WARBY PARKER PROJECT

Analyze Data With SQL

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DATABASE SCHEMA

SURVEY	
Question	TEXT
User_id	TEXT
Response	TEXT

QUIZ	
User_id	TEXT
Style	TEXT
Fit	TEXT
Shape	TEXT
Color	TEXT

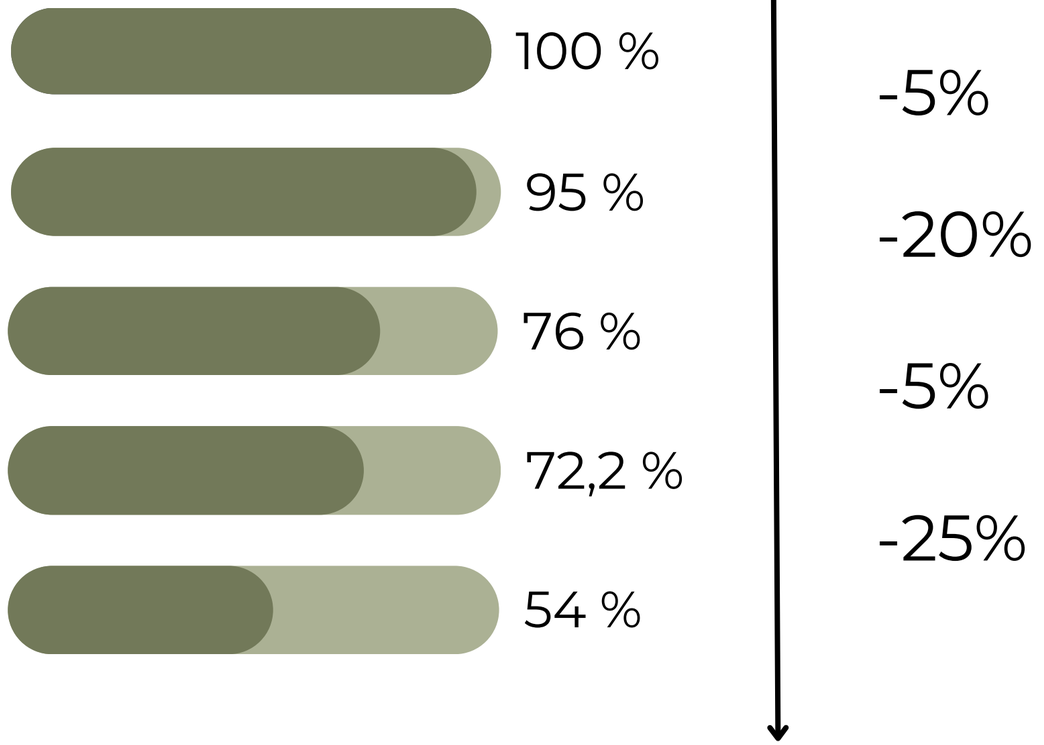
HOME_TRY_ON	
User_id	TEXT
Number_of _pairs	TEXT
Address	TEXT

PURCHASE	
User_id	TEXT
Product_id	INTEGER
Style	TEXT
Model_name	TEXT
Color	TEXT
Price	INTEGER

QUIZ FUNNEL

```
SELECT question,
   COUNT(DISTINCT user_id) AS 'total'
FROM survey
GROUP BY question;
```

QUESTION	TOTAL
What are you looking for?	500
What's your fit?	475
Which shapes do you like?	380
Which colors do you like?	361
When was your last eye exam?	270



KEY INSIGHTS FROM QUIZ FUNNEL

- Only 54% of participants complete all 5 questions of the quiz;
- The most challenging questions are #3 and #5 with a drop rate of 20% and 25% respectively;
- Customers tend to be dubious about their own preferences - probably, they would rather prefer to be advised a shape based on their previous answers;
- Questions like #5 could be too specific, as the purchase of sunglasses does not require eye exam.

```
WITH funnel AS (
  SELECT DISTINCT q.user_id,
   CASE
    WHEN h.user_id IS NOT NULL
    THEN 'True'
    ELSE 'False'
    END AS 'is_home_try_on',
   CASE
    WHEN h.number_of_pairs IS NULL
    THEN 'Null'
    ELSE h.number_of_pairs
    END AS 'number_of_pairs',
   CASE
    WHEN p.user_id IS NOT NULL
    THEN 'True'
    ELSE 'False'
    END AS 'is_purchase'
FROM quiz AS 'q'
LEFT JOIN home_try_on AS 'h'
 ON q.user_id = h.user_id
LEFT JOIN purchase AS 'p'
 ON p.user_id = q.user_id)
SELECT *
FROM funnel
LIMIT 5;
```

PURCHASE FUNNEL

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	True	3 pairs	False
291f1cca-e507-48be-b063-002b14906468	True	3 pairs	True
75122300-0736-4087-b6d8-c0c5373a1a04	False	Null	False
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	True	5 pairs	False
ce965c4d-7a2b-4db6-9847-601747fa7812	True	3 pairs	True

```
WITH q AS (
  SELECT '1_quiz' AS stage,
COUNT(DISTINCT user_id) as 'total'
  FROM quiz
),
h AS (
  SELECT '2_home_try_on' AS stage,
COUNT(DISTINCT user_id) AS 'total'
  FROM home_try_on
),
p AS (
  SELECT '3_purchase' AS stage,
COUNT(DISTINCT user_id) AS 'total'
  FROM purchase
)
SELECT *
FROM q
UNION ALL SELECT *
FROM h
UNION ALL SELECT *
FROM p;
```

CONVERSION RATES

stage	total
1_quiz	1000
2_home_try_on	750
3_purchase	495

49,5% of all quiz participants make a purchase;

66% of customers who had a home trial make a purchase.

```
WITH base_table AS (
  SELECT DISTINCT q.user_id,
  h.user_id IS NOT NULL AS
'is_home_try_on',
  h.number_of_pairs AS 'AB_variant',
  p.user_id IS NOT NULL AS 'is_purchase'
 FROM quiz q
 LEFT JOIN home_try_on h
  ON q.user_id = h.user_id
 LEFT JOIN purchase p
  ON p.user_id = q.user_id
)
SELECT AB_variant,
 SUM(CASE
     WHEN is_home_try_on = 1
     THEN 1
     ELSE 0
     END) 'home_trial',
  SUM(CASE
      WHEN is_purchase = 1
      THEN 1
      ELSE 0
      END) 'purchase'
  FROM base_table
  GROUP BY AB_variant
  HAVING home_trial > 0;
```

A/B TEST

AB_variant	home_trial	purchase	
3 pairs	379	201	53 %
5 pairs	371	294	79,2 %

Delivering 5 pairs for home trial instead of 3 is a successful strategy;

Customers who got 5 pairs for home trial tend to make a purchase 1.5 times more often than those with 3 pairs.

```
SELECT style, COUNT(DISTINCT user_id) AS 'total'
FROM quiz
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```

```
SELECT shape, COUNT(DISTINCT user_id) AS 'total'
FROM quiz
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```

```
SELECT fit, COUNT(DISTINCT user_id) AS 'total'
FROM quiz
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```

```
SELECT color, COUNT(DISTINCT user_id) AS 'total'
FROM quiz
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```

THE MOST COMMON STYLE QUIZ RESULTS

Style: Women's Style

47 %

Shape: Rectangular

40 %

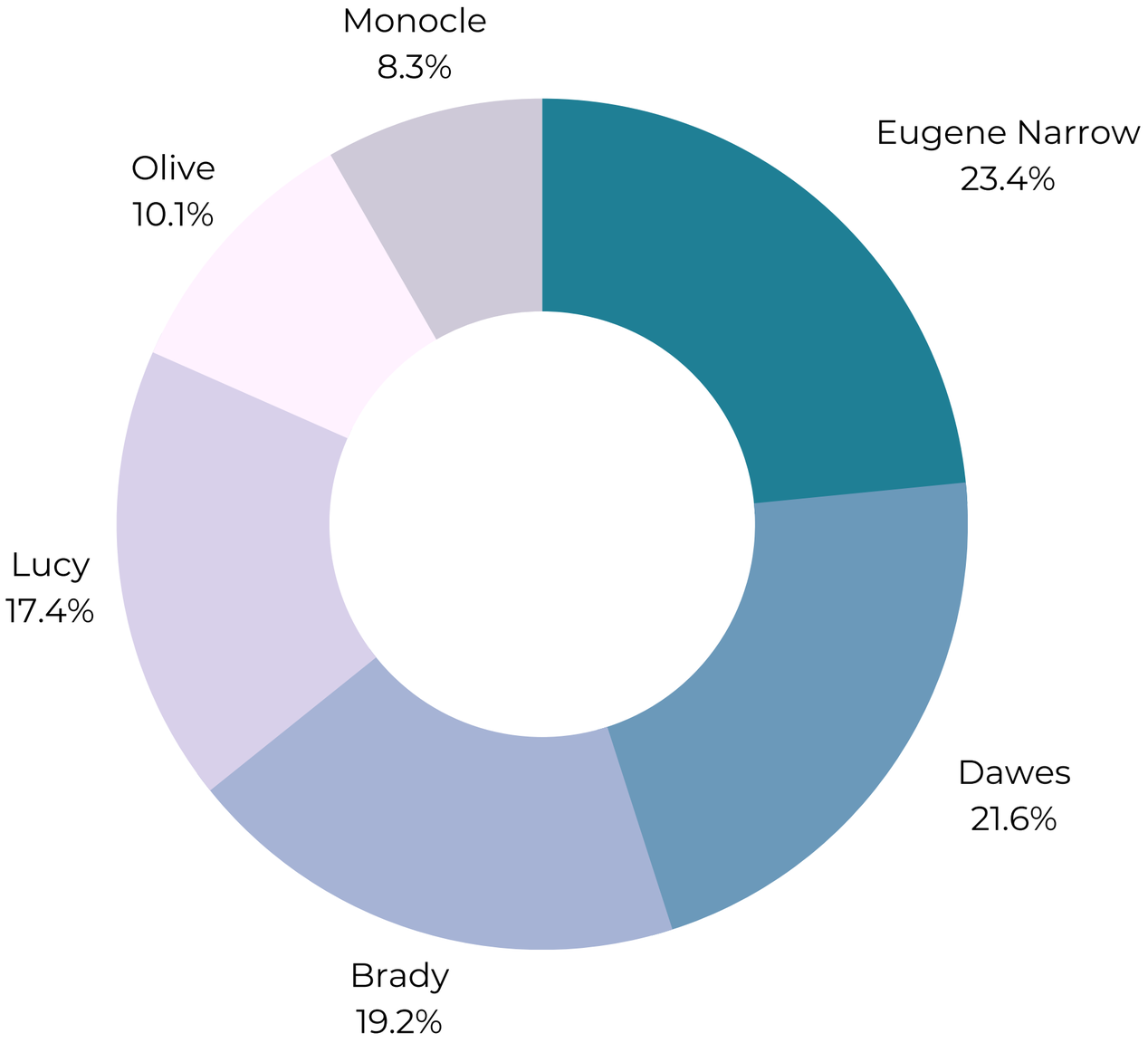
Fit: Narrow

41 %

Color: Tortoise

29 %

THE MOST COMMON PURCHASE



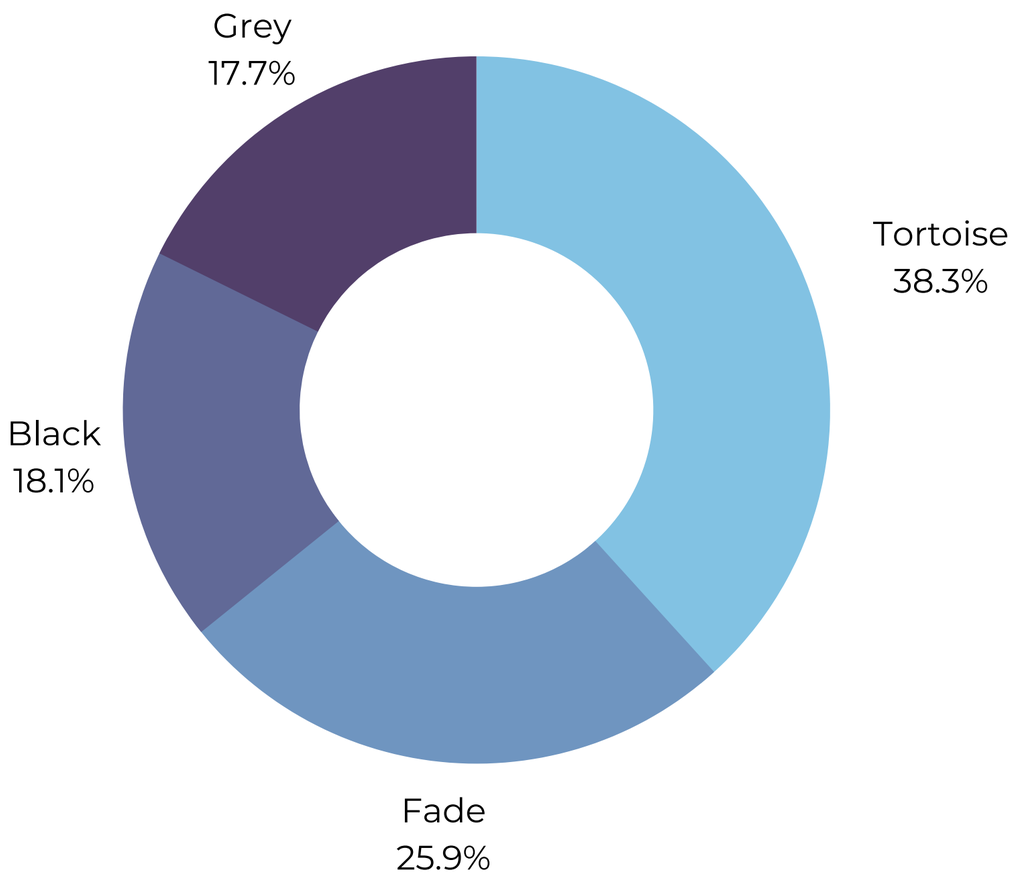

```
SELECT style,
 model_name,
 color,
 COUNT(*) AS 'total'
FROM purchase
GROUP BY 2
ORDER BY total DESC;
```

KEY INSIGHTS FROM COMMON PURCHASE

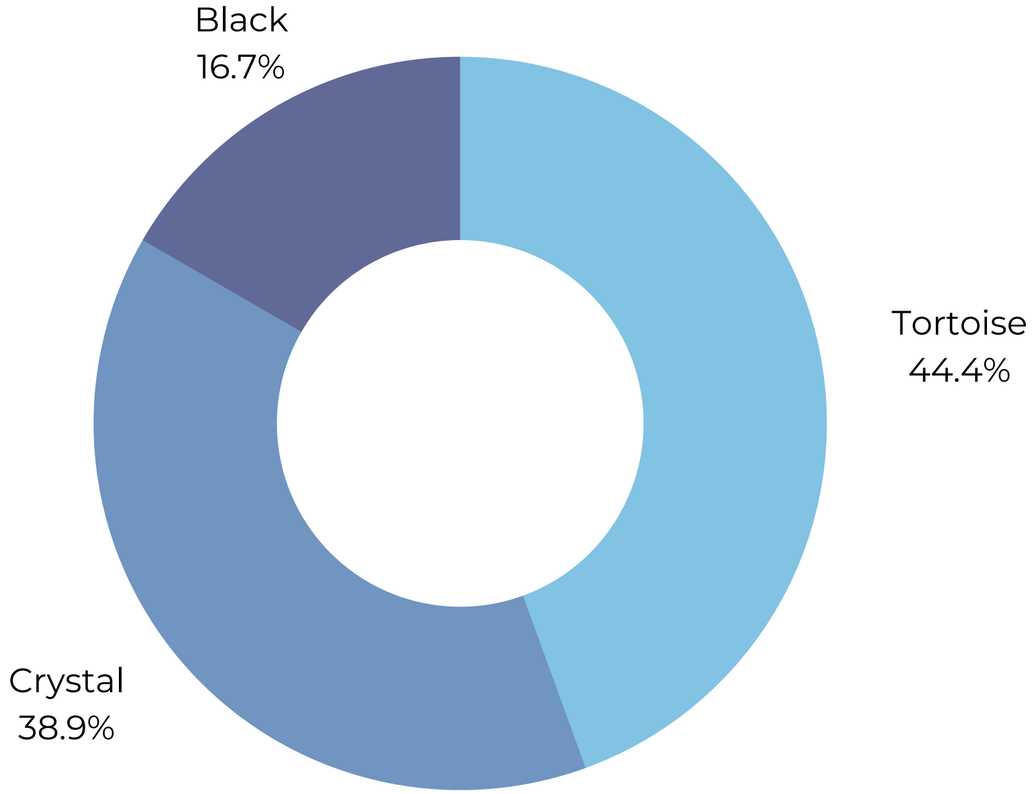
- The target audience of Warby Parker is equally represented by men and women;
- The most popular color is Tortoise;
- The most popular female model is Eugene Narrow; the most popular male model is Dawes.

style	model_name	color
Women	Eugene Narrow	Rosewood Tortoise
Men	Dawes	Jet Black
Men	Brady	Sea Glass Gray
Women	Lucy	Jet Black
Women	Olive	Pearled Tortoise
Men	Monocle	Endangered Tortoise

THE MOST PURCHASED COLOR AMONG MEN AND WOMEN

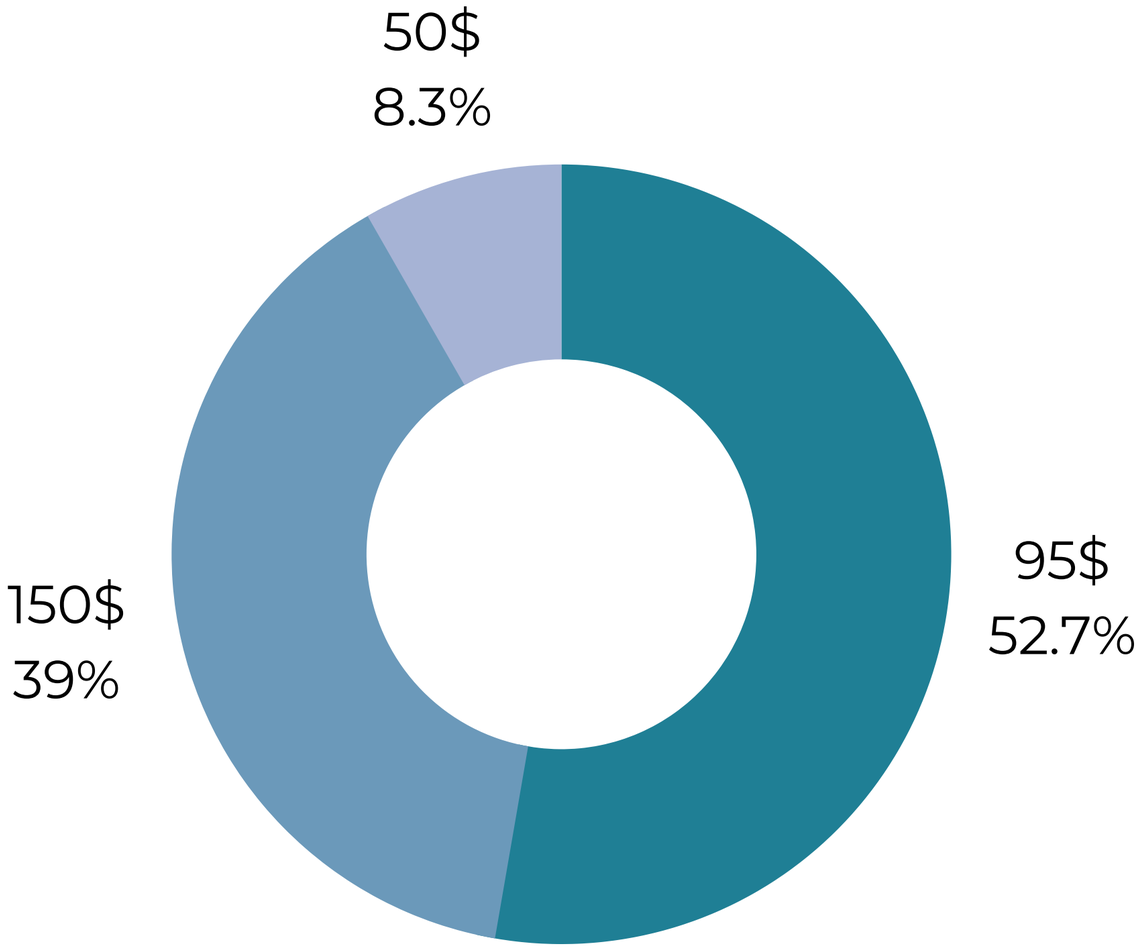


MEN



WOMEN

PURCHASE BY PRICE GROUP



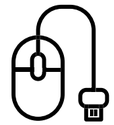

```
SELECT price, COUNT(*) AS 'total'
FROM purchase
GROUP BY 1
ORDER BY 2 DESC;
```

- Budget products turned out to be the least popular;
- The most expensive products account for 39% of all sales.

THE MOST EXPENSIVE MODELS

model_name	color	style	price
Dawes	Driftwood Fade	Men	150
Dawes	Jet Black	Men	150
Lucy	Elderflower Crystal	Women	150
Lucy	Jet Black	Women	150

```
SELECT model_name, color, style, price
FROM purchase
WHERE price = '150'
GROUP BY 1,2,3;
```



As these 4 products account for almost 40% of total sales, it would be benefitial to make these models in the most popular color - tortoise.

ACTIONABLE INSIGHTS

- Questions 3 and 5 of the quiz could be changed to become more general;
- 2/3 of all the customers that received a home trial make a purchase, whereas almost 80% of those receiving 5 pairs to try on, buy an item - a home trial seems to be a successful strategy, especially when the choise is given among 5 models;
- As the most expensive models account for almost 40% of total sales, probably the range of models in this price category should be expanded; it could also be benefitial to produce these models in the most popular color - tortoise.

THANK YOU FOR YOUR ATTENTION!