

# Assessing the functions of self-harm behaviours for dangerous and severely personality disordered males in a high secure hospital

**Jen Gallagher**

PEAKS ACADEMIC AND RESEARCH UNIT, RAMPTON HOSPITAL, UK

**Kerry Sheldon**

PEAKS ACADEMIC AND RESEARCH UNIT, RAMPTON HOSPITAL AND INSTITUTE OF MENTAL HEALTH, NOTTINGHAM, UK

## ABSTRACT

The three aims of the study reported were to investigate the functions of self-harm in a population of patients detained in the Peaks Unit at Rampton hospital, to investigate the context and nature of this behaviour and to examine how staff respond to incidents of self-harm. The findings indicate that there may be some functions of self-harm specific to this population in addition to those found in other settings, namely expression of aggression and revenge. The context and nature of incidents were similar to those found in other secure settings. A range of staff responses were observed, and indicated high demand on staff time and resources. Limitations of the methods are discussed, with proposals for future research.

## KEY WORDS

self-harm; self-injury; dangerous and severe personality disorder; functions; high secure

## Background

Self-harm may be defined as any intentional act that might cause physical harm to the individual, in the absence of suicidal intent (Klonsky *et al*, 2003). The management of self-harm is expensive, requiring hospitalisation, health care and increased observations for inpatients (Yeo, 1993; Hawton & Sinclair, 2003). Following an initial incident of self-harm, it is highly likely that an individual will go on to harm themselves again (Haw *et al*, 2007), present themselves to many different health services

(Allen, 1995) and even commit suicide (Owens *et al*, 2002). Self-harm behaviour is disruptive in a forensic health care setting, as high dependency on staff and maladaptive coping could act as obstacles to progression and disturb the ward environment. Staff working with frequent self-harm report it as distressing, traumatic and stressful (Thompson *et al*, 2008; Bowers, 2002), which could result in high staff sickness and low staff morale (Rose *et al*, 2004). Staff sickness can be a significant problem; for instance, during 2008 1246 days were

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taken by nursing staff, occupational therapists and educational staff on the Peaks Unit, Rampton Hospital as a result of stress/anxiety alone.

There is a plethora of research on self-harm, but it is commonly found in the context of borderline personality disorder (BPD) (Gunderson & Links, 2008), and often involves female samples (Shearer, 1994; Klonsky, 2007), community or out-patient samples (Brown *et al.*, 2002) or adolescents (Nock & Prinstein, 2004). The research in these areas proposes similar functions such as affect regulation, attention seeking (a 'cry for help'), influencing others to do or feel something and regaining control of one's environment (Nock & Prinstein, 2004; Klonsky, 2007).

While self-harm is particularly prevalent in individuals with BPD, it is important to acknowledge that it exists in other personality disordered groups (Klonsky *et al.*, 2003; Haw *et al.*, 2001), and whether the function varies according to diagnosis merits further research (Klonsky, 2007). There is an increased incidence of self-harm behaviour in high secure populations such as prisons (Favazza, 1996) and psychiatric forensic units (Walsh, 2009), where personality disorders are prevalent (Coid, 1984; Ullrich *et al.*, 2008). A press release from the Howard League for Penal Reform (2008) reported 22,459 incidents of self-harm in prisons in 2007. The literature that examines self-harm within high-secure settings tends to focus on the prevalence, context and nature of the incidents rather than the function(s) that it serves (Mannion, 2008; Lohner & Konrad, 2006). This literature suggests that self-harm usually takes place in private rather than communal or educational areas, and that the most common methods include scratching, punching and head-banging.

Daffern and Howells (2009) proposed that self-harm may be elevated in secure populations because it could serve as a replacement for the aggression that would have been used in the community. This may be supported by the finding that the most common antecedent for self-harm in one forensic psychiatric high secure hospital was conflict on the ward (Mannion, 2008). Other authors propose that controlled environments increase feelings of boredom and despair (Favazza, 1996). Literature that investigates the functions of self-harm in secure settings is commonly biased towards females in psychiatric settings (Shearer, 1994) or prisons (Jeglic *et al.*, 2005). Additional functions suggested in this literature include self-punishment, communication of desolation and self-stimulation (Jeglic *et al.*, 2005).

Research indicates conflicting staff opinions on the most effective management strategies for self-harm (Huband & Tantam, 1999). Communication between staff members and encouraging patients to discuss their emotions were commonly viewed as effective strategies by both staff and patients (Huband & Tantam, 1999, 2004). More research is required on the strategies staff employ, and whether there is consistency in management of self-harm. There are suggestions that poor training and lack of awareness of self-harm make it difficult to put in place effective prevention and management strategies for self-harm (Bowers, 2002), increase negative attitudes to self-harmers and lead to more negative interpretations of the behaviour (Jeffrey & Warm, 2002). Staff attitudes to patients with personality disorder have frequently been shown to be negative (Bowers, 2002), which may lead to more negative interpretations of self-harm in this population (Lewis & Appleby, 1988). Such interpretations may influence the style of management used (Tantam & Huband, 2009), which may be not only detrimental to physical health but also damaging to self-esteem and mental health, potentially leading to increased self-harm, and reducing the effectiveness of treatments (Gough & Hawkins, 2000).

### The study

The aims of the present study are as follows.

- Investigate the functions of self-harm behaviour for a population of male patients deemed dangerous and severely personality disordered.
- Investigate the context and nature (location, time and method) of the self-harm incidents that have taken place on the Unit.
- Investigate staff responses to self-harm incidents.

The study looked at all recorded incidents of self-harm for each individual since their admission to the Peaks unit, in line with NICE guidelines which state that:

*each act must be assessed separately to determine the motivation behind it. Failure to do this can result in the meaning of the act being misunderstood and in an interpretation that the service user finds judgemental or dismissive (2004 pp18–19).*

### Setting

The Peaks Unit in Rampton high secure hospital is a 70-bedded unit containing seven wards for male patients. It is part of a national dangerous

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and severe personality disorder (DSPD) project to treat those with complex personality disorders who are ill-served by current mental health services (DSPD Programme, 2008). The project includes four sites: two within the prison service and two within the health service. For a review of patient characteristics of those admitted to the Peaks Unit, see Sheldon & Krishnan (2009). Mannion (2008) reported that 61.4% of patients admitted to the Peaks Unit engaged in at least one incident of self-harm, with a mean of 2.57 self-harm incidents occurring per patient per year.

### Methodology

This was a retrospective study. There were 53 patients at the time of the project (December 2008). Each patient had been admitted to the Unit between March 2004 and September 2008 and had been assessed as meeting the criteria for DSPD admission (DSPD Programme, 2008). In order to establish which of the 53 patients had self-harmed, data recorded on standard hospital incident report forms (IR1s), which are stored centrally by the risk management department of the mental health trust on a database called Sentinel, were reviewed. A list of self-harm incidents for each of the patients was produced. For the purposes of the study, incidents in which a patient caused some observable injury (internal or external) to himself were included, regardless of the presence or absence of suicidal ideation. The definition was modified due to security measures in place which can make it difficult to determine the patient's true intent. Refusals of medication and food were included when ward staff reported them as incidents of self-harm. This resulted in a total sample of 29 patients who had self-harmed at least once at the Peaks Unit, and a total of 386 self-harm incidents.

An electronic program for recording patients' daily nursing notes, known as RIO, was used to obtain more detailed descriptions of each of the incidents, such as the location, method used, time of day, staff response, and the antecedents and consequences of the incident.

We generated eight hypothesised functions of self-harm from a thematic analysis (Braun & Clarke, 2006) of the literature (Nock & Prinstein, 2004; Klonsky, 2007; Jeglic *et al.*, 2005). The eight functions were affect regulation, self-punishment, feeling generation, sensation seeking, psychosis, control, interpersonal influence and anti-suicide (*Table 1*, opposite). The definite presence, possible presence or absence of each of these functions was tested on a pilot sample of 26

incidents from three patients. It was found that some incidents could not be understood in terms of the hypothesised eight functions, so two further functions were added: expression of aggression and revenge (marked with asterisks on *Table 1*). This resulted in a total of 10 functions.

All 386 incidents were reviewed to identify the presence or absence of each of these ten functions. It was possible for all, or one, of the functions to be present in each individual incident. Each incident was also rated on location, time of incident, method of self-harm and staff response. All 386 incidents were coded by one of the authors. A doctoral-level psychologist blind to the initial ratings coded a random sample of 20% ( $N = 74$ ) of the incidents, and an inter-rater reliability of 0.95 was found, indicating very good inter-rater reliability.

### Sample

The mean age of the 29 patients included in the study on their admission to the unit was 32.9 years (s.d. = 7.76, range 19–52). Most of the patients were single (72%) and were of white British ethnic origin (86%). The average PCL-r was 28.5 (s.d. = 3.5). The International Personality Disorder Examination (IPDE; Loranger, 1997) was used in the Unit to assess personality disorder. The breakdown of diagnoses across the sample was as follows: Antisocial (ASPD) (89%), Borderline (BPD) (61%) and Paranoid (36%); 54% of the patients were diagnosed with co-morbid ASPD and BPD, but 40% were diagnosed with ASPD **without** BPD.

Not surprisingly given the admission criteria (DSPD programme, 2008), the index offences were violence (including murder, manslaughter and ABH) for 69% ( $N = 20$ ), sexual offences (such as rape and indecent assault) for 34% ( $N = 10$ ) and non-violent offending (for example theft and breach of licence) for seven per cent of the sample ( $N = 2$ ).

The mean length of stay in the Unit (on 31st December 2008) was 1142 days (s.d. = 478.3, range = 107–1742). Those who self-harmed had been on the Unit for significantly longer (median = 1249.0) than those who did not self-harm (median = 616.5) ( $U = 175.0$ ,  $p = 0.002$ ). The average amount of time that the patients had spent on the Unit before their first self-harm incident was 273 days (s.d. = 322 range = 0 to 1116).

## Results

### The functions of self-harm

*Figures 1* and *2*, page 27, indicate the proportion of incidents and patients respectively that demonstrated each proposed function of self-harm.

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**Table 1: Proposed functions of self-harm in a DSPD population**

<b>Function</b>	<b>Definition</b>	<b>Hypothetical examples</b>
Affect regulation	Self-harm is used to release or reduce negative feelings. Alternatively, individuals may use self-harm to demonstrate their negative feelings, or their severity.	<i>'I use self-harm to relieve overwhelming anxiety'</i> <i>'I use self-harm to show staff how upset I am'</i>
Self-punishment	The individual uses self-harm to punish himself. This could be for actions (if he feels guilty), thoughts or experiences.	<i>'I self-harm because I deserve to feel bad for what I have done'</i> <i>'I self-harm to punish myself for bad thoughts'</i>
Feeling generation	Includes self-harming to relieve dissociation, e.g. to stop feeling numb or empty. The individual may describe wishing to feel anything at all, even if it is pain.	<i>'I self-harm to remind myself that I am still alive'</i> <i>'I self-harm to bring myself back to earth'</i>
Sensation seeking	Individuals may describe self-harming to get a high, or an adrenaline rush. The behaviour produces excitement or stimulation.	<i>'I get a kick out of self-harming'</i> <i>'I love the rush I get when I self-harm'</i>
Psychosis	Patients may report auditory hallucinations instructing them to self-harm, or controlling their actions. They may believe that they will please an important individual such as God or the devil by self-harming.	<i>'I hear a voice that tells me to hurt myself'</i> <i>'The devil possesses my arm and makes me scratch myself'</i>
Control	Self-harm is used as a way to control the environment, or to enhance perceived control.	<i>'I self-harm because staff can't stop me from doing it'</i> <i>'I self-harm to protest against my constrained lifestyle'</i>
Interpersonal influence	Self-harm is used as a way to influence others in order to achieve some goal. The goal may be some tangible, such as access to some quiet time or to gain attention or care.	<i>'I self-harm because I'm afraid to spend the night alone and it means I will have increased observations'</i> <i>'I self-harm to get away from the other patients for a while'</i>

(continued...)

**Table 1: Proposed functions of self-harm in a DSPD population (continued)**

Function	Definition	Hypothetical examples
Anti-suicide	The patient may be experiencing suicidal ideation, and use self-harm to stop himself committing suicide, or to express the severity of his suicidal thoughts.	<i>'I self-harm to show staff I'm serious about killing myself'</i> <i>'I self-harm to stop myself from killing myself'</i>
Expression of aggression*	Due to the highly restricted environment within the Peaks Unit, patients may self-harm when they are prevented from lashing out at the true target of their aggression. Note that the restrictions may not be physical, but might include rules or guidelines.	<i>'I punched the door because I was in seclusion so I couldn't punch the patient that I was angry with'</i> <i>'I head-butted the door because I wanted to punch my named nurse, but I knew that I would get into trouble if I hurt him'</i>
Revenge*	Relevant when self-harm is used to cause some suffering to others, as a direct or indirect result of the self-harm.	<i>'I self-harm to make my brother feel guilty for not paying enough attention to me'</i> <i>'I self-harm to make extra paperwork for the nursing team'</i>

Note that **Figure 2** includes functions that were deemed possibly or definitely present in an incident carried out by that individual.

- 200 incidents were carried out in order to regulate affect; 79% of patients self-harmed for this reason at least once.
- 54 of the self-harm incidents were performed with the function of interpersonal influence; 41% of patients displayed this function in one or more incidents.
- 33 incidents were thought to serve the function of expression of aggression; 48% of patients self-harmed for this reason at least once.

**The context and nature of self-harm**

- The number of incidents did not vary according to the time of day (**Figure 3**, page 28).
- Most self-harm incidents took place in seclusion or in patient bedrooms (**Table 2**, page 28).
- The types of self-harm used by the largest proportions of patients were scratching/cutting, punching/hitting and head-banging (**Table 3**, page 29).

**Staff responses to incidents of self-harm**

**Figure 4**, page 29, indicates that the most common staff responses to an incident of self-harm were first aid or medical responses ( $N = 246$ ). They were followed by advice ( $N = 234$ ), which included asking the patient to stop self-harming, advising the patient that self-harm was inappropriate, discussing the incident with the patient, advising the patient of the consequences of his self-harm, giving support and reassurance, offering praise for using alternative coping strategies, and encouraging use of distraction techniques. Increased staff presence was also a common response ( $N = 113$ ) and included increased room searches and staff observations, and staff entering the room at times when they usually would not (overnight and seclusion). In 97 incidents staff informed other significant professionals, such as the on-call doctor. In 94 incidents extra safety restrictions were put in place. They included being moved to a stripped room or seclusion, use of strong bedding and clothing, and restricted access to items or sessions. A large number of incidents ( $N = 38$ ) had no recorded staff response. This is likely to be due to under-reporting.

Figure 1: The number of incidents in which each function was demonstrated

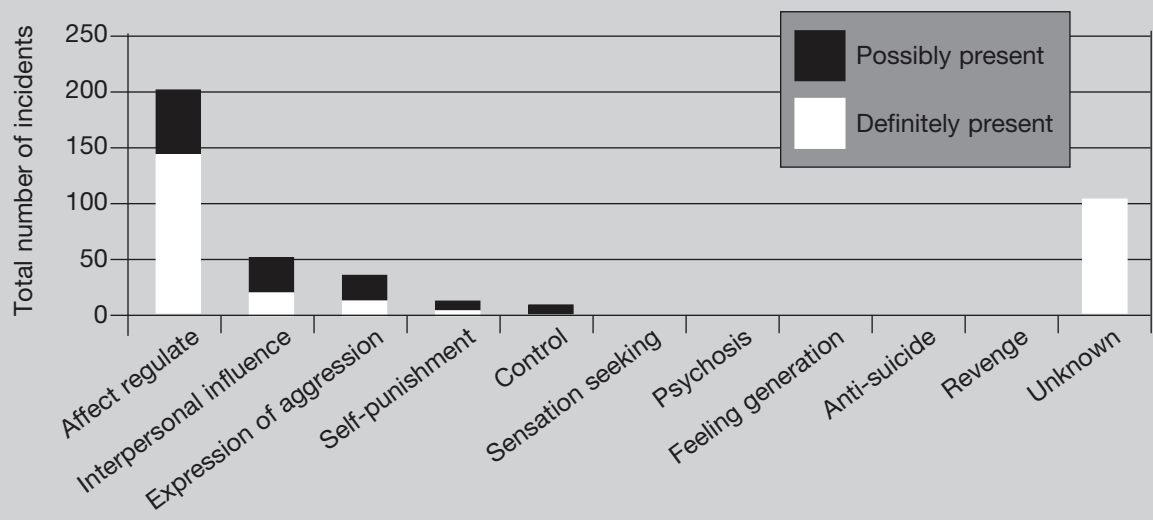
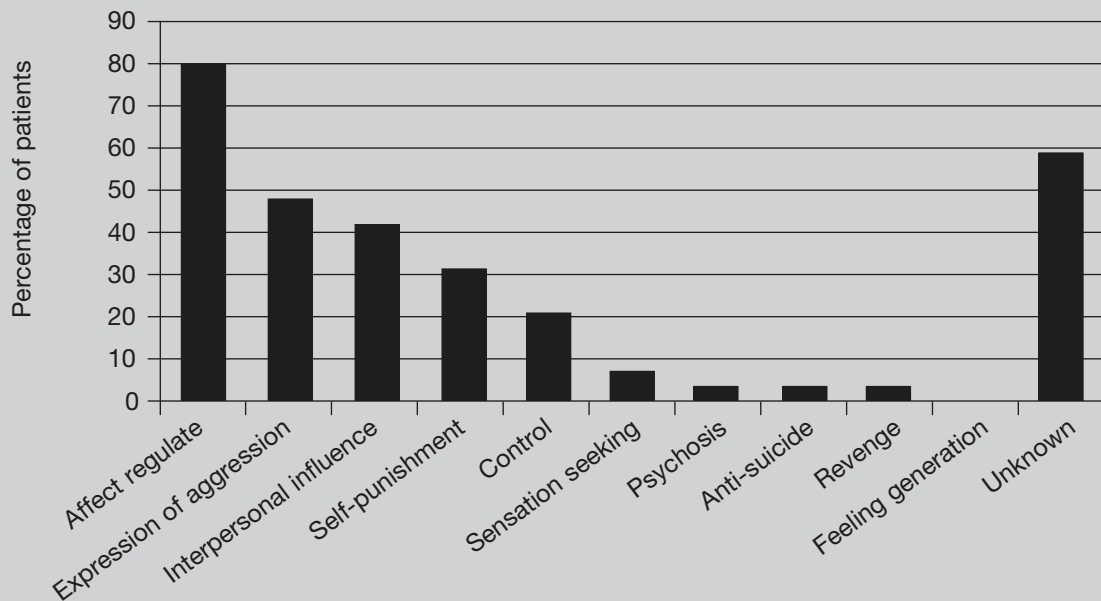


Figure 2: The number of patients who had engaged in each proposed function on at least one occasion



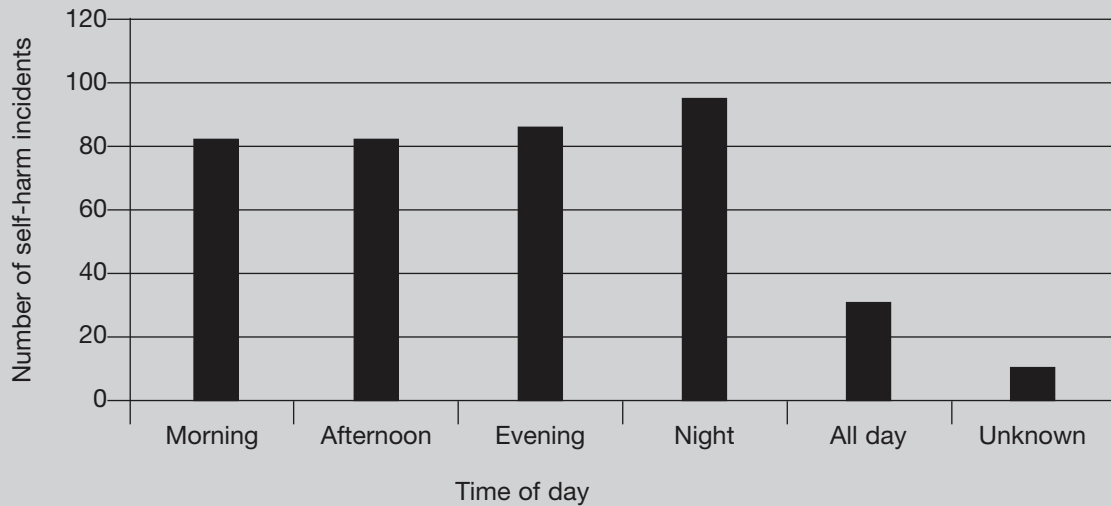
## Discussion

The initial aim of the study was to investigate the functions of self-harm in a male DSPD population. The most common motivations were emotion/mood regulation, expression of aggression and to influence other individuals' behaviour or emotions. These parallel psychopathic traits, according to the PCL-r (Hare, 2003), including manipulation and poor behavioural controls, as well as anti-social traits such

as low tolerance of frustration (Loranger, 1997), and are consistent with those identified in the literature examining females with borderline personality (Brown *et al*, 2002). However, this research also suggests that self-harm is a common response when one feels 'numb' and wants to generate any physical or emotional sensation, which was not reflected in the present study. This could be due to under-reporting or the comprehensive nature of the affect regulation category.

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**Figure 3: Time of self-harm incident**



NB. Morning 6am to noon; Afternoon noon to 5pm; Evening 5pm to 9pm; Night 9pm to 6am.

**Table 2: Location of self-harm incident**

Location	Number of self-harm incidents	% of total incidents	Number of patients (N = 29)	% of patients
Patient bedroom	188	49	22	76
Seclusion	93	24	17	59
Dayroom	12	3	9	31
Gym	3	1	1	3
Patient toilet	16	4	6	21
Corridor	4	1	2	7
Dining room	2	1	2	7
Quiet room <sup>1</sup>	2	1	1	3
Bath	1	0	1	3
CRB <sup>2</sup>	1	0	1	3
Courtyard	1	0	1	3
N/A <sup>3</sup>	40	10	4	14
Unknown	20	5	7	24

<sup>1</sup>There is a quiet room on each ward where patients can take time alone, or with staff.

<sup>2</sup>Central Resource Building (CRB) is an area in the Peaks Unit where patients engage in therapeutic activities, such as occupational therapy, education and psychological therapies groups.

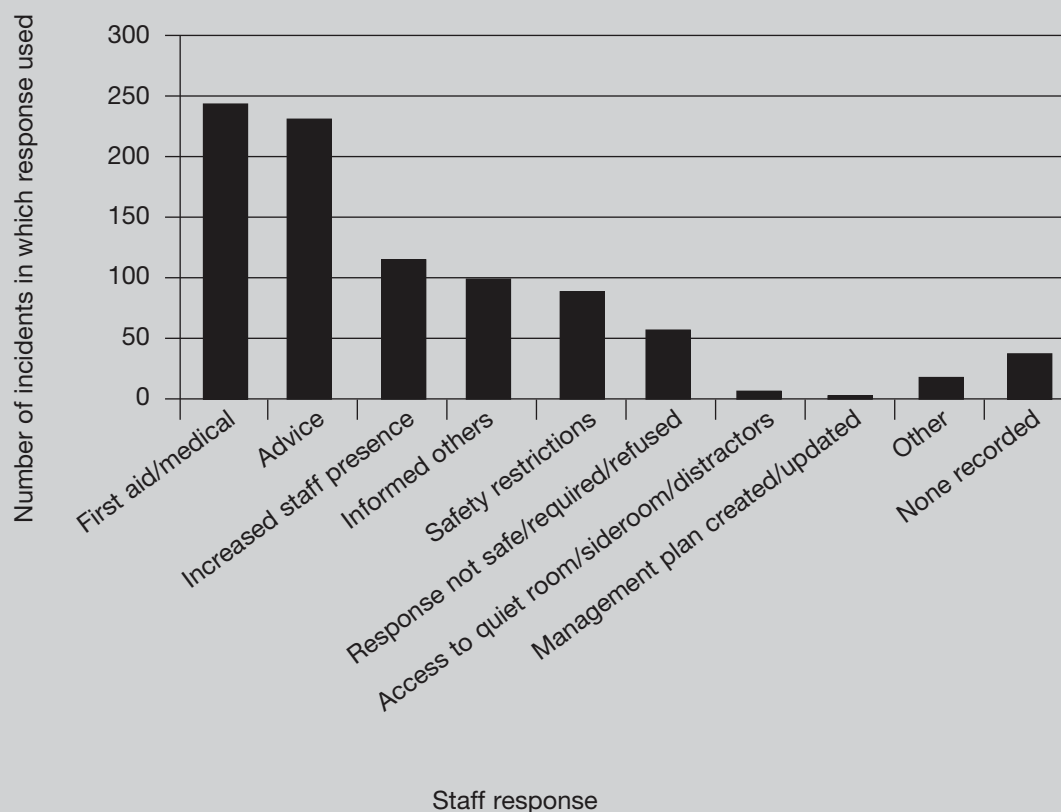
<sup>3</sup>Applies to incidents that may have taken place for long periods of time, such as hunger strikes and medication refusals, and so were in multiple locations.

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**Table 3: Method of self-harm**

Location	Number of self-harm incidents	% of total incidents	Number of patients (N = 29)	% of patients
Stabbing/cutting	127	33	14	48
Refusing food/fluids	36	9	8	28
Refusing medication /treatment	20	5	4	14
Punching/hitting	86	22	17	59
Interfering with wound	34	9	5	17
Biting	6	2	2	7
Ligation/asphyxiation	16	4	9	31
Head banging/butting	41	11	12	41
Insertion/swallowing of foreign objects	13	3	5	17
Injury known but method unclear	8	2	6	21
Unknown/other	21	5	8	28

**Figure 4: Staff responses to incidents of self-harm**



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There was evidence of functions that are shared with a more general population (Nock & Prinstein, 2004; Klonsky, 2007), and of functions suggested in high secure (Jeglic *et al*, 2005). There was also evidence of the additional function of expression of aggression, as suggested by Daffern and Howells (2009), and a revenge function. There is little literature on self-harm as revenge, but there is a suggestion from cross-cultural research that suicide may serve a revenge function following abuse (Counts, 1987). In the cases of revenge self-injury in the present study there was some reference to punishing abusers. Future research into this function would be desirable.

The second aim of the study was to examine the nature and context of self-harm incidents. Consistent with previous work, patients engage in self-harm mainly in residential areas, rather than more public areas, and particularly in patient bedrooms (Nijman & Campo, 2002). There was also a high rate of self-harm in seclusion rooms, explained by the understanding that self-harm is private behaviour (Conterio & Lader, 1998). Stabbing/cutting and punching oneself, as well as head-banging, were common forms of self-injury for our patients, consistent with prisoners' behaviour (Lohner & Konrad, 2006). There were, however, fewer self-poisoning incidents in our sample than in community and less secure populations (White *et al*, 1999). This is probably due to rigorous security procedures in place with regard to medication in the Peaks Unit which reduce ease of access to dangerous substances, so the most accessible methods are the most commonly used.

With regard to the third aim, staff responses indicated that incidents of self-harm often require a lot of staff time or presence, whether in the form of a medical response, increased observations or providing advice. This demand on staff time may put added pressure on the already-busy staff on the wards and prevent them from completing other activities. It is possible that the reduction in on-ward staff will restrict other patients due to security measures in place at the hospital; for example, there might not be enough staff to facilitate another activity for patients or to provide an escort.

### Limitations

The study is limited in three respects. First is the reliance on nursing notes and incident data. The accuracy of this resource has not been established, and there are issues with the data including under- or over-reporting and staff bias. The notes used

were produced by nurses and therapists rather than the patients themselves, so they would have been subject to some interpretation prior to analysis. However, it is important to note that the nursing notes were all completed by professionals who had received the appropriate training, thereby decreasing some subjectivity, and RIO and Sentinel were both developed to record serious incidents such as self-harm and violence.

Second, a lack of information was a salient issue in this study; 7%, 5% and 27% of incidents were recorded as 'unknown' with regard to method, location and function respectively. There are many reasons why this might have happened; full details might not have been recorded, patients might have chosen not to disclose certain information or have difficulty vocalising certain feelings, etc. As a result, it is possible that some functions are over- or under-represented.

Third, the validity of the set of proposed functions should be examined for this population. Some functions may exist for this population that were not considered, whereas others may have been included when they might not be applicable to this population. Some of the functions may have been over-comprehensive. For example, affect regulation was an extremely broad category, including people who self-harm to reduce negative emotion and those who self-harm to give themselves a 'lift'. These may be distinct functions, hence the large proportion of patients falling into this category. On the other hand, functions may have overlapped; for example, sensation seeking could be considered a subdivision of affect regulation since an emotional response is achieved.

It is proposed that the above limitations would be reduced or eliminated if structured interviews were carried out with patients. Future research will be carried out by the authors, including a functional analysis of future self-harm behaviour in the Peaks Unit. A functional analysis enables the researcher to establish the links between stimuli (the antecedents to the self-harm) and the behaviour of interest (the self-harm itself), and can highlight which factors maintain the maladaptive behaviour, and hence the most effective treatments or management strategies for the individual (Hanley *et al*, 2003; Daffern & Howells, 2009). Similar research on aggression has highlighted that this may not only indicate the function that the behaviour has for the patient, but also raise the possibility that normal responses to the behaviour on the ward may serve to maintain the behaviour of concern (Drinkwater & Gudjonsson, 1989).

### Conclusion

In summary, this paper is the first to describe the functions of self-harming for a DSPD population. Self-harm appears relatively rare behaviour for DSPD patients compared with women's services in the same hospital and violent incidents in the same unit (Uppal & McMurrin, 2009). Importantly, the motivations for self-harming for our DSPD patients are diverse and complex. Any incident can fulfil a range of functions and any patient may self-harm for a range of reasons over time. This is evidence to support an individualised approach to care for patients, and further research should aspire to produce a method of assessment that can describe patterns observed in an individual, enabling the generation of individual formulations of self-harm behaviour and appropriate interventions.

### Implications for practice

- Management plans should be individualised, and updated over time.
- Further research should aim to produce a clinical tool to assess the function served by an individual incident of self-harm.
- More training should be given on the management of self-harm, and guidelines should account for the many functions that the behaviour may serve.

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