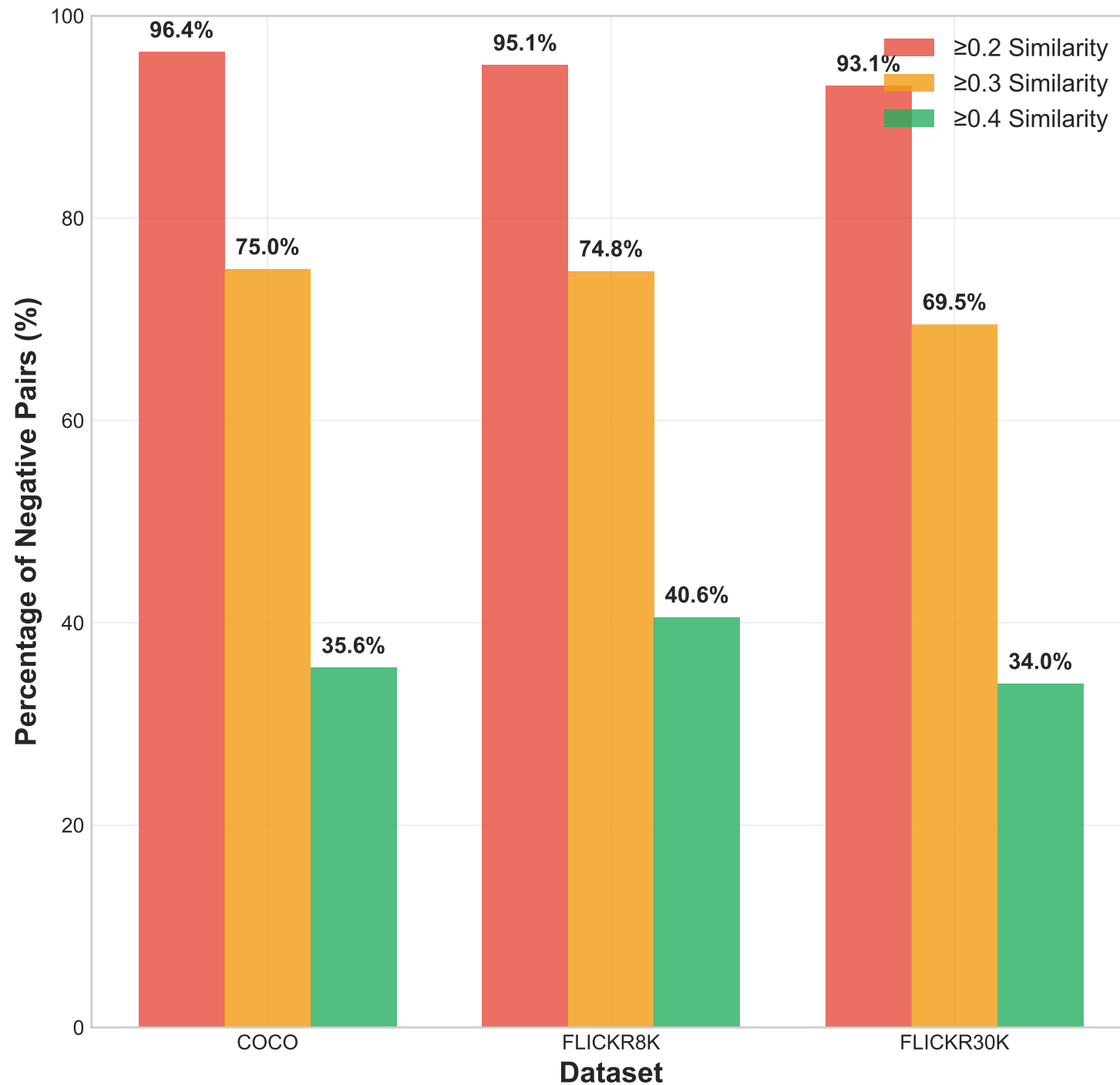


## SANW Motivation: High Similarity in "Negative" Pairs



## SANW (Semantic-Aware Negative Weighting) Motivation

### Current CLIP Training:

- All negatives treated equally
- No semantic awareness
- Hard negative mining only

### PROBLEM IDENTIFIED:

- 93-96% of negatives have similarity  $\geq 0.2$
- 69-75% have similarity  $\geq 0.3$
- Many "negatives" are semantically similar!

### SANW SOLUTION:

- Semantic-aware negative weighting
- Reduce weight for similar negatives
- Sharper decision boundaries

