esophagitis, asthma) FROM 'C:/Users/LabUser/Desktop/MSERVI~1.CSV' DELIMITER ',' CSV HEADER QUOTE '\"' ESCAPE '''';""

Upon creating the table, this is the SQL statement that would load the data from the mservices CSV file into the table.

C.

SELECT patient.children,

SUM(CASE WHEN mservices.backpain = 'Yes' THEN 1 ELSE 0 END) AS has\_backpain,

SUM(CASE WHEN mservices.backpain = 'No' THEN 1 ELSE 0 END) AS doesnt\_have\_backpain

FROM patient

INNER JOIN mservices ON mservices.patient\_id = patient.patient\_id

GROUP BY patient.children

ORDER BY patient.children ASC;

This SQL statement queries patient and mservices tables by using an inner join to allow us to use the children column in the patient and the backpain column in the mservices. To compare whether having children causes more back pain than not having children, we need to find a way to create one column for patients who have children who do and do not have back pain, as well as patients who do not have children who do and do not have back pain. This will allow us to compare between the two groups easily. To do this, I opted for a case statement as this would allow us to use a conditional to create the necessary columns. It is grouped by the children's column in ascending order, allowing for readability in the queried table.

1. (Link provided for csv seperately)



D. The period for how often the mservices file should be acquired and refreshed in the database for the data to remain relevant would be annual.

* The file does not need to be updated regularly because this trend will not change much daily or even monthly, and the variables taken do not change often (number of children and back pain).

E.

<https://wgu.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=de04fca5-d97d-4b99-a04d-b1950176762b>

F.

* Launch School. (n.d.). *Creating multiple tables and table relationships*. Table Relationships. <https://launchschool.com/books/sql/read/table_relationships>
* Sewell, W. (n.d.). *D205 SQL Sunday Presentation*. D205 SQL Sunday Presentation . <https://wgu.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=96313931-aed9-4cdc-86fe-b02800e4f5df>