

# Review of: "Insights into Psychoactive Drug Effects: The Role of Drug Discrimination Techniques"

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Potential competing interests: No potential competing interests to declare.

This review is generally informative and quite well written. However, I do have some concerns, and the manuscript could be greatly improved upon by rewriting some sections and by better citing of references.

1. The manuscript does not cite any references after the first part of Section 3.4. Please add the appropriate references to back up statements that are being made.
2. Introduction - The authors should acknowledge that self-administration tests are equally as important as drug discrimination tests when evaluating the abuse potential of drugs.
3. Section 2.1 – The first half of the second paragraph (starting “The scholarly enquiry...”) is a little muddled and could be rewritten.

The drug discrimination test does not assess the reinforcing effects of drugs.

4. Section 3.2 – “the stimulus effect disappeared 3.6 hours after injection, **leaving it** similar to saline.”
5. In section 3.4, it states that the discriminatory effects of morphine in the striatum when injected into the VTA are blocked by U69593. However, earlier in the paragraph, it was stated that morphine did not produce discriminative effects in the striatum. Please clarify.
6. Section 3.5 – Explain the sentence beginning “Early recognition of the influence of discrimination speed.....” I'm not sure what point the authors are making here.
7. Section 3.6 – Self-administration tests also have their advantages and disadvantages along with drug discrimination tests.

Drug discrimination testing does not evaluate the psychotropic dependence of drugs.

Give references for the USA organisations mentioned in paragraph 2 of this section.

8. Section 3.6 – Self-administration tests also have their advantages and disadvantages along with drug discrimination tests.
9. Outlook - Why have the authors chosen to focus only on hallucinogens and cannabinoids in this section?

The drug discrimination test is not the most effective way of studying the potential abuse-related properties of

cannabinoids. Drug discrimination testing and self-administration testing (together with physical dependence studies) are the minimum number of in vivo studies that are required to make the assessment.

Self-administration studies with CB1 agonists have been performed in rats. The authors should perform a literature search for these studies.

10. Conclusion – Why do the authors consider that drug discrimination testing is particularly valuable for hallucinogens and cannabinoids in comparison to the other major classes of abusable drugs?

What are the “advancements in technology that allow for continued exploration of pharmacological actions”? Give some examples.