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## Impulsivity and Compulsivity in bulimic-type Eating Disorders

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Anorexia nervosa of the binge/purge subtype (AN-b), bulimia nervosa (BN), and binge eating disorder (BED) are characterised by recurrent episodes of binge eating associated with a sense of loss of control. Despite increased awareness and a proliferation of research on bulimic-type eating disorders (EDs), a clear, unified understanding of the driving force behind the binge-eating symptomatology is still lacking. The aim of the present doctoral thesis was to investigate the basic impairments of cognitive control functions related to impulsivity and compulsivity in patients with bulimic-type EDs. Alterations in basic neurocognitive functions may contribute to pathological binge eating behaviour in bulimic-type EDs. The dissertation consists of two parts.

Part I is a systematic review and meta-analysis of studies using neurocognitive tasks to assess impulsivity and compulsivity in patients with bulimic-type EDs (AN-b, BN, and BED). The meta-analysis gives evidence for disorder specific impairments of cognitive control functions related to impulsivity and compulsivity. In response to general stimuli, there was evidence for greater impulsivity represented by impairments of response

inhibition in BN patients and by reward related decision making in AN-b and BN patients. Noteworthy, there was a significantly larger impairment of inhibitory control to disease salient stimuli observed in BN patients. Furthermore, BED patients showed greater compulsivity represented by impairments of set-shifting to general stimuli.

Part II reports findings of a cross-sectional experimental study using both selfreport measures and neurocognitive tasks that addressed various dimensions of impulsivity and compulsivity in BN (n = 19) and BED patients (n = 54), compared to their respective age- and body mass index-matched healthy control groups (c- BN: n = 31; c-BED: n = 44). Both, BN and BED patients reported higher subjective levels of impulsivity and compulsivity. On a neurocognitive level, BN patients compared to c-BN showed lower general response inhibition (action cancelation and action withholding), but did not differ from c-BN regarding risky decision-making and indexes of compulsivity (cognitive set-shifting and attentionshifting). In contrast, full syndrome BED patients (n=15) showed greater impairments in general cognitive set shifting and attention-shifting compared to c- BED. Neither the full-syndrome nor the sub-threshold BED patients showed elevated levels of impulsivity operationalized by impaired response inhibition or more risky decision-making.

In conclusion, the present dissertation provides evidence for specific impairments of cognitive control functions related to impulsivity and compulsivity in patients with bulimic-type EDs. Interestingly, BN and BED patients differed with respect to their performance in impulsivity and

compulsivity tasks. Whereas BN patients showed higher levels of impulsivity, BED patients were characterised by greater levels of compulsivity. These findings suggest a differential binge eating psychopathology in bulimic-type EDs that may underlie phenomenological differences of binge eating in BN and BED and that indicate a promising avenue for further research.