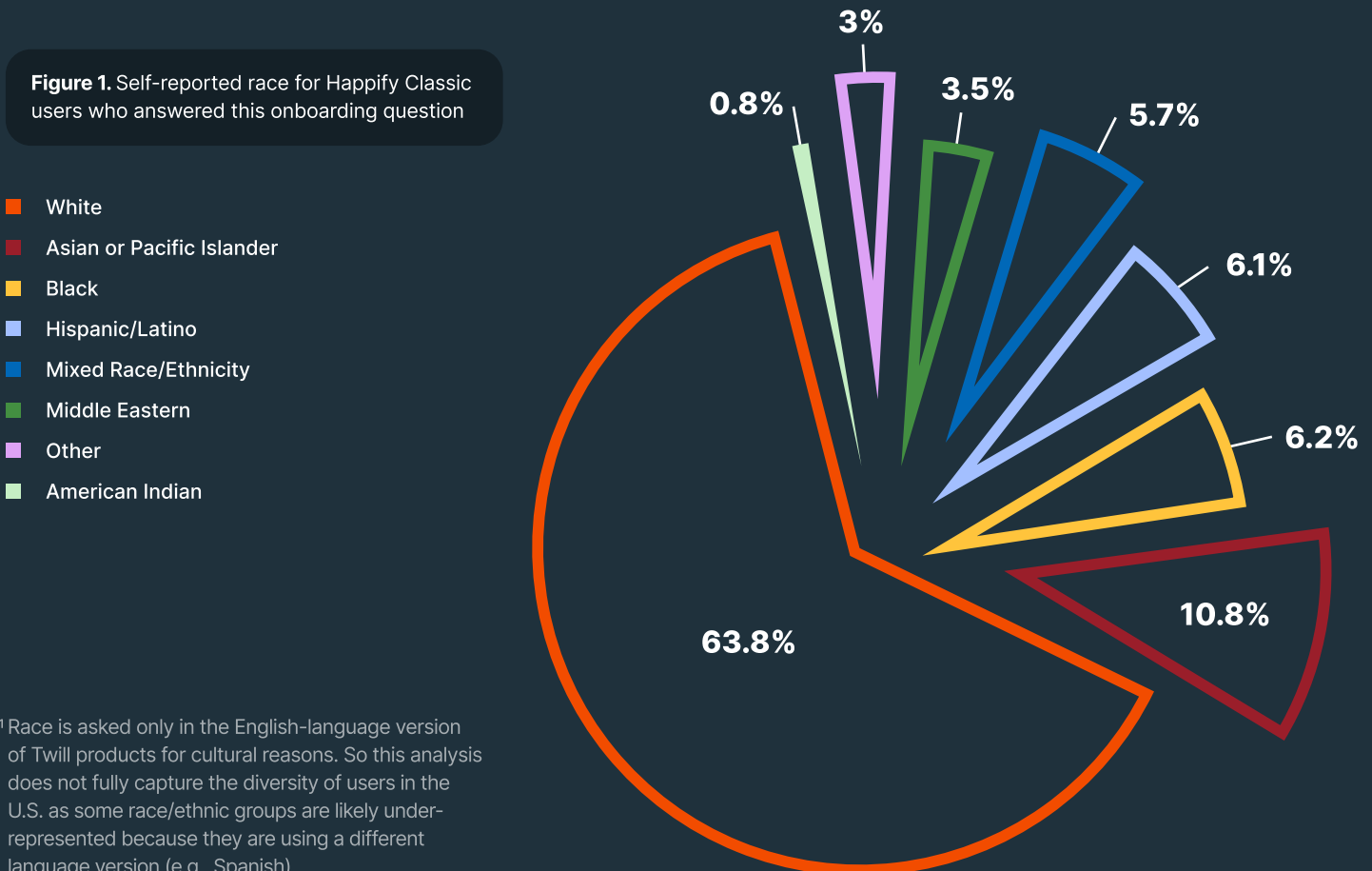# Digital care for more equitable outcomes

Twill added a question about race/ethnicity to its onboarding in October 2020. When examining a set of 257,363 US-based users of Twill's wellness product (Happify) who answered this question[1], the representation of different race/ethnic categories roughly resembled the makeup of the US population based on the most recent census, though Black and Hispanic/Latino groups were slightly under-represented and Asian and Pacific Islanders were over-represented.

The majority of users identified as White only (64%), and the second largest category represented was Asian or Pacific Islander (11%). Overall, 8.5% of users identified as Hispanic/Latino, either exclusively or in combination with another race/ethnic category.

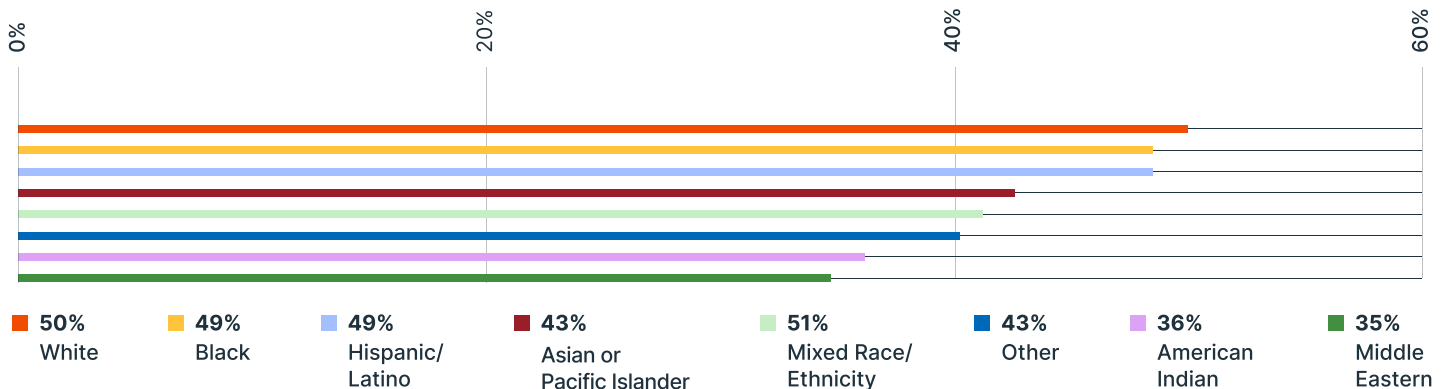**Figure 1.** Self-reported race for Happify Classic users who answered this onboarding question

- White
- Asian or Pacific Islander
- Black
- Hispanic/Latino
- Mixed Race/Ethnicity
- Middle Eastern
- Other
- American Indian

3%
0.8%
3.5%
5.7%
6.1%
6.2%
10.8%
63.8%

[1] Race is asked only in the English-language version of Twill products for cultural reasons. So this analysis does not fully capture the diversity of users in the U.S. as some race/ethnic groups are likely under-represented because they are using a different language version (e.g., Spanish).

Are Twill products effective for different racial groups?

We tested whether the benefits of engaging with Twill's wellness product (Happify) differed based on a user's race/ethnic background by examining changes in subjective well-being and anxiety symptoms over 6 to 10 weeks in 9,484 users who completed at least two of our in-app assessments in this time frame.

Engagement

Previous Twill research supports that users see greater benefits when they complete approximately two activities per week over 8 weeks (i.e., 16 activities). Notably, although users identifying as White or Mixed Race/Ethnicity had the highest rate of reaching this optimal engagement threshold (50%), rates were comparable among those who identified as Black or as Hispanic/Latino (~49% in each). The lowest rates of optimal engagement were among users identifying as Middle Eastern only (35%), which represented a very small percentage of the analyzed users.


50%	49%	49%	43%	51%	43%	36%	35%
White	Black	Hispanic/ Latino	Asian or Pacific Islander	Mixed Race/ Ethnicity	Other	American Indian	Middle Eastern

Figure 2. Percentage of users in our analysis who met optimal dosage (i.e., 16+ activities) by self-reported race

Impact

Across all race/ethnicity categories, improvements in both well-being and anxiety were significantly better among users who engaged at the optimal level across all race/ethnic categories. Importantly, there were no significant differences in the rate of change across the race/ethnic categories.

Among users engaging at the optimal level, the highest level of improvement for well-being was among users identifying as American Indian or Alaska Native (24%), though this group was particularly small and should be interpreted with caution, and those identifying as 'Other'. Rates of improvement were comparable among users identifying as Black (17%), White (17%), and Mixed Race/Ethnicity (18%). Similarly for anxiety, the highest level of improvement was among users identifying as American Indian or Alaska Native (64%), followed by users identifying as Middle Eastern (31%) or Black (30%).

Change in subjective well-being

■ Suboptimal   ■ Optimal
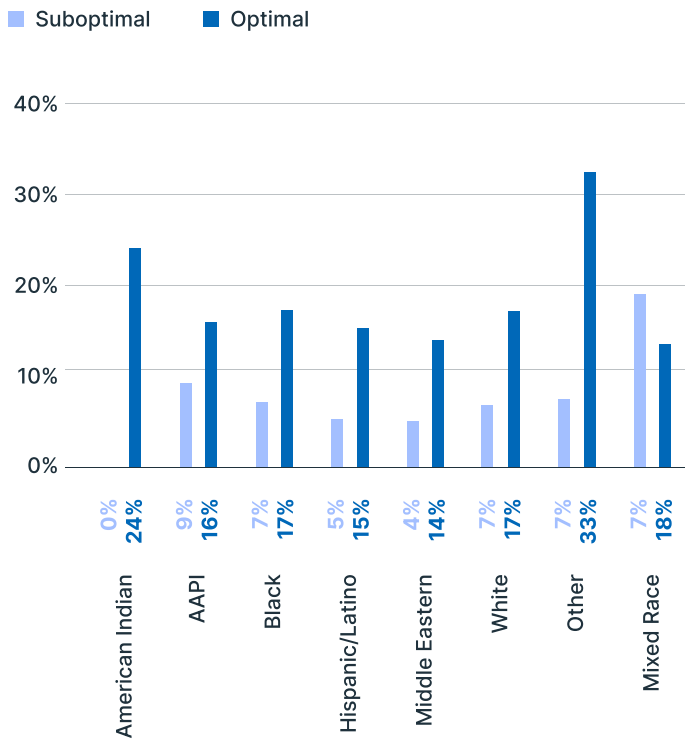
Figure 3. Changes in subjective well-being based on Happify usage over 6-10 weeks by race/ethnic category

Changes in anxiety symptoms

■ Suboptimal   ■ Optimal
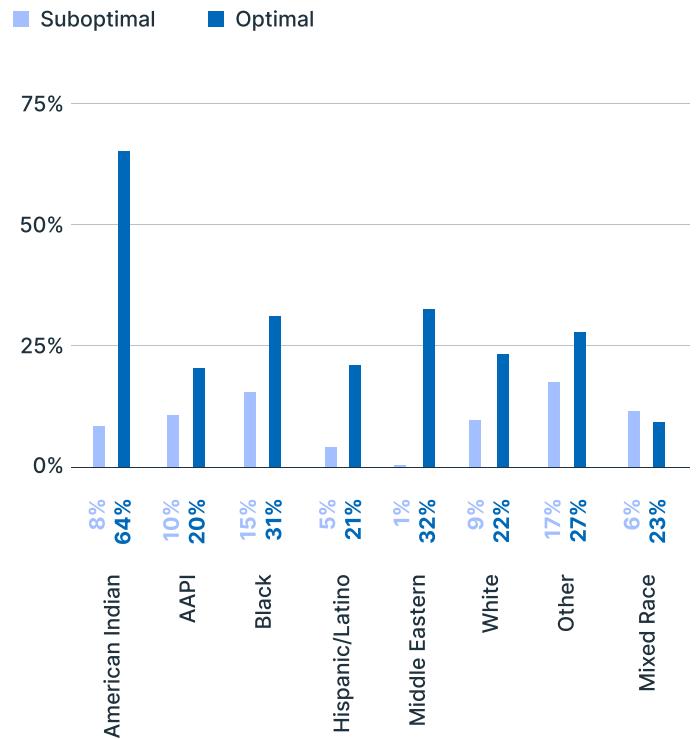
Figure 4. Changes in anxiety based on Happify usage over 6-10 weeks by race/ethnic category

Why it matters

In the U.S., non-White communities including indigenous populations, Pacific Islanders, Black, and Hispanic/Latino communities tend to fare worse in terms of social determinants of health. These communities have also been disproportionately impacted by the pandemic in terms of mental health and have a higher unmet need for mental health care. But research on digital therapeutics has focused on predominantly White populations and few studies have directly examined whether the effects of digital therapeutic products differ by race/ethnicity. As a result, it has been unclear whether these products are effective in other race/ethnic groups.

> Our data suggests that **we can engage people from diverse race/ethnic backgrounds** at a rate that is representative of the U.S. population and, more importantly, that **levels of engagement and improvement are comparable across race/ethnic categories.**

To learn more about Twill, visit twill.health