Abstract: Constant high-level numbers of railway suicides indicate that prevention strategies against railway suicides are urgently needed. The main question of the present study was whether pre-crash railway suicide behaviour can be identified, using German Federal Police officers experience with suicidal events in railway related environments. To collect information on pre-crash railway suicide behaviour, a questionnaire was used and made available on the German Federal Police intranet. A total of 202 subjects (mean age: 41 years, sex: 84.9% male) were included in the analysis. Multivariate logistic regression analyses were performed to predict the prevention of suicide (first model) or demand for counselling (second model) as outcomes. Sex, age, years of service, number of experienced suicides, suicides personally observed, information on suicides obtained from witnesses and finally whether officers had prevented a suicide (second model) were used as predictors. A considerable proportion of police officers reported behavioural patterns preceding a suicide. Half of them observed the dropping or leaving behind of personal belongings or the avoidance of eye contact, more than a third erratic gesture, mimic or movement. Erratic communication patterns and general confusion were each reported by about one quarter. One fifth indicated the influence of
alcohol. Less frequently observed behaviour was aimlessly wandering (14.3%) and out of the ordinary clothing (4%). About one third of all railway suicide victims committed suicide in stations. Of those, 70% had chosen an eminent spot. The multivariate logistic regression model using prevented suicides as the outcome identified the number of suicides experienced, counselling/debriefing and having personally observed a suicide as variables with significant impact. The model using counselling/debriefing as the outcome identified age and having prevented a suicide as variables with a significant association. Our results provide evidence that railway suicides are preceded by identifiable behavioural patterns. This emphasizes the importance of educational efforts, taking into account the knowledge and skills of experienced police officers.