In the Zone: An Analysis of the Music Practices of Remote Software Developers

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Weiyi Liu, and **Paige Rodeghero**

Do you listen to music while you work?

If yes, do you find that you are more productive when listening to music and working?

https://www.tiktok.com/@olivialake_/video/6901024336413543686?is_from_webapp=v1&item_id=6901024336413543686&lang=en

pumpkin patch park 🎃
@pinball_wizard · Follow

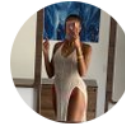y'all wanna try something wild?

if you have a paper or project you need to do for school or whatever else, listen to Mario Kart music while you do it. i'm dead serious

I just wrote 600 words out of my 1000 essay in half an hour, this shit really works

1:23 AM · Oct 22, 2020

♡ 36   💬 Reply   🔗 Copy link

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MADDZ ❤️
@maddzxszn_ · Follow

So I learned on Tik Tok that having a Mario Kart soundtrack playlist is very helpful if you're trying to be productive and do homework and its ACTUALLY working 😭😭😭 highly recommend!!!!!

11:29 PM · Oct 28, 2020   ⓘ

♡ 10   💬 Reply   🔗 Copy link
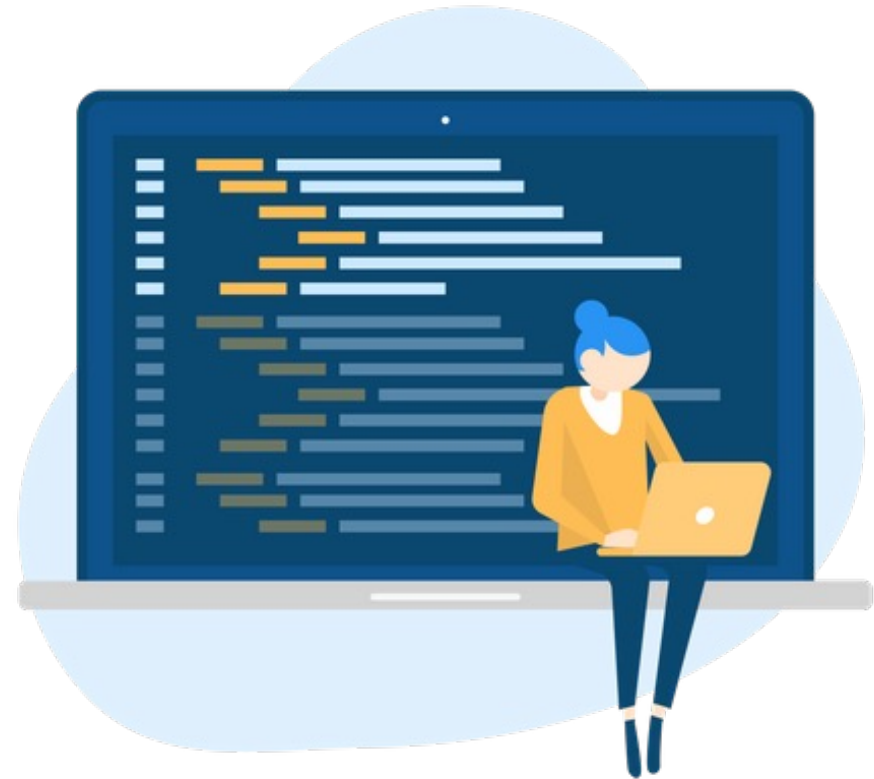
Read 2 replies

How are developers' productivity and creativity impacted when listening to music while working remotely?

Developers Working from Home

- The productivity of software developers has been studied extensively under normal working conditions.

- The shift to WFH has caused changes in routine and a blurring between work and home life for many developers.

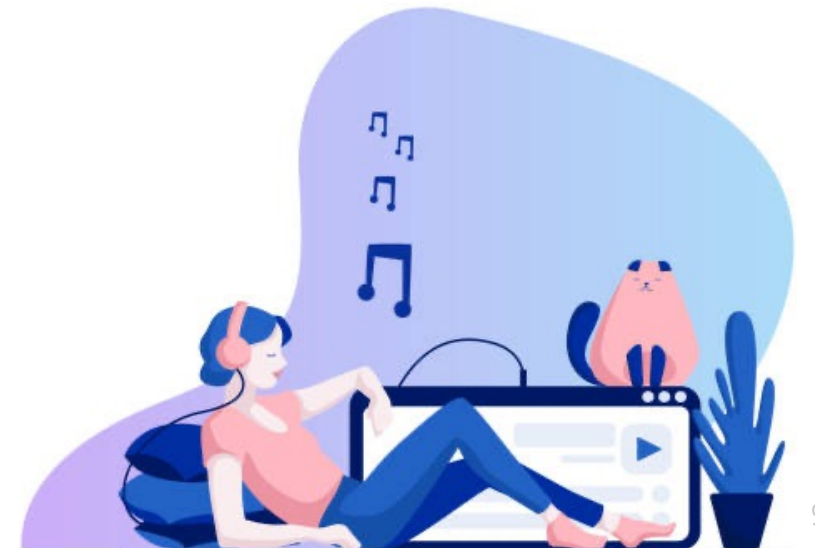- WFH has led to better creativity and productivity for software developers in the past.

Related Work

- Remote work has its own set of advantages and disadvantages.
  - Remote workers are more satisfied with their job, more committed to their company, and experience less stress due to office politics or traffic.
  - The boundaries between work and home life are also blurred, remote workers may work longer hours, and have limited social engagement.

- There is little research on how music impacts software developers.
  - Findings include that music listening can help maintain quality work, may have a positive impact on developers, and reduces stress.

Research Questions

1. Are software developers listening to music while working from home?

2. For what tasks, if any, do developers choose to listen to music?

3. How does listening to music affect developers' productivity and creativity?

Study Design

Social Media Distribution

- Reddit
- Twitter
- LinkedIn
- Facebook

Survey Completion

- 27 questions total
- 93 participant responses
  - 15 female
  - 78 male
- Ages ranged from 25-64
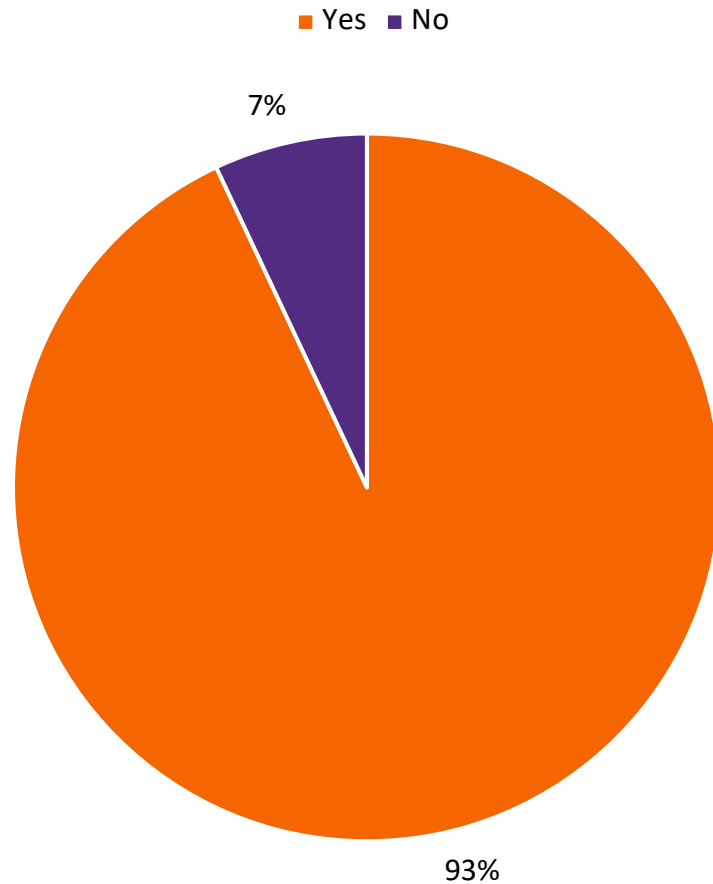
Data Collection/Analysis

- Survey open for 30 days
- Targeted SE-specific communities
- Standard statistical tests run
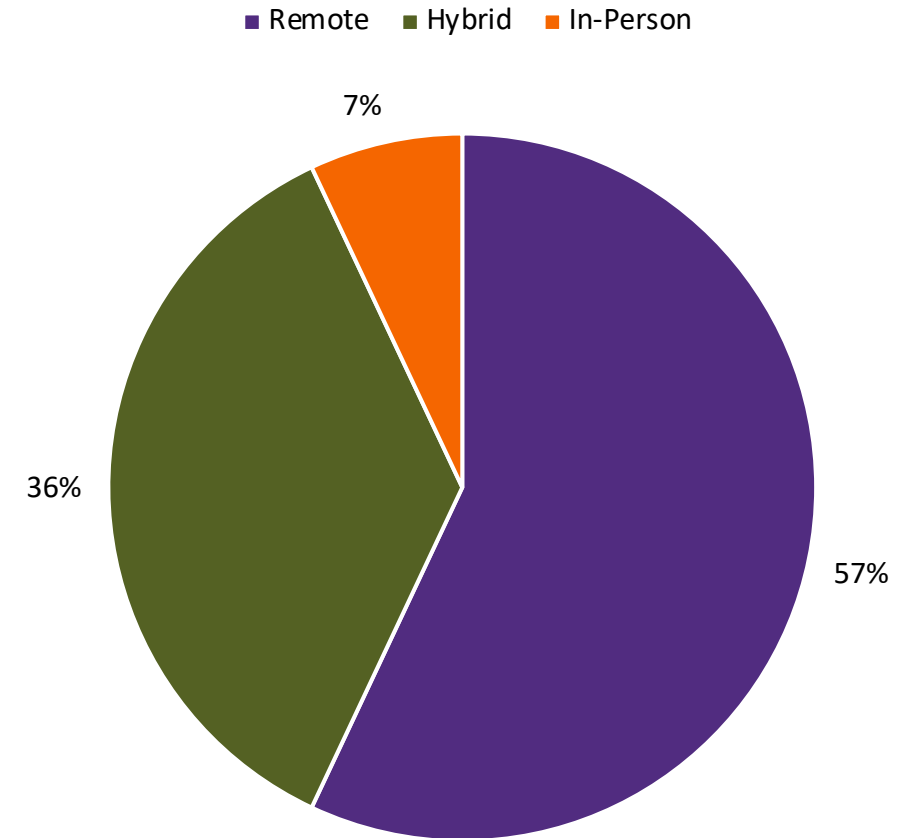- Hand-coded open-ended responses

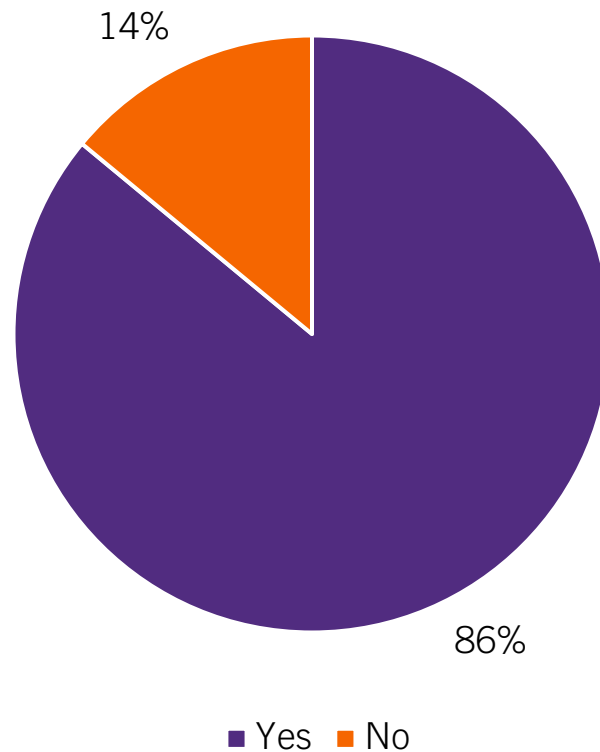# Remote Working Conditions

Did you WFH because of the pandemic?

Yes No

7%

93%

What type of work environment do you prefer?

Remote Hybrid In-Person

7%

36%

57%

Music Practices at Work
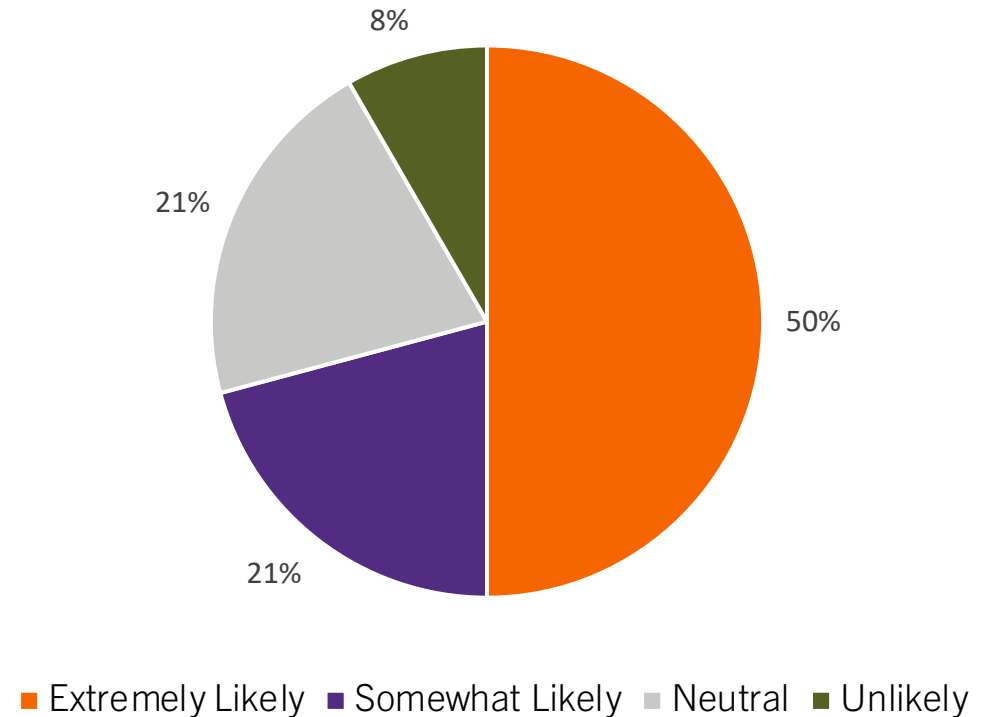
Do you listen to music while WFH?

14%

86%

■ Yes ■ No

- *"I am able to concentrate more without interruptions from peers or stakeholders…"* – P27

- *"I don't need to wear headphones as a means to implicitly communicate 'do not disturb' [at home]"* – P11

Music Practices at Work

- *"Refactoring, debugging, implementing APIs/components that I have already planned out."* – P81

- *"I listen to music while in the zone. I don't listen to music if I have a lot of meetings lined up."* – P61

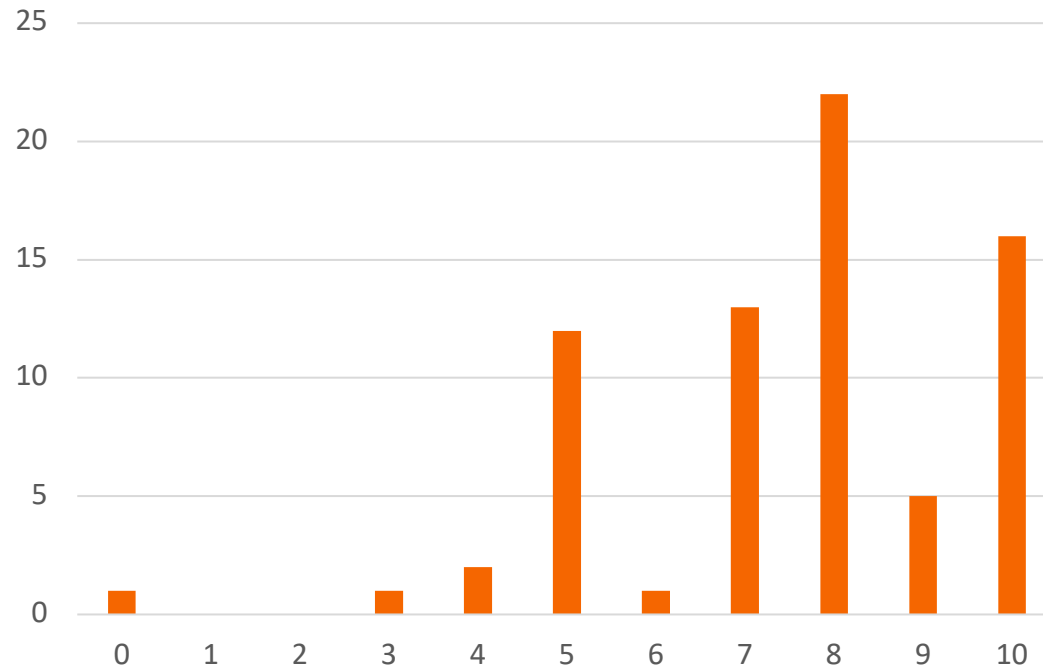How likely is it that you listen to music while completing repetitive tasks?

8%

21%

50%

21%

■ Extremely Likely ■ Somewhat Likely ■ Neutral ■ Unlikely

Productivity Impacts

WFH Developers' Perceived **Productivity Levels** using Music

■ Likert Scale: 0 - Not at all, 5 - Neutral, 10 - Extremely

- Developers felt listening to music positively impacts their productivity

- No difference/about the same levels of productivity WFH and at office

- Developers felt at least slightly more productive at home while listening to music
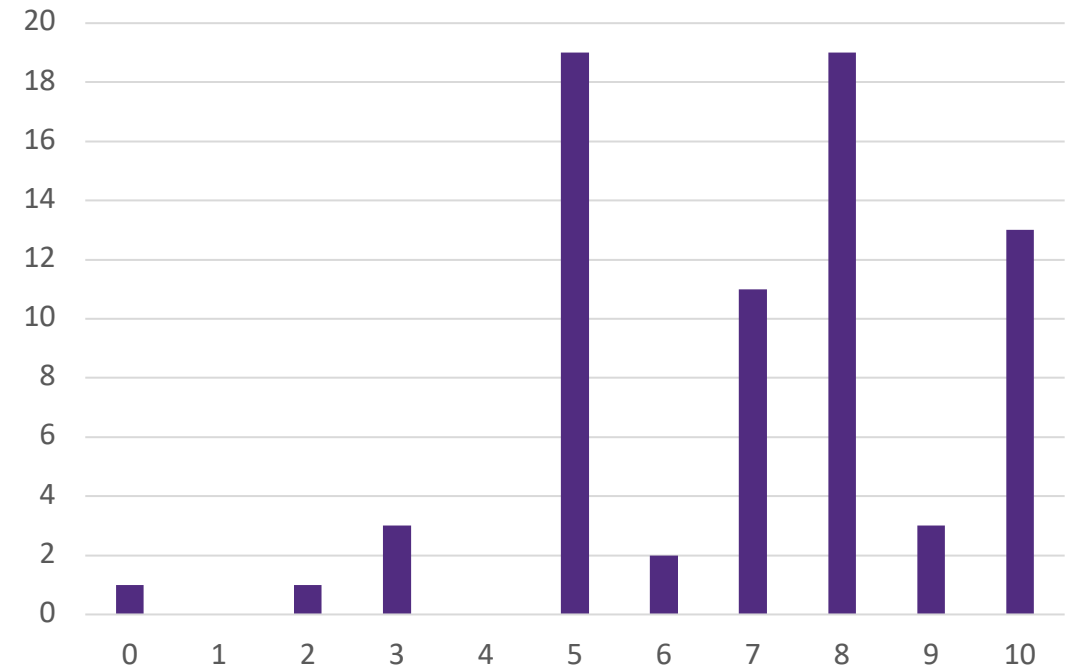
Creativity Impacts

- Most developers felt more creative when listening to music

- Developers also feel slightly more creative at home than at the office

- *"I feel more creative when working from home."* - P7

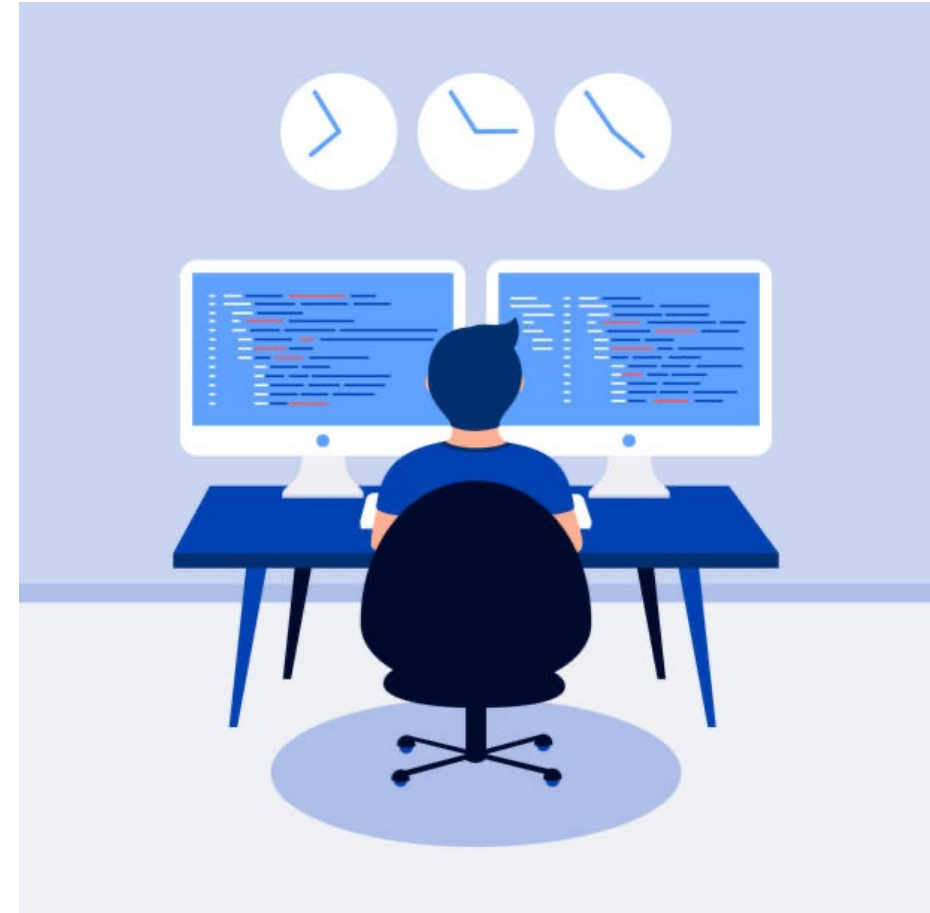### WFH Developers' Perceived **Creativity Levels** with Music

■ Likert Scale: 0 - Not at all, 5 - Neutral, 10 - Extremely

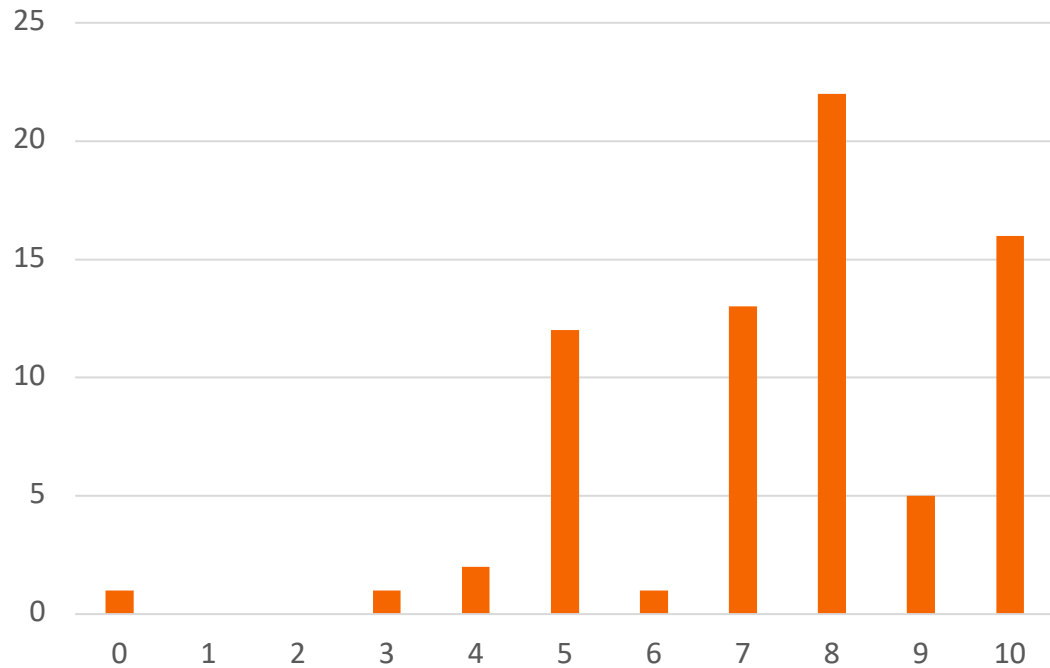# Overall Impact of Listening to Music

- **Developers are listening to music** while working remotely
  - Helps remove noise and regulates mood

- Remove developers feel **more productive** when listening to music
  - Could be due to fewer interruptions & more focus time
  - Music is listened to during repetitive tasks the most

- Remote developers feel **slightly more creative** listening to music
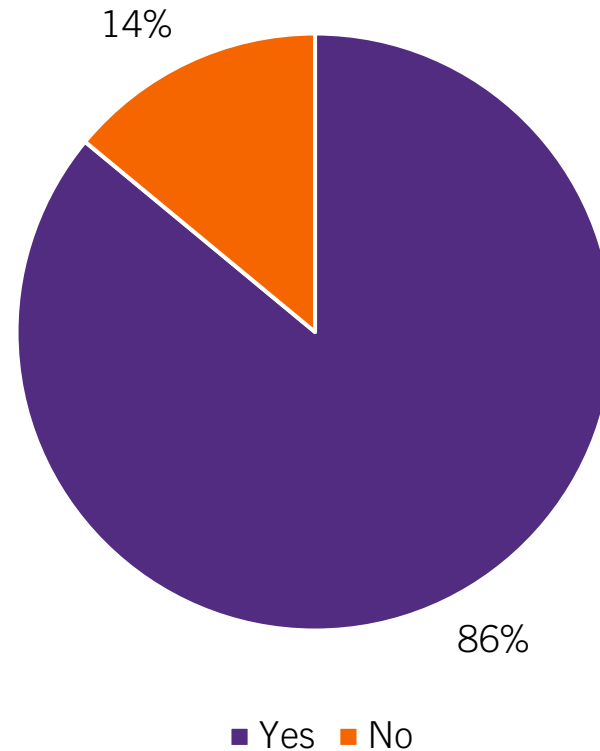 - Developers attribute this to being in a more comfortable, relaxed environment

WFH Developers' Perceived **Productivity Levels** using Music

■ Likert Scale: 0 - Not at all, 5 - Neutral, 10 - Extremely

Do you listen to music while WFH?

14%

86%

■ Yes ■ No

Thank you !