Hey Kiddo™
Talk App

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MILGARD
SCHOOL OF BUSINESS
UNIVERSITY of WASHINGTON | TACOMA

About HeyKiddo

- A technology that builds social - emotional learning (SEL) skills in children ages 5-11 and their grownups
- Current HeyKiddo Talk is a parent coaching subscription service delivered via text.
- Current HeyKiddo Huddle is a 15-minute a day, no-prep SEL curriculum for educators/homeschooling parents.
- New HeyKiddo Talk App personalizes the SEL journey and red flags emerging mental health issues for early intervention.

Project Objectives

- Develop an algorithm collecting/ segmenting data on social-emotional deficits
- Design template required for data collection post beta launch of the HeyKiddo App
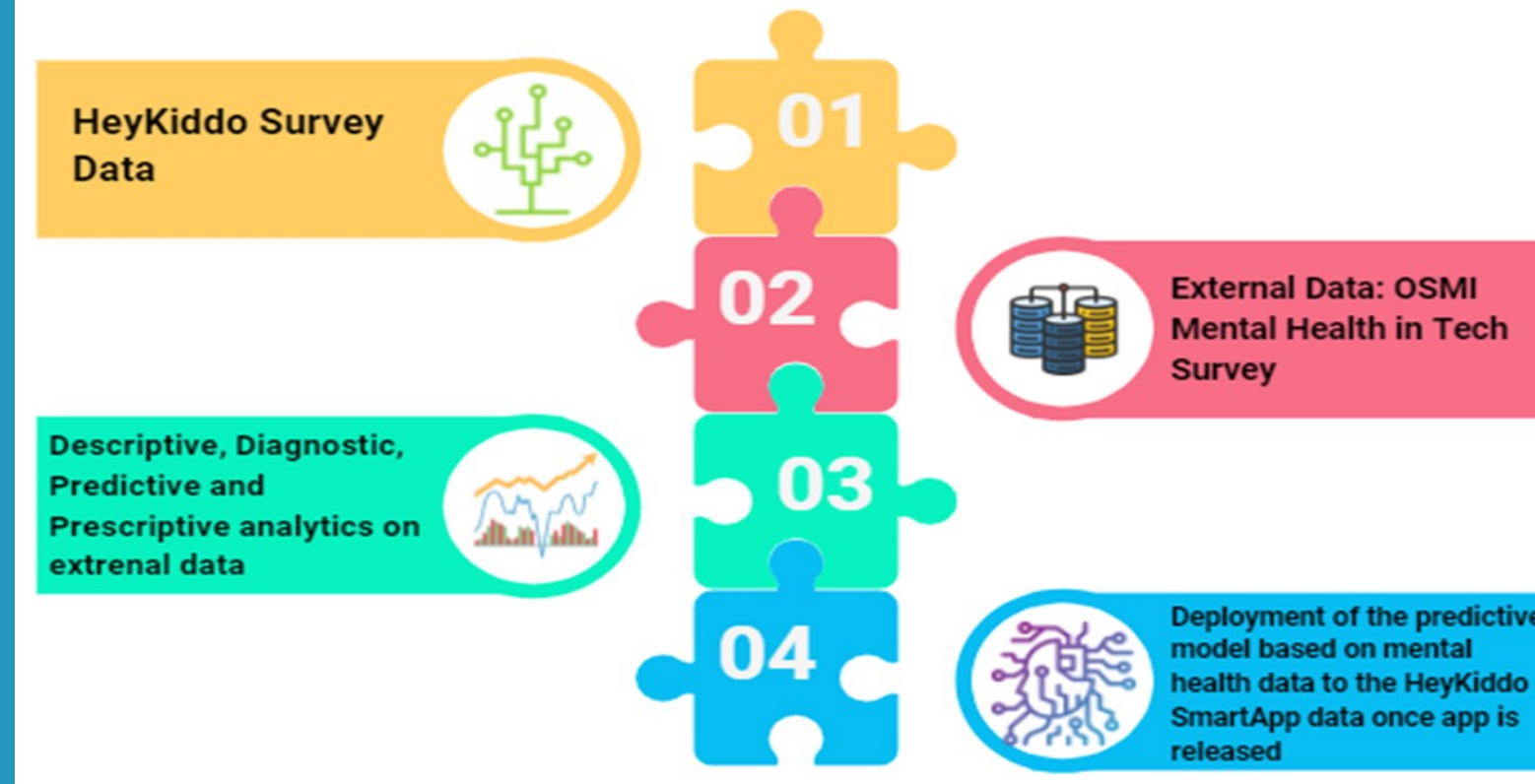- Red flag scenarios which require immediate intervention based on diagnostic assessment

HeyKiddo Usability Survey Analysis (sample)
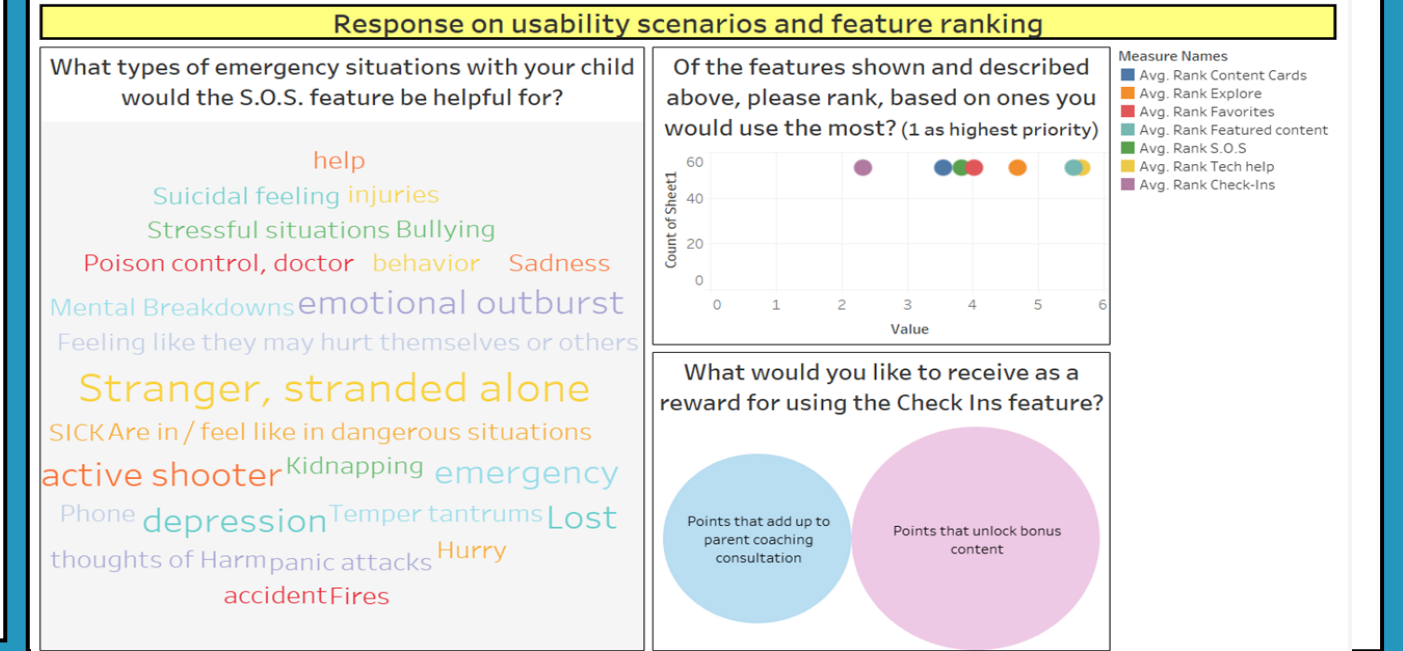
Dataset for Analytics
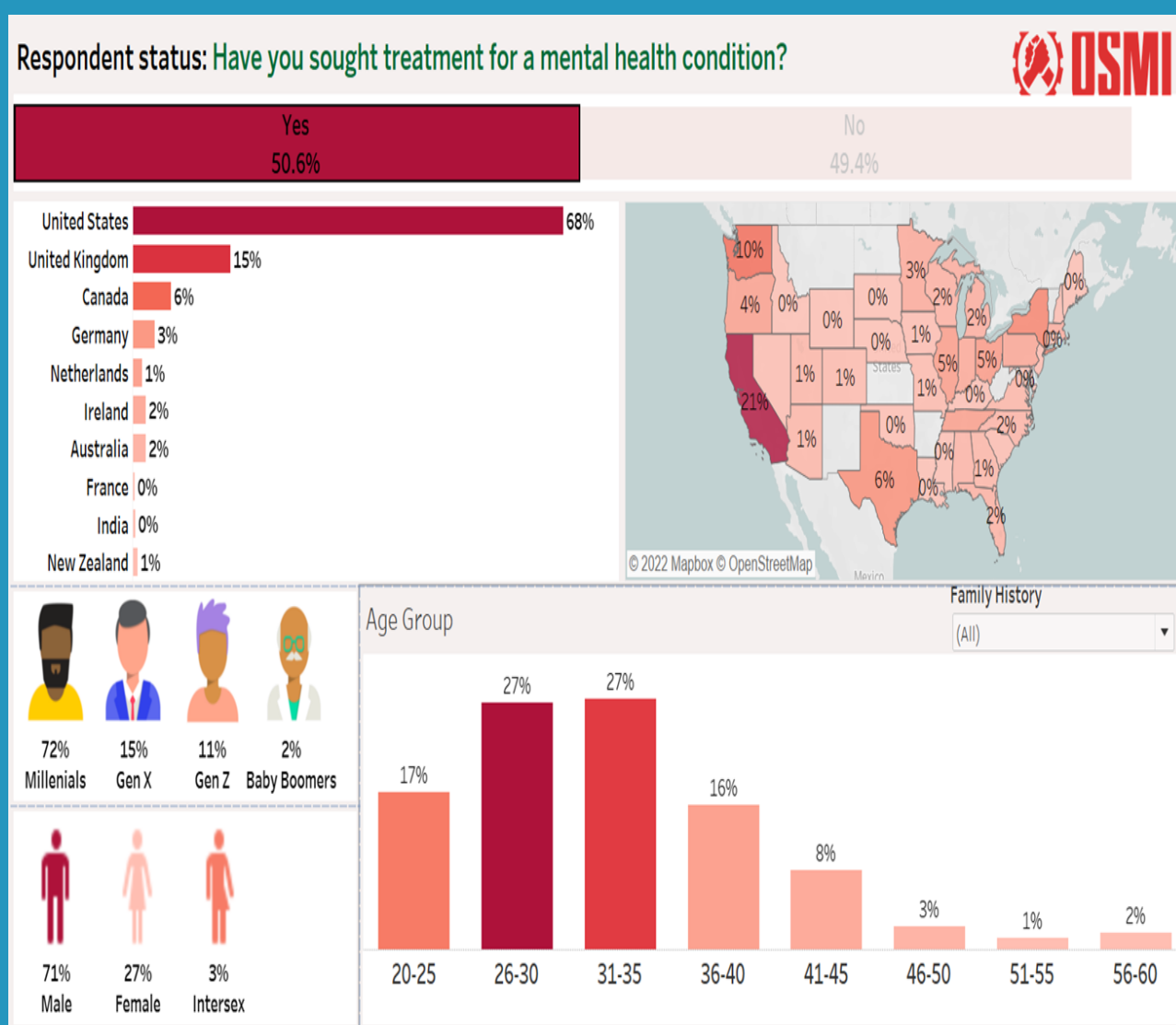
OSMI survey on Mental Health in Tech Industry

Research Question: What factors should an employer in tech industry focus on to promote mental health treatment?
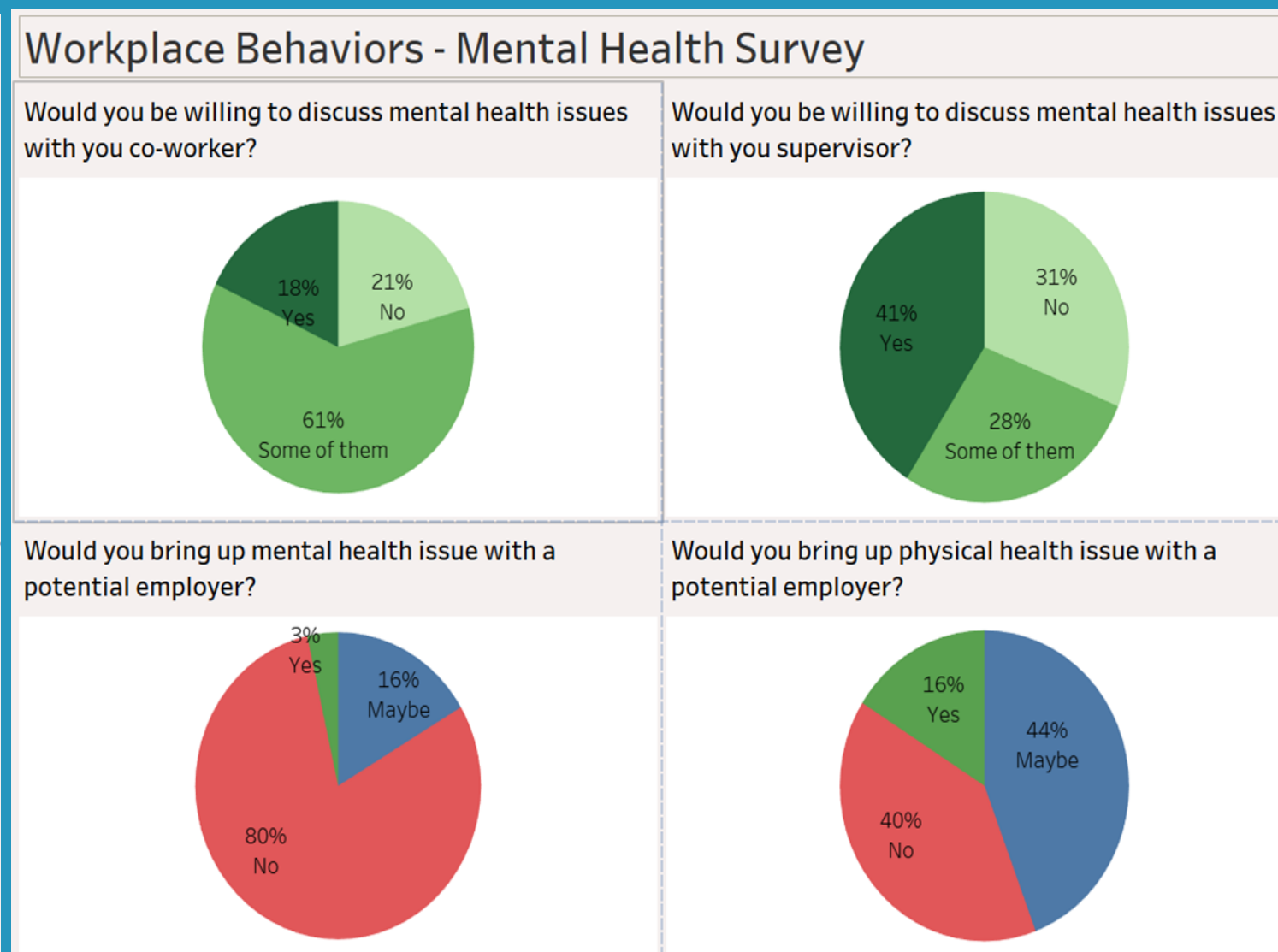

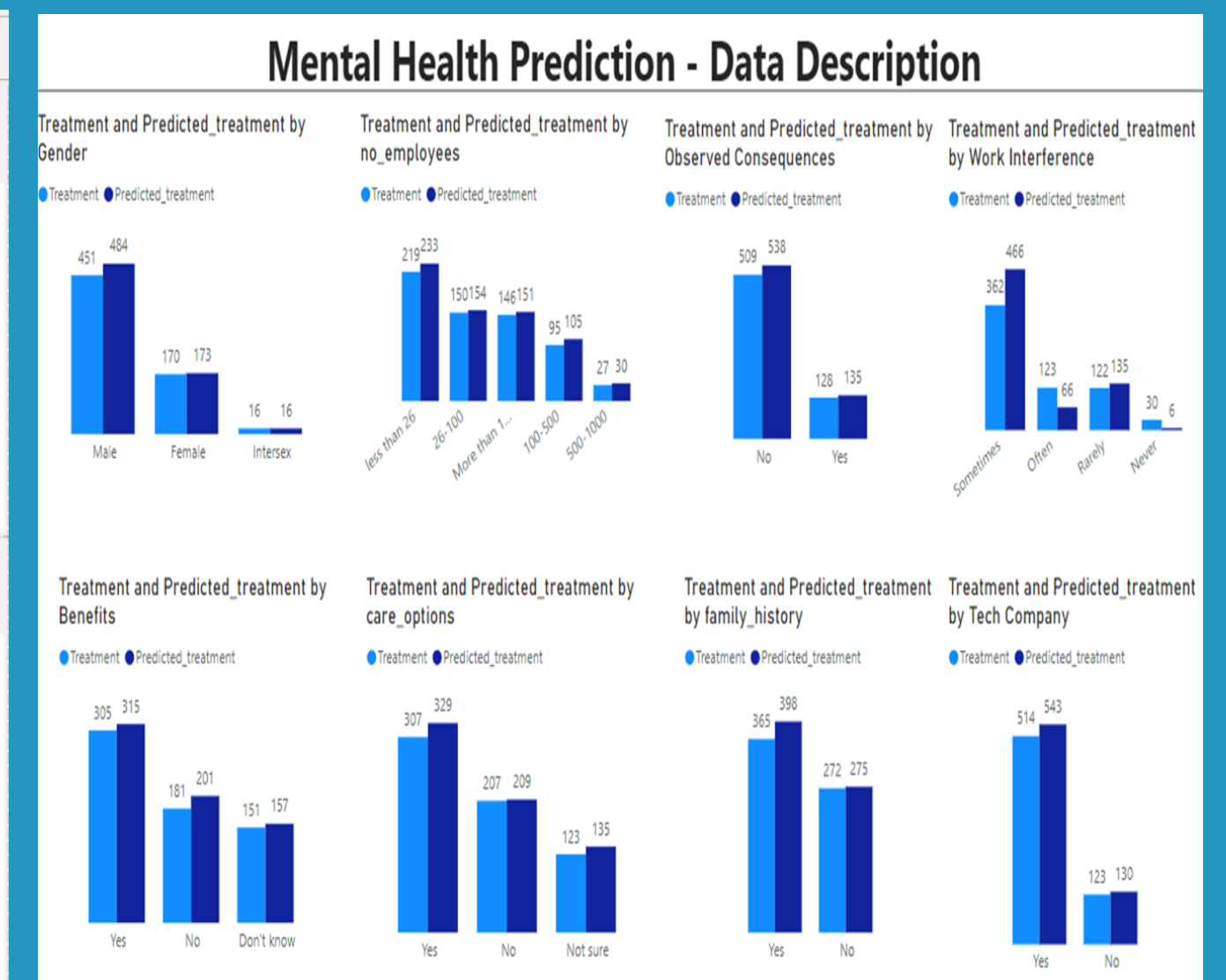01 — HeyKiddo Survey Data

02 — External Data: OSMI Mental Health in Tech Survey

03 — Descriptive, Diagnostic, Predictive and Prescriptive analytics on external data

04 — Deployment of the predictive model based on mental health data to the HeyKiddo SmartApp data once app is released

Tools Used

tableau · Power BI · jupyter · python · Azure Machine Learning · Lucidchart · Excel · R Programming

Descriptive Analytics

Diagnostic Analytics

Workplace Behaviors - Mental Health Survey

Would you be willing to discuss mental health issues with you co-worker? — 21% No, 61% Some of them, 18% Yes

Would you be willing to discuss mental health issues with you supervisor? — 31% No, 28% Some of them, 41% Yes

Would you bring up mental health issue with a potential employer? — 16% Maybe, 80% No, 3% Yes

Would you bring up physical health issue with a potential employer? — 16% Yes, 44% Maybe, 40% No

Predictive Analytics

Mental Health Prediction - Data Description

Cognitive Analytics

	method	cv score	mean score	std score	recall score
0	Logistic Regression	[0.91111, 0.91011, 0.91011, 0.91011, 0.88764]	0.905818	0.009097	0.858639
1	Decision Tree Classifier	[0.82222, 0.7191, 0.79775, 0.73034, 0.76404]	0.766692	0.039095	0.727749
2	KNN Classifier	[0.58889, 0.67416, 0.66292, 0.67416, 0.67416]	0.654856	0.033270	0.612565
3	Random Forest Classifier	[0.93333, 0.94382, 0.8764, 0.93258, 0.88764]	0.914757	0.027254	0.842932
4	Ada Boost Classifier	[0.88889, 0.88764, 0.88764, 0.88764, 0.88764]	0.887890	0.000499	0.848168
5	Gradient Boosting Classifier	[0.94444, 0.92135, 0.85393, 0.88764, 0.88764]	0.899001	0.031157	0.837696
6	XGB Classifier	[0.91111, 0.85393, 0.80899, 0.82022, 0.86517]	0.851885	0.036141	0.837696
7	Support Vector Machine	[0.97778, 0.96629, 0.94382, 0.96629, 0.93258]	0.957353	0.016575	0.937173

Feature	Score
work_interfere	0.328042
family_history	0.015873
Gender	0.007937
supervisor	0.007937
Age	0.002646
care_options	0.002646
seek_help	0.002646
obs_consequence	0.002646

Findings & Recommendations

1. Type of employment (self or not) does not largely help to ascertain whether a person is seeking mental treatment or not.
2. Family history plays a significant role in determining mental health treatment.
3. Availability of resources to deal with mental health issues in a company plays a major role in the determination of whether its employees require mental health treatment.
4. Awareness among employees on availability of resources is also pertinent while making predictions on mental health treatment.

01 Predictive Model: Deployment — Deployed the predicted model and created automated Power BI dasboard to generate key insights from the predictive model that can be used to create customized solutions for the app users and review the statistics over time.

02 Prescriptive & Cognitive Analytics — Created a cognitive solution by deploying the Azure ML model to predict the recommended mental health treatment based on preferred attributes

03 Data Visualization — Designed a storyboard with the existing survey data for understanding the user base for further app improvement and development.

04 Data Management — Created data management plan for the client to understand the data flow with recommended attributes which resonates with the scope of the objective