



Exposure to an alternative reward does not reduce cocaine-seeking behavior

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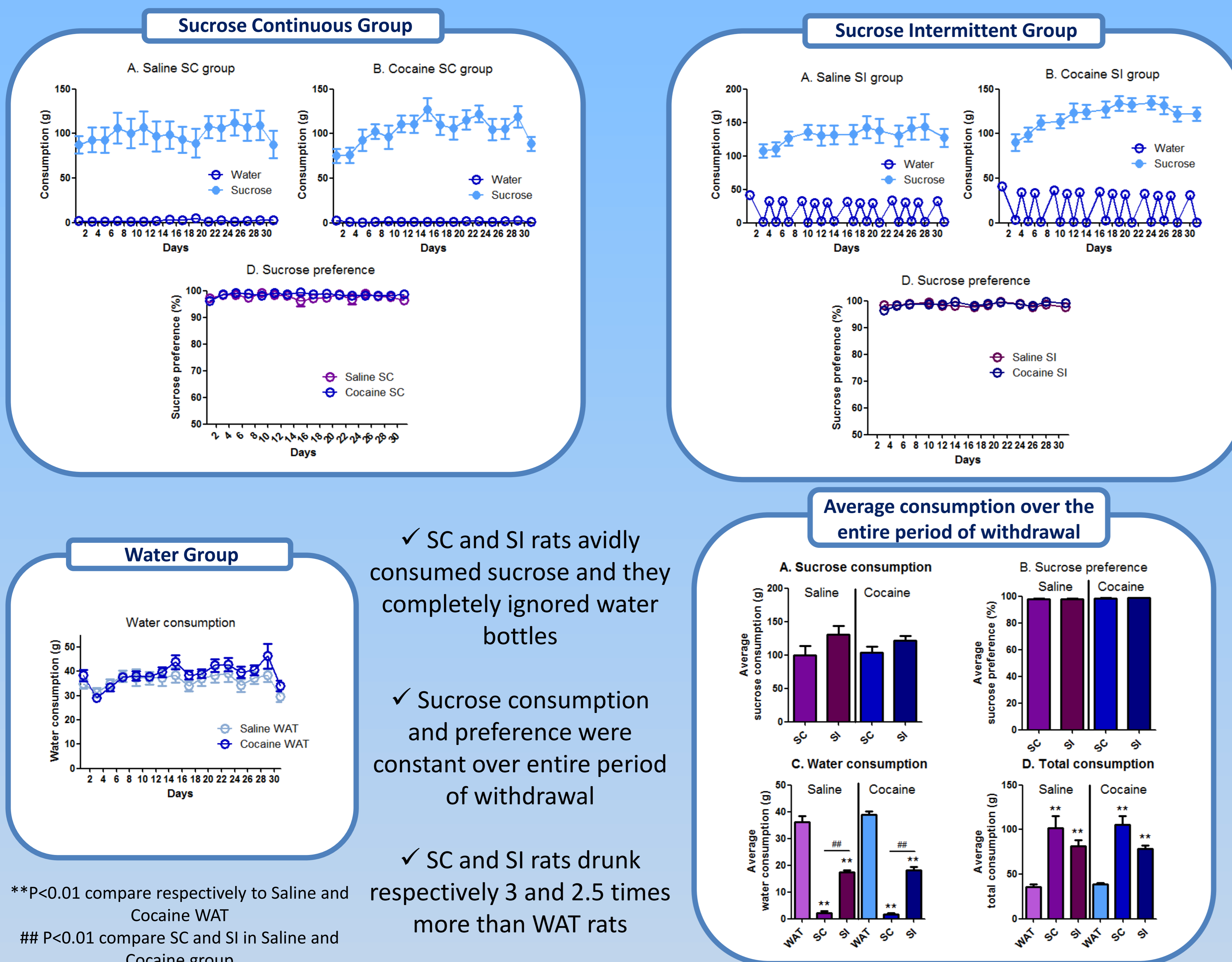


INTRODUCTION

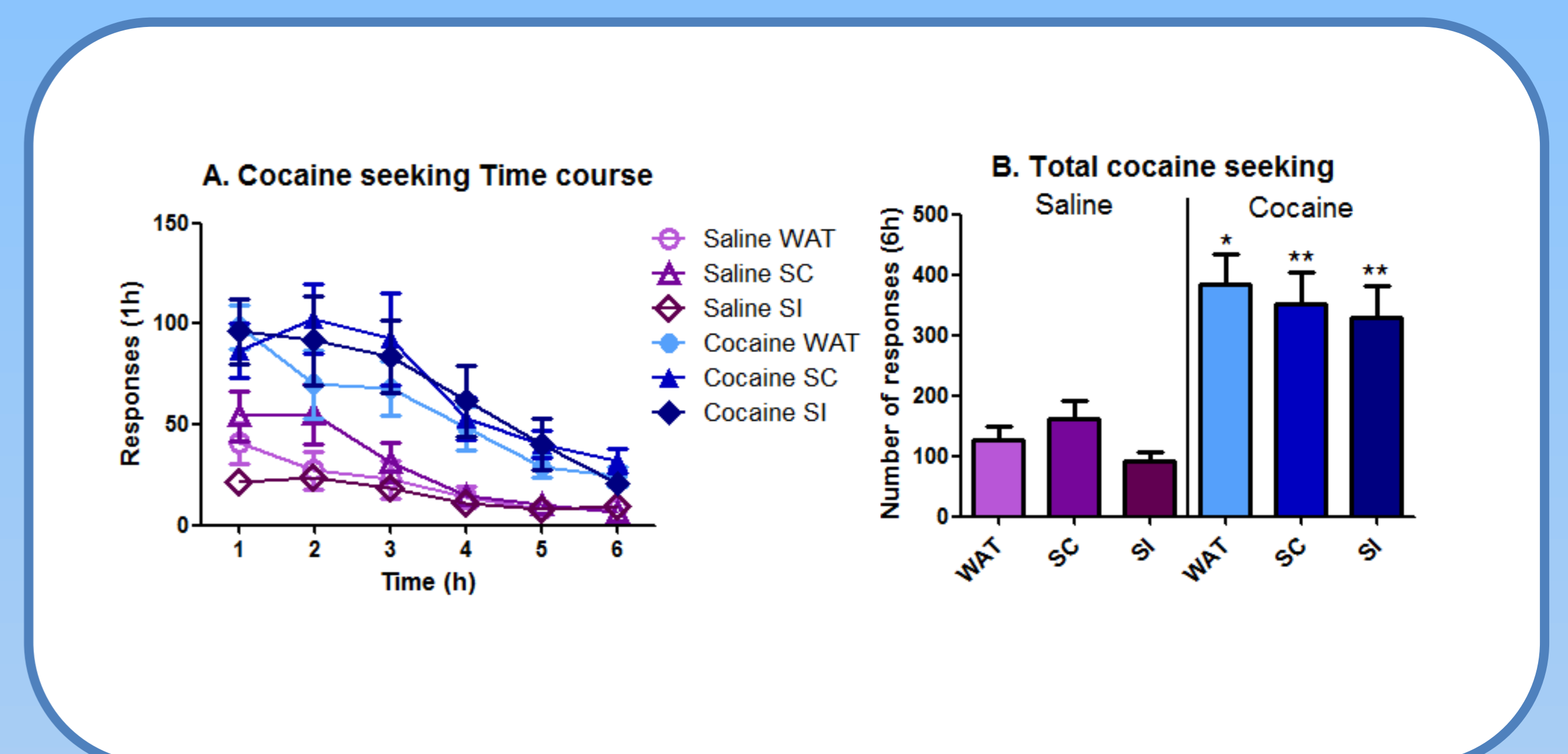
Exposure to positive environmental conditions, such as environmental enrichment (EE), decreases vulnerability to drugs and reduces the risks of relapse to drug-seeking behavior. EE is comprised of several elements such as social interactions, novelty and sensory and physical activity, which have been described to be rewarding in rodents. Because access to alternative rewards decreases addiction-related behaviors, it could be speculated that EE produces its positive effects on addiction by acting as an alternative reward. On the other hand, whereas in most studies alternative rewards are presented together with drugs, EE is provided chronically as a living environment that is temporally and physically distinct to drug-related conditions. Here we investigated whereas chronic access to a natural reinforcer such as sucrose, during periods of withdrawal under conditions similar to those used for EE, could reduce drug craving.

RESULTS

1. Water and sucrose consumption during withdrawal period



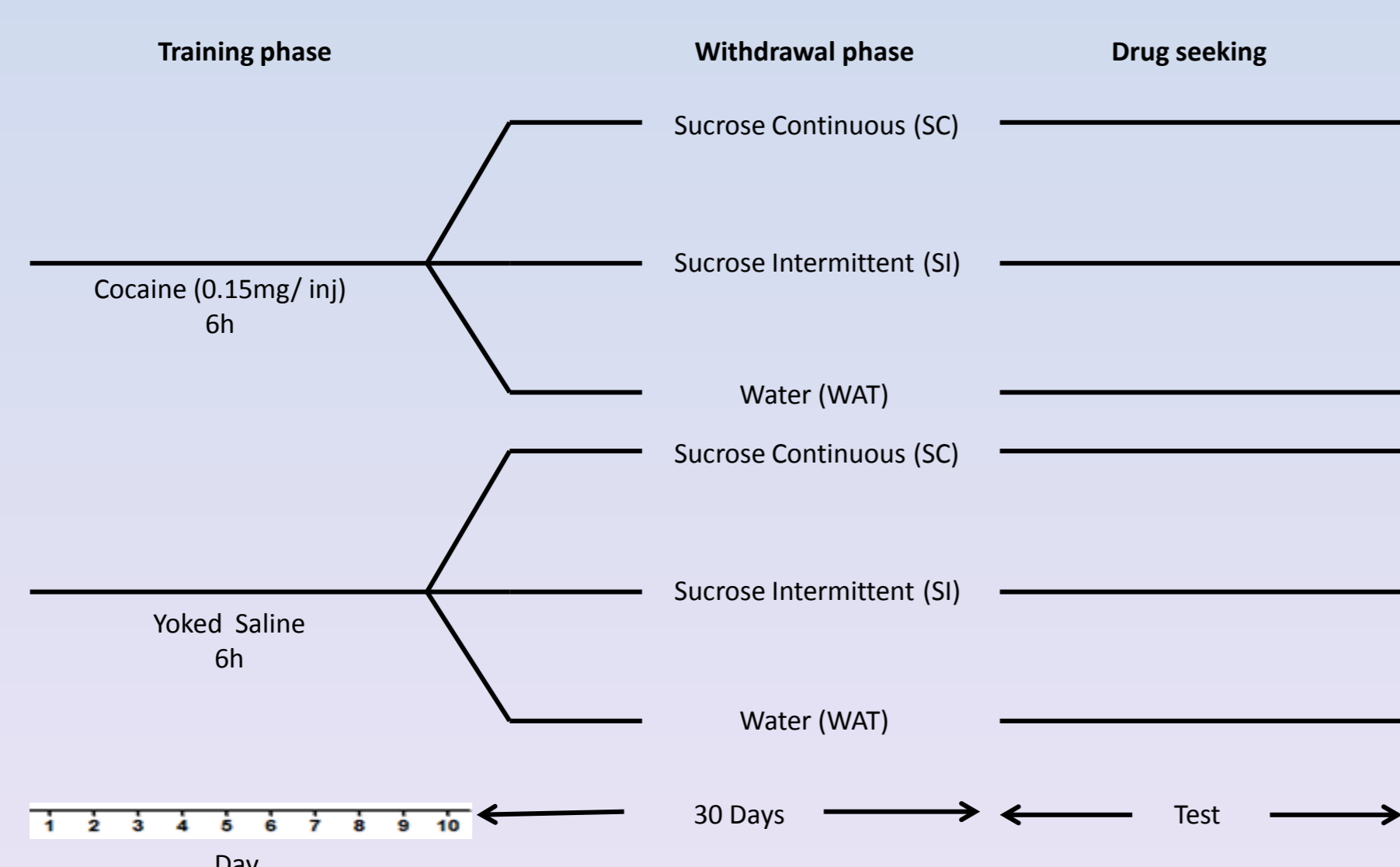
2. Access to sucrose during withdrawal period does not affect cocaine-seeking behavior



- ✓ Cocaine exposed rats show high levels of drug-seeking behavior
- ✓ No difference was found among SC, SI and WAT rats

METHODS

69 Sprague Dawley adult male rats were submitted to the following experimental design



After 10 days of cocaine or saline self-administration, rats were subjected to 30-day withdrawal during which they had access a) to water and sucrose (10%w/v) continuously (SC); b) to water and sucrose (10%w/v) intermittently (SI) or c) water only (WAT). After the end of withdrawal period, rats were tested for cocaine seeking during 6h session.

CONCLUSION

- ❖ These results show that access to sucrose during withdrawal period does not affect cocaine-seeking behavior
- ❖ Exposure to an alternative reward that is temporally and physically distinct from drug-related environments is not sufficient to reduce the risks of relapse
- ❖ In addition these results suggest that :
 - ✓ Elements of enrichment other than alternative reinforcement play a more important role in reducing drug seeking
 - ✓ Alternative reinforcement must be combined with other elements of enrichment to be effective in decreasing drug seeking

No potentiel conflict of interest

Thanks to

