1. **No.**

   FP01909153

2. **Title**

   Smoking May Contribute an Efficiently Constructing a Human Relationship in Collectiveness and Society

3. **Period**

   2018-2020

4. **Summary**

   To examine the effects of smoking on social groups, we examined the relationship between smoking habits and personality traits, and genetic factors in the first year of the study. Data from 122 males suggested that young adults with a smoking habit were less honest and planned, had a lower behavioral inhibition system, and had the l-allele of 5-HTTLPR. These characteristics may not be adaptive in group life, but smoking can have a positive effect in social groups to relieve stress. Smoking has effects on recovery from unpleasant emotions (emotional compensation) and on increasing pleasant emotions (liberating enhancement); During the second year, we examined changes in event-related potentials LPP and effects on personality traits due to emotional compensation effects, and in the third year, we examined associations between autonomic nervous system indices and OPRM1 due liberating enhancement effects. The LPP showed attenuation of attention after cigarette breaks, and the effect was greater in those with high neuroticism. The liberating enhancement effect of smoking activated both sympathetic and parasympathetic nervous systems. In addition, it suggested that subjects with the A allele of OPRM1 showed parasympathetic activation similar to that of smoking when breathing was reproduced, but there was no genetic effect on the response to smoking. If the emotional compensation effect of personality traits is homogenized by smoking, and the liberating enhancement effect is not related to genetic polymorphisms, it may be easier to form empathic groups.