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IMPULSIVITY IN SELF-MUTILATIVE BEHAVIOR: PSYCHOMETRIC AND BIOLOGICAL FINDINGS

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Summary—This paper examines impulsivity as a central factor in moderate/superficial self-mutilation such as skin-cutting and burning. A sample of 165 subjects were divided into four groups, namely self-mutilators, patients with any modes of impulsive behavior other than self-mutilation, patients without any impulsive behavior, and normal probands. All were administered the 10th version of the Barratt Impulsiveness Scale, the State–Trait Anger Expression Inventory, and the Inventory for the Assessment of Factors of Aggressiveness. They also were interviewed carefully in regards to both impulsive and self-mutilative behavior. A d-fenfluramine challenge test was administered to 36 females and prolactin levels were measured. On the whole results implicate impulsive personality functioning as a major factor in subjects with moderate/superficial self-mutilative behavior whose trait pathology is similar to personality disordered patients with other modes of self-harming impulsive behavior. © 1997 Elsevier Science Ltd.

Introduction

Although impulsivity is a problematic construct it is considered in Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV as a feature of many disorders (alcohol and psychoactive substance abuse, paraphilias, borderline and antisocial personality disorder, bulimia nervosa, conduct disorder, schizophrenia, mood disorders) and as an essential feature in the specifically designated impulse-control disorders of kleptomania, pyromania, pathological gambling, trichotillomania, intermittent explosive disorder, and impulse-control disorder not otherwise specified (a diagnosis often utilized by clinicians for repetitive self-mutilators and for patients with multiple impulsive symptoms). Furthermore, impulsivity is regarded as a risk factor for suicidal behavior particularly in borderline personality disorder (Soloff et al., 1994).

Because there is no generally accepted definition of impulsivity the term is used inconsistently (Herpertz, 1995; Newton et al., 1993). The DSM-IV disorders of impulse-control are characterized by a failure to resist an impulse, drive, or temptation to perform a harmful act; there is increasing tension or arousal before the act, and pleasure, relief, or gratification when the act is performed. A diagnosis may be made when the failure to resist an impulse is recurrent as in kleptomania, occurs during several discrete episodes as in intermittent

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explosive disorder, or on more than one occasion as in pyromania. Biological studies examine impulsivity in terms of motor disinhibition and aggression (Hollander & Stein, 1995; Siever & Davis, 1991). Impulsivity may also be regarded in terms of personality as a person's enduring tendency to react quickly to stimuli instead of suppressing responses (Buss & Plonin, 1975). Such a concept includes functioning at a fast cognitive tempo that compromises accuracy (Dickman & Meyer, 1988), and to a present needs orientation as opposed to a future-oriented problem-solving (Barratt, 1983, 1994). Also, impulsivity has been linked to affective dysregulation resulting in irritability and in marked, rapid shifts of affective states as seen in borderline personality disorder (Westen et al., 1992; van Reekum et al., 1994).

Self-mutilation: impulsivity, affect, and serotonin

This paper deals with self-mutilative behavior (SMB)—deliberate, direct destruction of body tissue without conscious suicidal intent—of the moderate/superficial type, such as skin-cutting, burning, and carving, which is thought to be associated with problems of impulse control and which, when it occurs repetitively meets the diagnostic criteria for an impulse-control disorder not elsewhere classified (Favazza, 1992; Favazza & Rosenthal, 1993; Favazza & Simeon, 1995; Herpertz & Sass, 1994; Pattison & Kahan, 1983; Winchel & Stanley, 1991). Some authors regard skin-cutting and other dysfunctional behaviors as maladaptive responses to failed affect regulation (Gardner & Cowdry, 1985; Linehan, 1987).

Biological studies implicate reduced serotonergic neurotransmission in both inwardly and outwardly directed aggressive behaviors, especially impulsive ones (Hollander & Stein, 1995). This finding pertains to patients with a history of attempted suicide (Asberg et al., 1987; Coccaro et al., 1989; Traskman et al., 1981), to impulsive violent offenders (Linnoila et al., 1983; O'Keane et al., 1992), to psychopaths with substance abuse (Moss et al., 1990), and to personality disordered cutters and burners (Simeon et al., 1992). A well-established index of overall central 5-hydroxytryptamine (5-HT) activity is the reduced prolactin (PRL) response to the serotonin agonist d-fenfluramine (Coccaro et al., 1989; O'Keane et al., 1991) a quite specific 5-HT releaser and reuptake inhibitor. Relevant psychopathological features claimed to be associated with reduced central serotonergic activity are assaultiveness and dysphoria (Moss et al., 1990), irritability (Coccaro et al., 1991; Coccaro & Siever, 1995), trait impulsivity (Barratt, 1994), and state depression (Asberg et al., 1984; Meltzer & Lowry, 1987).

In this study we assess impulsivity, aggressiveness, affective reactivity, and central serotonergic functioning in self-mutilators and in non-self-mutilating subjects with other modes of self-harming impulsive behavior. They are compared with (i) a clinical group of personality disordered patients who are neither impulsive nor self-mutilators; and (ii) a non-clinical control group of normal probands. Our expectations were that (i) self-mutilators would demonstrate the enduring tendencies of impulsive acting, a present needs orientation, fast paced cognitive tempo, and intense affective reactivity; (ii) self-mutilators would not differ from patients displaying forms of dyscontrolled impulsive behavior other than self-mutilative behavior with regard to personality features and biological measures; and (iii) decreased central serotonergic functioning would correlate positively with behavioral disinhibition.