THE PSYCHOLOGY OF THE COMMON COLD: AN INTEGRATED APPROACH

SUMMARY

Upper respiratory tract illnesses (URTIs), such as influenza and the common cold, are frequent, widespread and a major cause of absenteeism from work and education. It has been recognised for some time that there is enormous individual variation in susceptibility to these illnesses and in the severity of the symptoms. This has led to research that has considered the role of psychosocial characteristics (personality, stress, positive life events, social support and coping) and the importance of health related behaviours such as smoking, alcohol consumption and nutrition. Research has also investigated the effects of colds and influenza on performance and has shown that these illnesses produce selective performance impairments. For example, influenza impairs tasks where it is not known when or where a target stimulus will appear whereas colds lead to psychomotor slowing. Upper respiratory tract illnesses also induce mood changes and again these often differ depending on whether one is investigating colds or influenza. The main objective of the proposed research was to integrate these two areas of research by investigating whether factors that influence susceptibility to URTIs and severity of the illnesses are also important with regard to the mood changes and performance impairments induced by the illness.

In the first study the participants were 498 students (216 male, 282 female; mean age 21.6 years). Participants were recruited when healthy and at this point completed the psychosocial questionnaires and mood and performance tasks. They were asked to return if they developed an URTI (within 6-96 hours of the symptoms developing). Those who did not develop an URTI during the 12 week period were recalled as healthy controls.

One hundred and eighty eight of the participants developed URTIs. This group did not differ from those who remained healthy in terms of demographics. Similarly, no significant differences were found between the psychosocial scores of those who did and did not develop an URTI. Those who developed an URTI were more frequent consumers of alcohol than those who remained healthy. Smokers became ill more quickly than non-smokers. Those who developed illnesses more rapidly also had a higher frequency of daily hassles.

The URTI group reported a more negative mood than those who remained healthy. This was observed for all the mood dimensions. Those with an illness had slower response times in reaction time tasks and also showed more lapses of attention (occasional errors).

Total symptom score was associated with changes in all the mood dimensions. This effect was entirely due to the systemic symptoms and neither the nasal symptom score nor nasal secretion weight were associated with the mood changes. There were few significant associations between the performance changes induced by the URTIs and the psychosocial or health-related behaviour variables. The performance changes were not generally related to symptom severity. Similarly, few associations were found between the mood and performance changes.

In summary, the first study confirmed that upper respiratory illnesses lead to psychomotor slowing and impaired performance of tasks requiring sustained attention. Subjective reports of mood were also more negative in the ill group. Previous investigations of these topics have often been too small scale to determine whether the performance changes reflect the severity and nature of symptoms or whether they are due to the changes in mood. The present findings show that they are largely independent of such effects. The performance changes were also not modified by psychosocial characteristics and health-related behaviours. However, these factors were important with regard to development of the illnesses and the nature and magnitude of the symptoms. Susceptibility to illness was found to be related to alcohol consumption, smoking and frequency of daily hassles. These results confirm previous findings.

The second investigation involved a diary study. At baseline the participants completed the psychosocial questionnaires and carried out the computerised assessment of performance and rating of mood. They were then given a diary to complete on a weekly basis. This collected information on the presence/absence of upper respiratory tract illnesses, the nature of symptoms, use of medication and general physical and mental health that week. In addition, it provided an
indication of mood (anxiety/depression), fatigue and cognitive difficulties. When volunteers developed a cold they returned to the laboratory and objective measures of symptom severity (temperature, weight of nasal secretion) were recorded. In addition, the mood rating and performance tasks were repeated to give an indication of the impact of the illness on behaviour. All volunteers returned to the laboratory once every four weeks and repeated the mood and performance tasks. This provided control data from the healthy volunteers that allowed comparison with those who developed colds at specific time points.

One hundred volunteers (51 female, 49 male; mean age 49 years, range 22 to 76 years) from a community participated in the study. Forty-seven participants developed at least one URTI during the course of the study. There were no significant demographic differences between those who developed URTIs and those who remained healthy. Those who became ill were sub-divided into those who reported a single illness and those who reported more than one illness. Those who had more than one illness reported significantly more negative life-events in the last 12 months. None of the other psychosocial variables differed across the groups. Those who developed multiple illnesses were less likely to eat breakfast and consume alcohol.

Systemic symptoms were also correlated with perceived stress, trait anxiety, and loneliness and not eating breakfast. Volunteers with an illness had a more negative mood and slower response times. There were no significant associations between the mood changes and the performance changes. Similarly, the performance changes were not associated with symptoms, psychosocial variables and health-related behaviours.

In summary, the results from two large scale studies have provided evidence of the effects of URTIs on mood and performance. Similarly, they have shown that psychosocial factors and health-related behaviours may influence susceptibility to URTIs and the nature and extent of the symptoms. Both studies failed to demonstrate associations between variables influencing illness susceptibility and/or severity and the mood and performance changes.