



# Funnels with Warby Parker

Learn SQL from Scratch  
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# Agenda

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1. Get familiar with Warby Parker
2. What is the Quiz Funnel
3. A/B Testing with Home Try-On Funnel

```
SELECT *
FROM survey
LIMIT 10;
```

From our survey table we can highlight the questions, unique user ids, and responses by each individual who completed a Style Quiz

question	user_id	Response
1. What are you looking for?	005e7f99-d48c-4fce-b605-10506c85aaf7	Women's Styles
2. What's your fit?	005e7f99-d48c-4fce-b605-10506c85aaf7	Medium
3. Which shapes do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Round
4. Which colors do you like?	00a556ed-f13e-4c67-8704-27e3573684cd	Two-Tone
1. What are you looking for?	00a556ed-f13e-4c67-8704-27e3573684cd	I'm not sure. Let's skip it.
2. What's your fit?	00a556ed-f13e-4c67-8704-27e3573684cd	Narrow
5. When was your last eye exam?	00a556ed-f13e-4c67-8704-27e3573684cd	<1 Year
3. Which shapes do you like?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Square
5. When was your last eye exam?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	<1 Year
2. What's your fit?	00bf9d63-0999-43a3-9e5b-9c372e6890d2	Medium

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

A high level overview can show us the number of responses to each question. From the table, we can see the gradual decline of the responses

question	COUNT(DISTINCT user_id)
1. What are you looking for?	500
2. What's your fit?	475
3. Which shapes do you like?	380
4. Which colors do you like?	361
5. When was your last eye exam?	270

*According to Quiz results, 100% of people know what they're looking for!*

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

question	COUNT(DISTINCT user_id)	Percentage Completion
1. What are you looking for?	500	100%
2. What's your fit?	475	95%
3. Which shapes do you like?	380	76%
4. Which colors do you like?	361	72%
5. When was your last eye exam?	270	54%



*When was your last eye exam?*

Being that this typically happens on an annual basis, the low completion percentage can be attributed to not being able to recall or being unsure of their last eye exam.

Take Style Quiz

Home Try-On

Purchase the  
Perfect Glasses

**We used data from our quiz, home\_try\_on, and purchase tables to provide us the key components needed to calculate conversion rates**

```
SELECT *  
FROM quiz  
LIMIT 5;
```

```
SELECT *  
FROM home_try_on  
LIMIT 5;
```

```
SELECT *  
FROM purchase  
LIMIT 5;
```

```
SELECT *
FROM quiz
LIMIT 5;
```

Quiz Table

<b>user_id</b>	<b>style</b>	<b>fit</b>	<b>shape</b>	<b>color</b>
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	Women's Styles	Medium	Rectangular	Tortoise
291f1cca-e507-48be-b063-002b14906468	Women's Styles	Narrow	Round	Black
75122300-0736-4087-b6d8-c0c5373a1a04	Women's Styles	Wide	Rectangular	Two-Tone
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	Women's Styles	Narrow	Square	Two-Tone
ce965c4d-7a2b-4db6-9847-601747fa7812	Women's Styles	Wide	Rectangular	Black

```
SELECT *  
FROM home_try_on  
LIMIT 5;
```

## Home Try On Table

<b>user_id</b>	<b>number_of_pairs</b>	<b>address</b>
d8add87-3217-4429-9a01-d56d68111da7	5 pairs	145 New York 9a
f52b07c8-abe4-4f4a-9d39-ba9fc9a184cc	5 pairs	383 Madison Ave
8ba0d2d5-1a31-403e-9fa5-79540f8477f9	5 pairs	287 Pell St
4e71850e-8bbf-4e6b-accc-49a7bb46c586	3 pairs	347 Madison Square N
3bc8f97f-2336-4dab-bd86-e391609dab97	5 pairs	182 Cornelia St



```
SELECT *
FROM purchase
LIMIT 5;
```

Purchase Table

user_id	product_id	style	model_name	color	Price
00a9dd17-36c8-430c-9d76-df49d4197dcf	8	Women's Styles	Lucy	Jet Black	150
00e15fe0-c86f-4818-9c63-3422211baa97	7	Women's Styles	Lucy	Elderflower Crystal	150
017506f7-aba1-4b9d-8b7b-f4426e71b8ca	4	Men's Styles	Dawes	Jet Black	150
0176bfb3-9c51-4b1c-b593-87edab3c54cb	10	Women's Styles	Eugene Narrow	Rosewood Tortoise	95
01fdf106-f73c-4d3f-a036-2f3e2ab1ce06	8	Women's Styles	Lucy	Jet Black	150

```

SELECT DISTINCT q.user_id,
    h.user_id IS NOT NULL 'is_home_try_on',
    h.number_of_pairs,
    p.user_id IS NOT NULL '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
LIMIT 10;

```

By combining the three tables, we can get a more detailed look at the customer Home Try On experience

user_id	is_home_try_on	number_of_pairs	is_purchase
4e8118dc-bb3d-49bf-85fc-cca8d83232ac	1	3 pairs	0
291f1cca-e507-48be-b063-002b14906468	1	3 pairs	1
75122300-0736-4087-b6d8-c0c5373a1a04	0	NULL	0
75bc6ebd-40cd-4e1d-a301-27ddd93b12e2	1	5 pairs	0
ce965c4d-7a2b-4db6-9847-601747fa7812	1	3 pairs	1

user_id	is_home_try_on	number_of_pairs	is_purchase
28867d12-27a6-4e6a-a5fb-8bb5440117ae	1	5 pairs	1
5a7a7e13-fbcf-46e4-9093-79799649d6c5	0	NULL	0
0143cb8b-bb81-4916-9750-ce956c9f9bd9	0	NULL	0
a4ccc1b3-cbb6-449c-b7a5-03af42c97433	1	5 pairs	0
b1dded76-cd60-4222-82cb-f6d464104298	1	3 pairs	0

# Results

```
WITH funnels AS (SELECT DISTINCT q.user_id,
                        h.user_id IS NOT NULL 'is_home_try_on',
                        h.number_of_pairs,
                        p.user_id IS NOT NULL '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 COUNT(*) AS 'num_quiz',
SUM(is_home_try_on) AS 'num_home_try_on',
SUM(is_purchase) AS 'num_purchase',
1.0 * SUM(is_purchase) / COUNT(user_id) AS 'overall_conv_rate',
1.0 * SUM(is_home_try_on) / COUNT(user_id) AS 'quiz_to_home_try_on',
1.0 * SUM(is_purchase) / SUM(is_home_try_on) AS 'home_try_on_to_purchase'
FROM funnels;
```

**Quiz → Home Try On Rate: 75%**

**Home Try On → Purchase : 66%**

num_quiz	num_home_try_on	num_purchase	overall_conv_rate	quiz_to_home_try_on	home_try_on_to_purchase
1000	750	495	0.495	0.75	0.66

# Customers who tried on 5 pairs have a higher purchase rate

number_of_pairs	num_quiz	num_home_try_on	num_purchase	quiz_to_home_try_on	home_try_on_to_purchase
NULL	250	0	0	0.0	NULL
3 pairs	379	379	201	1.0	0.530343007915567
5 pairs	371	371	294	1.0	0.792452830188679

```
WITH funnels AS (SELECT DISTINCT q.user_id,
    h.user_id IS NOT NULL 'is_home_try_on',
    h.number_of_pairs,
    p.user_id IS NOT NULL '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 number_of_pairs,
    COUNT(*) AS 'num_quiz',
    SUM(is_home_try_on) AS 'num_home_try_on',
    SUM(is_purchase) AS 'num_purchase',
    1.0 * SUM(is_home_try_on) / COUNT(user_id)
    AS 'quiz_to_home_try_on',
    1.0 * SUM(is_purchase) /
    SUM(is_home_try_on) AS
    'home_try_on_to_purchase'
FROM funnels
GROUP BY number_of_pairs;
```

```
SELECT response,
question,
COUNT(DISTINCT user_id)
FROM survey
GROUP BY 1
ORDER BY 3 DESC;
```

Our most common answer was focused on looking for Men’s Styles and a narrow fit

response	question	COUNT(DISTINCT user_id)
Men's Styles	1. What are you looking for?	242
Women's Styles	1. What are you looking for?	209
Narrow	2. What's your fit?	208
<1 Year	5. When was your last eye exam?	141
Rectangular	3. Which shapes do you like?	141
Medium	2. What's your fit?	132
Square	3. Which shapes do you like?	119
Tortoise	4. Which colors do you like?	117
Black	4. Which colors do you like?	112
I'm not sure. Let's skip it.	1. What are you looking for?	92

response	question	COUNT(DISTINCT user_id)
Round	3. Which shapes do you like?	91
Wide	2. What's your fit?	88
Crystal	4. Which colors do you like?	69
1-3 Years	5. When was your last eye exam?	56
3+ Years	5. When was your last eye exam?	37
Neutral	4. Which colors do you like?	36
Not Sure. Let's Skip It	5. When was your last eye exam?	36
No Preference	3. Which shapes do you like?	29
Two-Tone	4. Which colors do you like?	27

```
SELECT product_id,model_name,color,price,
COUNT(DISTINCT user_id)
AS 'total_number_of_purchases'
FROM purchase
GROUP BY 1
ORDER BY 5 DESC;
```

*The most common purchase was the Dawes model in Driftwood Fade*



product_id	model_name	color	price	total_number_of_purchases
3	Dawes	Driftwood Fade	150	63
10	Eugene Narrow	Rosewood Tortoise	95	62
9	Eugene Narrow	Rose Crystal	95	54
1	Brady	Layered Tortoise Matte	95	52
6	Olive	Pearled Tortoise	95	50
4	Dawes	Jet Black	150	44
7	Lucy	Elderflower Crystal	150	44
2	Brady	Sea Glass Gray	95	43
8	Lucy	Jet Black	150	42
5	Monocle	Endangered Tortoise	50	41

**THANK YOU**



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