
Appendix for *Self-Supervised Direct Preference Optimization for Text-to-Image Diffusion Models*

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1 In this appendix, we provide more qualitative and quantitative results.
2 Table 1 extends our main results by comparing Self-DPO with the latest state-of-the-art DPO variant,
3 DSPO Zhu et al. (2025). Despite being trained on substantially less data, Self-DPO consistently
4 outperforms DSPO on most quantitative metrics, underscoring the efficiency and effectiveness of our
5 self-supervised approach.

Dataset	Method	Pick Score	Aesthetics	CLIP	HPS	Image Award
Pick-a-Pic V2	Base	20.57	53.15	32.58	26.17	-14.81
	DPO	20.91	54.07	33.19	26.46	4.13
	DSPO	21.08	56.15	33.75	26.98	43.54
	Self-DPO	21.23	56.35	34.79	27.33	71.00

Table 1: Quantitative comparison between Self-DPO and the recent DPO variant (DSPO Zhu et al. (2025)). DSPO follows the same data regime as the original DPO Wallace et al. (2024), whereas Self-DPO attains higher scores on most metrics while using substantially less training data.

6 Furthermore, more qualitative examples for Stable Diffusion 1.5 and Stable Diffusion XL are
7 presented in Figures 1 and 2, respectively.

8 References

- 9 Bram Wallace, Meihua Dang, Rafael Rafailov, Linqi Zhou, Aaron Lou, Senthil Purushwalkam, Stefano Ermon,
10 Caiming Xiong, Shafiq Joty, and Nikhil Naik. Diffusion model alignment using direct preference optimization.
11 In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pages 8228–8238,
12 2024.
- 13 Huaisheng Zhu, Teng Xiao, and Vasant G Honavar. Dspo: Direct score preference optimization for diffusion
14 model alignment. In *The Thirteenth International Conference on Learning Representations*, 2025.

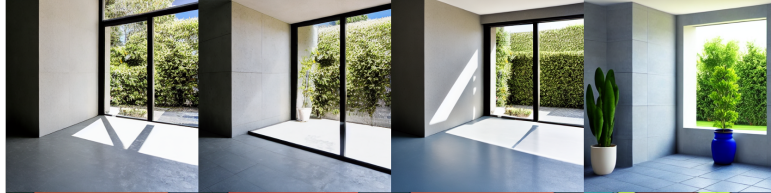
a black angry cat with headphones on being a dj on a techno festival, with roaring animals as a crowd. hyping them up as they dance and rave



a photo of a woman



a 8x12m room, with walls, no ceiling, view from corner, grey pattern tiled floor, clear blue sky, sun not showing, one of the walls have several species of plants in vases



Jessica from rick and morty



dreadful environment art



ingeniero civil



SD1.5

DPO

SFT

Self-DPO

Figure 1: Extra qualitative comparisons with the SD1.5 base model.

The gate to the eternal kingdom of angels, fantasy, digital painting, HD, detailed.

Warsaw cyberpunk style at night

A group of elephants in camo gear sitting in a speeding jeep and hunting poachers

Детский сад аква

A 3d rendered emoji of a monster

cyberpunkrobot

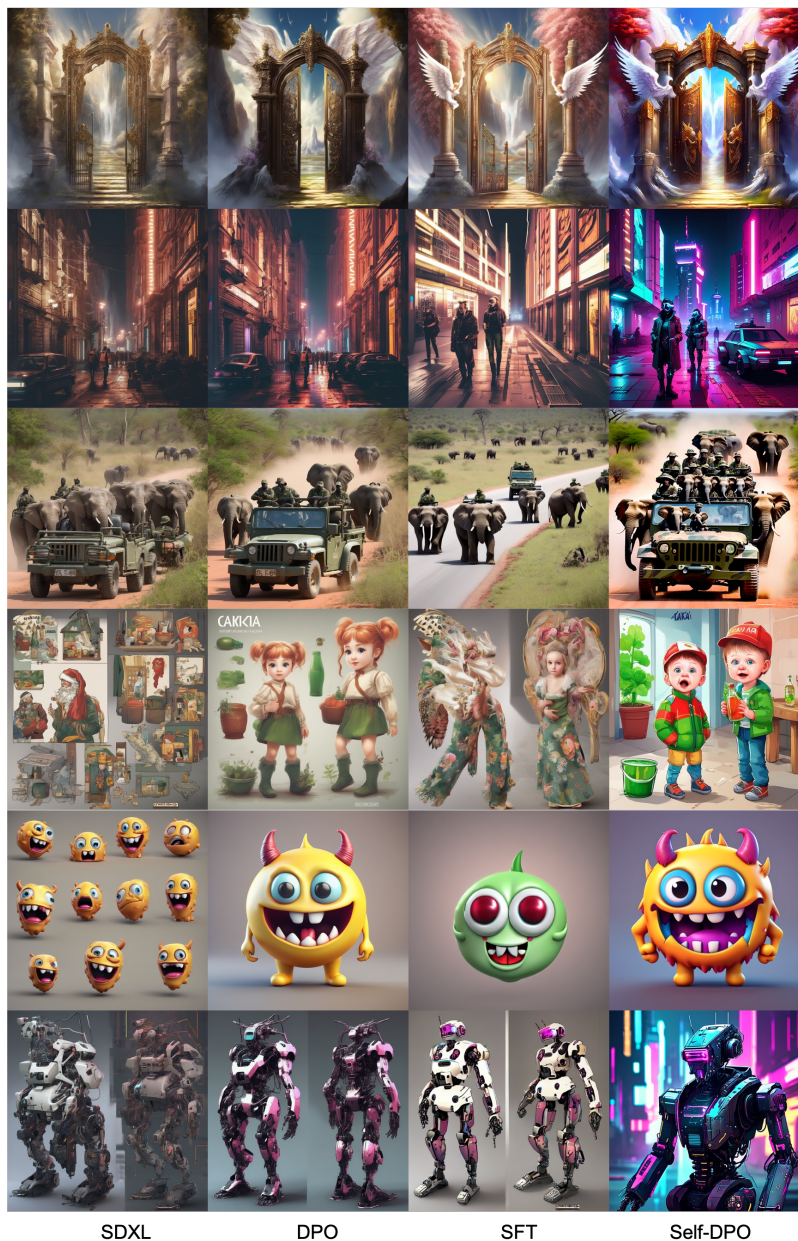


Figure 2: Extra qualitative comparisons with the SDXL base model.