

Exploring Individuals' Experiences of Body Modification and Self-Harm: Is There a Relationship?

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Declaration and signature of candidate	
<p>I confirm that the thesis submitted is the outcome of work that I have undertaken during my programme of study, and except where explicitly stated, it is all my own work.</p>	
<p>I confirm that the decision to submit this thesis is my own.</p>	
<p>I confirm that except where explicitly stated, the work has not been submitted for another academic award.</p>	
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Abstract

Paper one is a narrative literature review of nine studies. It reviews the current evidence base regarding what is known about the relationship between body modification and mental health. Four main categories were reported: associations between body modifications and mental health; associations between number of body modifications and mental health; associations between body modifications and past abuse; and associations of body modifications with risk behaviours. The findings of these studies were mixed. All included studies had some methodological flaws but were regarded as of fair to good quality. All reviewed studies were cross-sectional making it impossible to determine the direction of the relationship between body modifications and mental health.

Paper two is an empirical study which explored the experiences of body modification in eight UK women with experience of self-harm behaviours. There are similarities between these behaviours, but associations between them has received little attention in the literature to date. Interviews were conducted using instant messaging services and telephone. Interpretative Phenomenological Analysis was used to identify two superordinate themes linking body modifications and self-harm behaviours: Coping Strategies and Body Modifications as Protective. The findings are discussed, along with clinical implications, limitations and suggestions for further research in this area.

Paper three is an executive summary. This has been written as an accessible document intended for dissemination of the findings to the general population. The research method, findings, clinical implications and suggestions for further research have been summarised within this report.

Paper one: Literature Review

**What is Known About the Relationship Between Body
Modification and Mental Health? A Review of the Literature.**

This paper has been broadly prepared in accordance with the requirements of the
British Journal of Clinical Psychology .

Author Guidelines are listed in Appendix A.

Word Count: 7,276

Abstract

Objectives

This review updates and extends an earlier review of the relationship between mental health and piercings (Bui, Rodgers, Cailhol, Birmes, Chabrol, and Schmitt, 2010) by including other forms of body modification. It aims to establish ‘what is known about the relationship between body modification and mental health?’

Methods

This narrative literature review systematically identified papers exploring the relationship between body modifications (tattoos and non-earlobe body piercings) and mental health. EBSCO host was used to search the Healthsciences databases (Medline, CINAHL and SPORTDiscus) and the Psychology and Sociology databases (PsycINFO, PsychARTICLES, CINAHL and the eBook Collection) to identify relevant literature using the search terms “body modification” OR “tattoo” OR “piercing” OR “implant” AND “mental health”.

Results

Nine articles were reviewed. The findings indicate mixed results regarding a relationship between body modifications and mental health, and between body modifications and risk behaviours. Although not all studies reported the number of body modifications, the reviewed studies suggested a link between increasing numbers of body modifications and likelihood of experiencing mental health difficulties. The included studies indicate an association between historical experiences of abuse and body modifications, suggesting that this may be a mediating factor in the relationship between body modifications and mental health.

Conclusions

The small number of studies included in this review had variable methodological quality. The findings considering the relationship between body modification and mental health are mixed. Clinical implications are included.

Limitations of this review are discussed and suggestions for further research are made.

Practitioner Points

- Clinicians should be aware of the association between body modifications and past abuse.
- A high number of body modifications may indicate mental health distress.
- Body modifications can have a positive impact on mental health.

Limitations

- This review included a small number of studies.
- Articles not written in English were excluded.
- Assessment of methodological quality was completed by one reviewer.

Introduction

Background

Mental Health

The World Health Organisation (2014) defines mental health as “a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.” The American Psychiatric Association (2015) defines mental illness as a change in “thinking, emotion or behaviour (or a combination of these)” that is associated with “distress and/or problems functioning in social, work or family activities.”

The 2014 Health Survey for England (Bridges, 2014) found that 26% of adults reported having ever been diagnosed with at least one mental health problem. Women were more likely than men to report ever having been diagnosed with a mental health problem (33% compared with 19%).

The Mental Health Foundation (2016) report that mental health problems are one of the main causes of the overall disease burden worldwide. The most common mental health problem worldwide is depression, followed by anxiety, schizophrenia and bipolar disorder. Although measuring the prevalence of mental health problems is challenging for a number of reasons, the most reliable data for trends and prevalence of many different mental health problems in the UK is provided by the Adult Psychiatric Morbidity Survey (AMPS, McManus, Bebbington & Jenkins, 2016). The APMS reports that nearly half (43.4%) of adults think that they have had a diagnosable mental health condition at some point in their lives. 19.5% of men and 33.7% of women have had diagnoses confirmed by professionals, while 36.2% of people who self-identified as having a mental health problem have never received a diagnosis from a professional. The Office of National Statistics (Randall, Corp, & Self, 2014) report that 19.7% of people in the UK (aged 16 and older) showed symptoms of anxiety or depression as measured by the General Health Questionnaire (GHQ-12).

Body Modification

Body modification (BM) is defined as “the (semi-) permanent, deliberate alteration of the human body” (Wohlrab, Stahl, & Kappeler, 2007. p.87), and includes piercings (other than the earlobe, following Bone et al. (2008)), tattoos, sub-dermal implants and scarification. A piercing is defined as “an opening in any part of the body (except the earlobes) through which jewellery might be worn.” (Bone et al., 2008, p. 2). Tiggemann and Golder (2006) define tattooing as “the insertion of coloured pigment into the dermal layer through a series of punctures in the skin in order to create a permanent marking” (p. 245)

Bone et al. (2008) conducted a survey of 10,503 members of the general adult population in England and estimated the prevalence of body piercing, other than the earlobes, to be 10% (1049 people, 95% CI: 9.4-10.6%). Body piercing was more common in women and in younger age groups. 305 of the 659 women aged 16-24 surveyed reported having a piercing (46.2%, 95% CI: 42.0-50.5%). Laumann & Derick (2006) conducted telephone interviews with participants across the United States. They found that 120 of the 500 respondents (24%) reported having a tattoo. 176 respondents (35%) reported having had piercings, including soft ear lobe piercings. 104 of those with piercings (59%) had only had soft ear lobe piercings. 72 (14%) of all respondents had ever had a non-soft ear lobe piercing (body piercing).

Previous work conducted examining motivations for engaging in BM has found that the two most commonly given reasons in a questionnaire completed by college students in the USA were ‘to express myself’ and ‘to be an individual’ (Hill, Ogletree, & McCrary, 2016). In a study conducted in Turkey, Atik and Yildirim (2014) found that the motivations for getting tattoos were focused in the area of desire for self-expression. Pentina and Spears (2011) found that the motivations for getting a tattoo amongst US college students can be based on the significance of the meaning of the tattoo design for the individual, including cultural symbolism and memorialising people and events. Stirn (2003) completed a review of psychological motivations for obtaining body piercings. She found a variety of motivations including provocation by violating socially defined beauty standards, peer pressure, a rite of passage, fashion, a way to denote individuality or to commemorate both

positive and negative experiences. She also states that body piercing can be seen as therapeutic as the procedure is followed by a period of self-care, which forces the individual to be concerned with their body and themselves during the healing process.

Historical documents show the presence of piercings (Ferguson, 1999) and tattoos (Goldstein & Sewell, 1979) in various cultures. The main motivations in non-western societies are reported to be associated with ritual initiation, rites of passage and sexuality (Stirn, 2003) or status within the group (Goldstein & Sewell, 1979). As this differs a great deal from the motivations for obtaining body modifications in western societies, work focusing on body modification in non-western societies will not be the focus of this review.

Relationships Between Mental Health and Body Modification

The existing literature has found some evidence of a relationship between mental health and body modifications (BMs). Tattoos have been found to be more common in people who have psychiatric problems and come into contact with mental health services (Vivek, Verghese, & Harvey, 2010). Williams (1998) reports that of the 96 acute adult psychiatric admissions to a mental health hospital in south west England in a three-month period, seven per cent of patients had multiple pierced ears, three per cent had piercings in other areas of their bodies and 16% had tattoos.

Tattooing is significantly correlated with poorer levels of self-rated mental health in members of the German population (aged 14-93; Stirn, Hinz, & Brähler, 2006). However, interviews with members of the British public revealed that BMs were generally not perceived as a form of self-harm (Newton & Bale, 2012).

Non-suicidal self-injury (NSSI) is associated with mental health disorders such as depression or anxiety. It is differentiated from BMs because of the socially accepted nature of BMs such as tattoos or piercings (American Psychiatric Association, 2013). Self-harm has been found to be associated with an increased risk of suicide (Zahl & Hawton, 2004; Cooper et al., 2005). BM has been found to be associated with a higher incidence of previous suicide ideation and attempted suicide in a sample of

individuals recruited from a BM website. This relationship was mediated by a history of self-reported depression (Julie Hicinbothem, Gonsalves, & Lester, 2006).

Bui et al. (2010) conducted a systematic review examining the relationship between body piercing and psychopathology. They reviewed 23 studies published between 1995 and 2007. The included studies had a range of sample sizes (40-7,548). Participants ranged in age from 12 to 71 years and were drawn from a variety of populations. Their review considered high-risk behaviours, personality traits and psychopathological symptoms in relation to body piercings. They report that a number of studies point to a possible relationship with self-reported psychopathological symptoms. They report non-significant relationships between body piercing and eating disorders in the two studies that investigated this association, and reported the findings relating to the association between body piercing and depressive symptoms, suicide ideation and suicide attempts were “less consistent” as some studies found significant results whereas others reported non-significant relationships.

Rationale for Review

The existing research has identified some relationships between mental health and BMs. The current literature focuses on psychiatric populations, which may differ from the general population, or the perceptions of the mental health of people with BMs. However, only one systematic review in this area has been identified (Bui et al, 2010). This review focuses on the relationship between mental health and piercings only, it does not consider other forms of body modification such as tattooing.

Therefore, the current review updates and extends upon Bui’s review by including other forms of body modification. It aims to establish ‘What is known about the relationship between body modification and mental health?’

Method

Search Strategy

The search for this review was completed in May 2018. EBSCO host was used to search the Healthsciences databases (Medline, CINAHL and SPORTDiscus) and the Psychology and Sociology databases (PsycINFO, PsychARTICLES, CINAHL and the eBook Collection) to identify literature relevant to the research question. The relevance of the identified literature was assessed through a three-stage screening process. Initially, the titles were examined, then the abstracts were scrutinised, followed by consideration of the full text. Articles that met the inclusion and exclusion criteria were included for review.

Initially, no start date was identified for papers to be included. However, during the course of the review a systematic review of the literature in this area was identified (Bui et al., 2010). It was expected that any relevant papers published prior to the date Bui et al. completed their search would have been included in their review and would therefore not provide any additional information for this review. However, as it can take time for an article to be published following data collection, it was decided to include papers published in or after 2007 as this was the publication date of the most recent article included in Bui et al.'s review. None of the studies in Bui et al.'s review were included in the current review.

No limits of research methodology used were set. Articles were limited to those from Western countries (Western Europe, USA, Australia and New Zealand) as BMs have different meanings in different cultures (Dieter-Wolf & Diaz-Granados, 2013). Articles were restricted to those with adult participants (aged 18 years and older) due to the legality of obtaining tattoos prior to this age (Tattooing of Minors Act, 1969). Whilst it is legal in the UK to obtain piercings before the age of 16 (Chartered Institute of Environmental Health, 2013), parental consent may be required which could influence the results obtained.

Previous knowledge of the literature had identified articles concerning forms of BM that were outside the scope of this review, such as cosmetic surgery. The search terms included 'implant' as articles concerning subdermal implants as a form of BM

met the criteria for inclusion. However, earlier scoping searches with this term had returned many articles that were not relevant as they concerned devices implanted for medical reasons, such as cochlear implants. As a result, these terms were excluded using the Boolean operator 'NOT'.

The search criteria applied were:

- "body modification" OR "tattoo" OR "piercing" OR "implant"
- AND "mental health"
- NOT "cosmetic surgery" NOT "cochlear" NOT "breast" NOT "naltrexone"
NOT "contraceptive" NOT "prosthesis" NOT "dental" NOT "penis"

Inclusion and Exclusion criteria

The following inclusion and exclusion criteria were applied to the search results.

Inclusion criteria:

- A focus on mental health conditions, body modifications and the interaction between these
- Participants are adults
- Studies are conducted in countries with a Western culture
- Articles are peer reviewed

Exclusion criteria:

- Articles published before 2007
- Articles published in a language other than English
- Articles with a medical perspective of mental health and body modifications
- A focus on others' perceptions of people with body modifications
- A focus on reasons for removing body modifications

Mental Health was defined as a specified mental health condition, including: depression, anxiety, suicidal ideation, suicide attempts, eating disorders, and self-

harm. The definitions of 'Body modification' (Wohlrab et al., 2007;) and tattooing (Tiggemann and Golder; 2006), as stated in the introduction, were used.

The search terms above were entered into EBSCOhost. Duplicate records were removed from the search results. Initially, the titles of the items returned in the search were examined and articles that were not relevant to this review, for example those that did not focus on mental health or BM, were removed. Following this the abstracts for the remaining articles were read to obtain further detail about what the article covered. Articles that did not meet the inclusion and exclusion criteria were removed. For a number of articles, it was unclear from the abstract whether they met the inclusion and exclusion criteria. These articles were read as full text articles. Articles that met the inclusion and exclusion criteria were included in the review.

Although Bui et al's (2010) review met the criteria it was not included in this review as it did not contain sufficient information to assess the methodological quality. It was published in the form of a letter to the editor of *Psychotherapy and Psychosomatics*. The author was unable to obtain a copy of the full report containing more detail in order to review it appropriately.

Figure 1 outlines the process of selecting the articles for inclusion in the review.

Search Results

The author obtained the full-text of all articles. Nine studies were reviewed. An overview of the studies and their main findings, relevant to the aim of this review, is included in table 2 (appendix B). Table 3 (appendix C) provides a summary of the characteristics of the participants of each study. The studies are discussed in more detail and their findings are synthesised in the following sections.

Overview of Studies

Nine studies met the inclusion criteria for this review. All were cross-sectional questionnaire based studies and used a quasi-experimental design. Participants were divided into groups based on the presence or absence of BMs. Aizenman and Jensen (2007), Cardasis, Huth-Bocks, and Silk (2008), Giles-Gorniak, Vandehey, and

Stiles (2016), Iannaccone, Cella, Manzi, Visconti, Manzi, and Cotrufo (2013) and Pajor, Broniarczyk-Dyla, and Switalska (2015) compared individuals with BMs to those without BMs on a variety of factors, including current and past mental health, and motivations for obtaining body modifications or engaging in self-injurious behaviours.

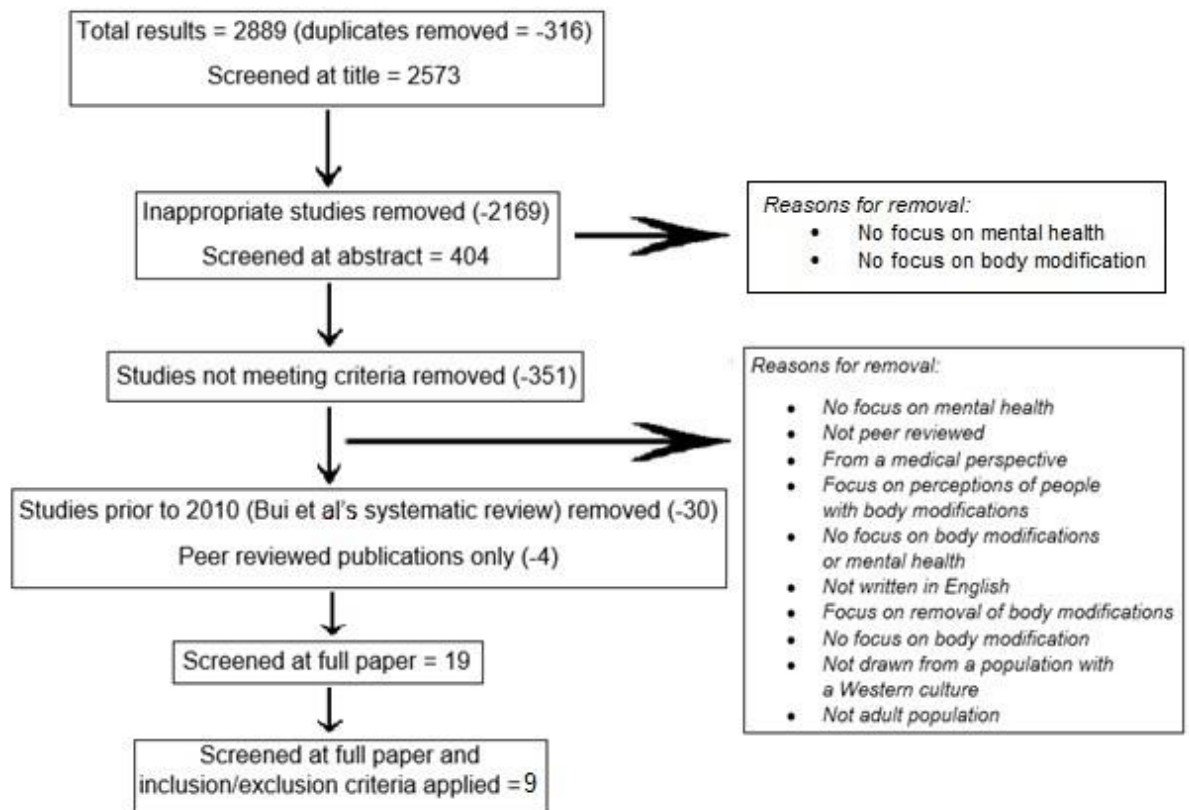


Figure 1: Flow diagram illustrating selection procedure for papers.

All participants in Stirn and Hinz's (2008) study reported BMs. They found 27% of their sample reported self-cutting in the past. They therefore examined the differences between this group and those who did not report self-cutting. The other three studies (Bui, Rodgers, Simon, Jehel, Metcalf, Birmes, and Schmitt 2013; Koch, Roberts, Armstrong, and Owen, 2015; Owen, Armstrong, Koch, and Roberts, 2013) further categorised people with BMs into groups depending on the number of BMs they have, or the type of BM (i.e. tattoo(s) or piercing(s)). All the cross-sectional studies used quantitative methods to analyse their results and identify differences between the groups.

Aims, Participants and Settings

The aims of the studies varied but all examined the relationship between BMs and mental health. All stated their aims clearly and provided an appropriate rationale for conducting the study.

The number of participants in each study ranged from 23 (Cardasis et al., 2008) to 2,394 (Koch et al., 2015). Participants were recruited from a variety of settings, including a forensic psychiatric facility; an eating disorders treatment clinic; specialist BM magazines, festivals and shops; and universities. Where studies included a mixture of male and female participants, this was balanced or had a higher proportion of females in six out of seven studies (two studies only included participants of one gender). The mean age of participants in all studies was below 35 years, although participant ages ranged from 15 to 66 years.

Description of Studies and Findings

A brief overview of the studies included in this review and their findings is provided, before consideration of the methodological quality of these studies. Studies have been grouped based on the population the sample was drawn from in order to allow for comparisons of the methods used and results found.

Clinical Populations

Two studies (Cardasis et al., 2008; and Iannaccone et al., 2013) examined BMs in clinical populations. The relationship between tattoos and Anti-Social Personality Disorder (ASPD) in a population of men aged 20-59 in a forensic psychiatric facility in the USA was investigated by Cardasis et al. (2008). They examined the number of tattoos, as well as the percentage of body surface area covered by tattoos and found that those with tattoos were more likely to have a diagnosis of ASPD than those without tattoos. Those with a diagnosis of ASPD were also more likely to have tattoos. A trend was found towards having tattoos cover a greater percentage of their body and having tattoos in more visible locations such as the hands, head and neck. No differences on a number of demographic measures or whether the tattoos were done professionally were found between tattooed and non-tattooed groups.

Those with tattoos were significantly more likely to have a history of substance abuse, sexual abuse and suicide.

Iannaccone et al. (2013) examined the relationship between self-injurious behaviours and BM practices (tattooing and non-earlobe body piercing) in females aged 15-55 with eating disorders receiving treatment at a specialised eating disorders unit in Italy. They found that those who reported only BM practices showed more positive feelings towards their bodies, higher levels of self-esteem, less impulsivity, depression and anxiety, and lower levels of social dysfunction than those reporting only self-injury or both self-injury and BMs.

Student Populations

Three studies drew their samples from student populations (Aizenman & Jensen, 2007; Koch et al., 2015; and Owen et al., 2013). Aizenman & Jensen (2007) investigated the incidence, characteristics and age of onset of body altering behaviours among a sample of college students aged 17-39 (82% female) in the USA to identify similarities or differences in the motivations and feelings of those choosing socially acceptable forms of BM (piercing and tattooing) and those who self-injure. They found no difference in the percentages of men and women who reported engaging in self-injurious behaviours. In contrast, women reported piercing and tattooing in significantly higher percentages than men. They reported a high incidence of self-injurious behaviour that began in early adolescence. Those who reported piercing and tattooing reported starting this later. The motivations for self-injurious behaviour more often had emotional connections whereas those who tattooed or pierced reported motivations related to creativity or individuation. A significantly higher proportion of those who self-injured reported a history of eating disorders or abuse than those that did not.

In their study examining whether body art can be viewed as well-being or a high-risk behaviour in college students, Owen et al. (2013) surveyed undergraduate college students enrolled in a sociology course in the South West United States (mean age 19.5 years, 58% of the sample was female). They identified three consistent self-identity outcomes for body art (expressing oneself, feeling unique, and being myself). Participants who had one tattoo and less than four piercings

reported levels of well-being similar to those with no body art. However, participants with four or more tattoos, seven or more piercings, and/or intimate (nipple, genital, or both) piercings described higher risk behaviours and emotional distress.

Tattoos, gender and well-being were studied in a large sample (n=2394) of American college students by Koch et al. (2015). 82% of participants were age 18-20 years and 59% of the sample was female. Their results indicate a four-fold higher level of reported suicide attempts among females with four or more tattoos as compared with those with three or less, or no tattoos. They also report a statistically significant elevation in self-esteem in the same group. No other findings or comparisons were found to be statistically significant.

Young Adults

Bui et al. (2013) compared Post Traumatic Stress Disorder (PTSD) symptoms in French-speaking young adults (aged 19-35) with no, one, or two or more body piercings and found that these factors do seem to be related. They suggest that 2 or more piercings may serve as an identifiable marker for PTSD symptoms.

Body Modification Community

Three studies (Giles-Gorniak et al., 2016; Pajor et al., 2015; and Stirn & Hinz, 2008) drew their samples from the BM community. Stirn and Hinz (2008) investigated the motives for obtaining BMs (tattoos or non-earlobe piercings) in a sample of readers of a specialist BM magazine in Germany. The respondents' ages ranged from 18 to 63, and 50.3% of respondents were male. A high proportion of their sample (27%) reported self-cutting during childhood, so they examined the possible relationship between this and BMs. They found those who have a history of self-cutting practice BMs more often than the general population. Those with a history of self-cutting reported having experienced violence, pain, and 'bad things' significantly more often than those without a history of self-cutting, and reported difficulty coping with aggression and abnormal relations towards their own body. Some self-cutters stopped this practice after having BMs suggesting that they used BMs as a substitute for this behaviour. Those who reported self-cutting had significantly more body piercings than other participants. They reported experiencing power

during their BMs and stated that they required them in order to recover physical sensations of their bodies. They gave higher ratings to motives around the experience of pain, overcoming personal experiences, and feeling forced to do so than those without a history of self-cutting. They attributed great, even therapeutic significance, to their BMs and admitted being addicted to the practice.

Satisfaction with life, self-esteem and mental health in people in Poland aged 16-58 with tattoos or piercings was examined by Pajor et al. (2015). Their sample was predominantly female (75.6% in the body modification group and 59.6% in the control group). They reported no significant differences in life satisfaction between those with BMs and a control group. They found higher levels of self-esteem in those with BMs. The control group displayed more symptoms of social impairment and sleep disorders.

Giles-Gorniak et al. (2016) investigated mental health history and a variety of health and social behaviours in people aged 18-66 with and without BMs. They reported that those with BMs were not more likely to engage in risky behaviours or report a history of mental health problems than a control group. Those with BMs were more likely to engage in social and health behaviours than the control group.

Critical Appraisal Process

A critical appraisal of the methodological quality of the included studies was undertaken in order to assess whether the articles include a transparent description of the methods used to enable replication of the study to take place. Critical appraisal assesses any assumptions or possible biases of the study to evaluate the strength of the evidence presented (Higgins & Green, 2011).

Study quality was appraised using the Crowe Critical Appraisal Tool (CCAT) (Crowe, 2013; Appendix C). This tool was selected as it has good construct reliability and inter-rater reliability. It is designed to evaluate studies of different methodologies, including cross-sectional studies. Other common critical appraisal tools, such as the Critical Appraisal Skills Program tools, are not designed for a cross-sectional methodology. All the studies identified in this review use a cross-sectional survey so the CCAT was the most appropriate tool to use.

The CCAT assesses eight categories each scored out of five to give a total score out of 40. The CCAT contains checklist items in each category to assist with appraising and scoring the category. All categories must be evaluated, however checklist items can be marked as 'not applicable' if they are not relevant to the research methodology used. The authors of the CCAT stress that the category scores are not calculated merely by summing the checklist items within that category but reflect a judgement of the importance of the items to the overall quality of the paper.

Methodological Quality

The quality of the studies reviewed varied, but all were regarded as of fair to good quality. All the studies had some methodological flaws, with most not containing sufficient information regarding recruitment of participants or ethical matters. The quality of the included studies is discussed in relation to the categories used in the CCAT. Table 1 provides a summary of the scores assigned to each study.

Introduction

Most studies provided an excellent introduction section providing a discussion of the relevant literature which gave a clear rationale for the aims of the study. Koch et al. (2015) was rated lower than the other studies for this category. This study provided only a short introduction so the authors may not have been able to provide the same depth of information as seen in other studies.

Design

All studies used a cross-sectional survey design. The reporting of the design used was rated as of satisfactory quality. Many of the studies failed to report the validity and reliability of the measures they used. Some studies (e.g. Aizenman & Jensen, 2007; Iannaccone et al., 2013; and Stirn & Hinz, 2008) used questionnaires developed by the authors but did not report if these had been tested to establish their validity prior to use. Few of the studies reported if any steps were taken to address potential issues of bias, or to control for confounding variables.

Sampling

A variety of sampling methods were used in the different studies reflecting the different populations participants were drawn from. Most studies were rated as

	Aizenman & Jensen (2007)	Cardasis et al. (2008)	Stirn & Hinze (2008)	Bui et al. (2013)	Owen et al. (2013)	Iannaccone et al. (2013)	Koch et al. (2015)	Pajor et al. (2015)	Giles- Gorniak et al. (2016)
Preliminaries	4	3	4	4	4	4	4	4	5
Introduction	5	5	5	5	5	5	4	5	5
Design	3	4	3	3	3	3	3	3	4
Sampling	3	3	4	2	2	1	2	2	3
Data Collection	3	4	3	2	4	2	2	2	4
Ethical Matters	2	2	1	1	3	0	2	3	1
Results	4	4	3	3	3	2	3	3	4
Discussion	4	5	3	4	4	3	2	4	3
Total (/40)	28	30	26	24	28	20	22	26	29

Table 1: Critical appraisal scores for the reviewed studies, using CCAT (Crowe, 2013)

providing insufficient information. No studies provided a rationale for the sample size they used, although most seemed to recruit a suitable number of participants for their aims. Cardasis et al. (2008) and Iannaccone et al. (2013) recruited fewer participants, but as they were recruiting from clinical populations they may have been limited by the environment they were recruiting from.

Giles-Gorniak et al. (2016), Pajor et al. (2015) and Stirn & Hinz (2008) all recruited from samples that were actively involved in the BM community – either considering or obtaining a new BM (attending shops/studios), researching BMs (by reading magazines) or interested in this community/sub-culture and identifying as a member (attending festivals and conventions). These individuals may be different to those with BMs who are not actively engaged in this community in some way. However, pragmatically, recruiting from this population is probably the best way to contact large numbers of people with BMs.

Both Giles-Gorniak et al. (2016) and Pajor et al. (2015) included a control group in their studies. However, these participants were drawn from a coffee shop and department store, and a general and aesthetic dermatology and dermatosurgery clinic, respectively. These groups may have been drawn from different populations meaning they were not well matched and so could not provide adequate comparators. The results found may therefore reflect differences between these populations rather than the variable they were interested in (presence or absence of BMs).

Data Collection

Most of the studies were rated poorly in this category due to providing insufficient information. Whilst all provided information about the data collection method used, very few provided justification for choosing this method. Only three studies (Cardasis et al., 2008; Pajor et al., 2015; and Stirn & Hinz, 2008) reported the dates of data collection. This makes it difficult to ascertain if the results may be affected by confounding factors such as changing societal attitudes towards BMs and mental health.

Ethical Matters

All studies were rated poorly on their reporting of ethical matters. Few mentioned receiving informed consent from their participants or how they ensured participants' privacy and confidentiality was maintained. Only Giles-Gorniak et al. (2016) mentioned the relationships the authors had with the participants and how this could impact on the results found. Few mentioned obtaining ethical approval to conduct their studies, or whether they received funding.

Results

Overall, the included studies were rated as satisfactory on their reporting of the results. Many studies reported the analysis method used but failed to justify the use of this method. All studies analysed unadjusted data. All studies provided a summary of their results, but few provided information regarding the precision of these results.

Discussion

The studies all provided satisfactory or good discussion sections. They all provided an interpretation of the results in the context of the existing literature in the area. Most considered alternative explanations for the results they found however few discussed the impact of confounding factors or interactions between factors that may have influenced the results. Most authors considered how their findings could be applied practically and whether they were generalisable to other populations or settings. Most authors suggested further studies that could extend their work.

Findings

Four main categories of findings appeared frequently in the included studies: associations between BMs and mental health; a linear relationship between number of BMs and severity of mental health; associations between BMs and past abuse; and associations of BMs with risk behaviours.

Associations Between Body Modifications and Mental Health

The included studies revealed mixed findings regarding the association between BMs and mental health. Four studies found that BMs were associated with an

increased incidence of a variety of mental health difficulties. However, three studies did not find such an association. In fact, the results of five studies suggested that BMs may be associated with improvements in various aspects of mental health.

A diverse range of mental health conditions, and factors related to mental health such as self-esteem, have been studied in relation to BMs. BMs are associated with improvements in the factors related to mental health, and also with an increased incidence of diagnosable mental health conditions including depression, ASPD and PTSD. The difference in reported findings may therefore indicate that these studies were examining different things. There may be a qualitative difference between how factors such as self-esteem that are related to mental health and diagnosed mental health conditions are experienced. These mixed findings may reflect that BMs have different meanings for individuals with a mental health condition that could be given a diagnosis compared to people without.

Associations Between Number of Body Modifications and Mental Health
The number of BMs participants had was not reported in every study, however the four studies that did report this all found a relationship between the number of BMs and mental health. These studies found an association between an increasing number of body modifications and the likelihood of symptoms of mental health difficulties. This suggests that there may be a linear relationship between the number of BMs and levels of emotional distress. These studies suggest that differences in levels of emotional distress are seen with different amounts of tattoos and piercings. Therefore, there may be differences between the emotional implications of these two BM practices.

No statistical tests were conducted on the data to investigate whether there is a critical number of BMs that predicts an increased likelihood of experiencing mental health difficulties. The studies indicate that the association between number of BMs and mental health depends on the type of BM as mental health difficulties are seen with a lower number of tattoos than piercings.

Associations Between Body Modifications and Past Abuse

None of the included studies aimed to investigate the relationship between BMs and past abuse, however three studies reported a history of abuse and all found an association with BM.

This seems to be a strong association as all studies that reported this found similar results. However, not all studies investigating the link between BM and mental health reported whether they assessed if their participants had a history of abuse. It is therefore possible that this was not assessed in all studies or, if it was assessed, the studies that found no relationship did not report this finding.

As this was not something the studies aimed to investigate the finding of a relationship between a history of abuse and BMs is unexpected and would need further investigation to provide more evidence to support this connection.

The evidence from the studies included in this review that did report this association suggests that a history of abuse may be a mediating factor in the association between BM and mental health. Further research is needed to explore the relationship between past abuse, BMs and mental health.

Associations of Body Modifications with Risk Behaviours

The included studies found mixed results when examining the association between risk behaviours and BMs. The number of BMs appeared to mediate the relationship with risky behaviours in one study, yet another study found that individuals with BMs were not more likely to engage in risky behaviours than those without BMs. These studies investigated different types of risky behaviours, so it is possible that BMs are associated with some types of risky behaviours, but not others. The studies also recruited from different populations, so the different findings might reflect different relationships between BMs and risky behaviours in different populations.

Only 2 studies investigated the association between BM and risk behaviours within the context of mental health. The association between BM and risk behaviours has been investigated previously without a connection to mental health and has found an association between these factors.

Discussion

This review critically appraised and synthesised the findings of nine studies exploring the relationship between BMs and mental health. There is mixed evidence regarding associations between these factors with some studies finding that participants with BMs have a higher incidence of a variety of mental health conditions, whereas other studies have found no such association. Some studies have found that BMs are even associated with improvements of some aspects of mental health and may be used in a therapeutic way in place of self-injurious behaviour.

Although not reported in all studies included in this review, there does appear to be an association between the number of BMs an individual has and mental health with increasing numbers indicating a higher likelihood of mental distress.

Three studies have found an association between past physical or sexual abuse and BMs. Abuse has been linked with poor mental health in previous literature (e.g. Paolucci, Genuis, & Violato, 2001; Springer, Sheridan, Kuo, & Carnes, 2007). It is possible that experience of abuse is a mediating factor in the relationship between BMs and mental health. BM may be a way for survivors of abuse to reclaim their bodies (Liu & Lester, 2012; Stirn, 2003) and therefore lead to more positive feelings about one's body and improvements in mental health.

There are mixed findings regarding the association between BM and risky behaviours. One study reported an association, another reported an association between BMs and some risky behaviours but not others. A final study found no association with risky behaviours but did find an association with social and health behaviours. This last finding appears to be in contrast to the negative perceptions of people with BMs commonly reported in the literature (e.g. Hawkes, Senn, & Thorn, 2004; Zestcott, Bean, & Stone, 2017).

The papers included in this review have participants drawn from a range of different populations. The studies were conducted in different countries, although the inclusion criteria limit this to Western countries due to the diverse meanings of BMs in different cultures (Dieter-Wolf & Diaz-Granados, 2013). This suggests that

the findings of associations with historical experiences of abuse and the relationship between the number of BMs and mental distress are likely to apply to a wide range of people.

All the studies included in this review are cross-sectional surveys meaning the findings are correlational. It is therefore not possible to be sure of the direction of the relationship between BMs and mental health. It is possible that poorer mental health leads to individuals obtaining BMs, which then improves their mood thus explaining the mixed findings. It is also possible that BMs could lead to poorer mental health, for example if the individual experiences regret after obtaining a BM or finds that it has a negative impact on their life.

The evidence suggests that there is a relationship between BM and mental health. However, the direction and mechanism of this relationship is not clear from the existing studies in this area. As different studies reported contradictory findings, the current evidence is not strong enough to draw firm conclusions about the relationship between BM and mental health.

The studies included in this review were critically reviewed and all were rated as fair to good on the methodological quality reported. The included studies varied in their methodological quality and this may partially explain the inconsistent findings.

BMs have been well researched in the medical literature, but the psychological effects of BMs, particularly in terms of their relationship to mental health, does not appear to have received as much attention. In addition, the medical literature appears to focus on negative outcomes of BMs such as infections. The studies included in this review that have explored the relationship from a psychological perspective seem to have a more positive view of BMs. This may reflect the biases of the researchers conducting the studies. Alternatively, it may reflect changing views of BMs in society.

Strengths and Limitations

This review included a small number of studies. The evidence from these studies is not consistent with some studies finding relationships and others finding no relationship, or a relationship in the opposite direction. Most studies had

reasonable sample sizes, however it is unclear if the sample sizes used provides sufficient power to detect differences or associations between the variables of interest. It is therefore difficult to say if these findings accurately represent the relationships between BMs and mental health. A larger body of evidence is needed to provide strong conclusions regarding this relationship. Most conclusions drawn in this review are based on the findings of four or fewer studies.

This review followed a systematic process in order to select relevant articles to include. It updates and extends the work of Bui et al. (2010). Bui et al.'s review focused on piercings whereas this review considered all types of BMs. However, the included articles only investigated piercings and tattoos and not less common forms of BM such as scarification or sub-dermal implants.

Articles not written in English were excluded from this review. Although this was necessary due to lack of ability to understand languages other than English, it may mean that some relevant articles were not included

It is recognised that the assessment of the methodological quality of the included articles was completed by one reviewer and as such may have been influenced by the researcher's subjective feelings about the papers. This could have been improved by involving another, independent, reviewer to assess the methodological quality of the papers. Any disagreements about the quality of the papers could then be discussed to provide a more objective assessment.

Implications and Conclusions

Conclusion

This review examined a small number of studies exploring the association between BMs and mental health. The quality of the included studies varied. There were mixed findings surrounding the relationship between BM and mental health, and the relationship between BM and risky behaviours. Although only a small number of studies reported findings relating BM and experiences of abuse, and number of BMs and mental health, all studies report similar relationships in these areas.

Clinical Implications

Due to the association identified between historical experiences of abuse and BMs the presence of BMs may be an indicator of past abuse which should be explored by clinicians.

The evidence suggests that as the number of BMs increases so does the likelihood of experiencing symptoms of mental health distress. Therefore, a high number of BMs should be viewed as an indication of possible mental health distress which should be discussed in more depth with the individual with BMs.

Some research suggests that BMs may have a positive impact on mental health and may be used as a way of coping with traumatic experiences such as abuse.

Clinicians should therefore keep an open mind and explore with the individual the meaning their BMs hold for them and if BMs are used as a way of managing their distress. This could lead to a discussion around developing alternative ways of managing distress if desired.

Future Studies

Due to the limited evidence regarding the relationship between the number of BMs and mental distress, this area would benefit from further research. In particular investigation into whether there is a specific number of BMs that indicates an increased risk of mental distress, or whether there is a linear relationship between number of BMs and mental distress.

As all the studies included in this review were cross-sectional and therefore reported correlational findings it is not possible to be certain which factor influences the other, or if there is another factor that mediates the relationship. For example, do people experience poor mental health and obtain BMs as a way of helping them feel better? Or do people obtain BMs which then leads to a decline in their mental health?

Although randomised controlled trials would be able to explore these relationships further it would not be ethical to conduct studies with this design in this area of research. Longitudinal studies would enable researchers to identify which factor

came first which would add weight to the argument that one variable influences the other. However, there may be practical reasons why these trials cannot be completed, such as a lack of funding.

All the included studies were drawn from the USA and continental Europe. The inclusion criteria for the review specified Western countries, however this included countries such as Australia and New Zealand. It is possible that the relationship between BM and mental health differs in those countries compared to the USA and continental Europe. Further studies should replicate and extend the existing studies to examine any potential cultural differences. In addition, future studies should investigate relationships between BM and mental health in non-Western countries to explore any similarities or differences between different cultures. Many of the studies included in this review recruited their participants from the student body of universities. This may limit the applicability of the results to members of the population who do not fall into the same categories, for example those with a lower level of education. There may be important differences in prevalence of mental health difficulties or access to professional BM in different groups which may influence the results. More studies need to be completed with participants from diverse backgrounds that are more representative of the general population in order to establish whether the findings can be applied to people from different backgrounds.

All the studies included in this review examined the associations between mental health and BM in the form of tattoos, piercings or both. There do not appear to have been any studies examining the relationship between mental health and more 'extreme' forms of BM such as scarification or sub-dermal implants. There may be differences between people who choose to obtain these more 'extreme' forms of BMs and those who obtain tattoos and piercings. Future studies should investigate any differences between these groups of body modifiers exploring if they have different motivations for obtaining BMs and if the relationship to mental health is related to the type of BM an individual has.

Further exploration of the meanings participants make of BMs, particularly in the context of historical experiences of abuse may reveal novel motivations. The

studies reviewed here have all explored motivations for obtaining BMs using questionnaires. While this is an appropriate way of gathering information from a large number of participants and allows for statistical tests to be conducted, it restricts the answers participants are able to give to those included by the authors. There may be motivations for obtaining BMs and experiences around this that are not adequately explained by these responses. It would be beneficial to explore this in more depth with people with BMs to enable them to explain their own motivations for obtaining BMs.

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Appendices

Appendix A: Author Guidelines for the British Journal of Clinical Psychology

Author Guidelines

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology and Registered Reports. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

All papers published in The British Journal of Clinical Psychology are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF).

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length

The word limit for papers submitted for consideration to BJCP is 5000 words and any papers that are over this word limit will be returned to the authors. The word limit does not include the abstract, reference list, figures, or tables. Appendices however are included in the word limit. The Editors retain discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length. In such a case, the authors should contact the Editors before submission of the paper.

3. Submission and reviewing

All manuscripts must be submitted via Editorial Manager. The Journal operates a policy of anonymous (double blind) peer review. We also operate a triage process in which submissions that are out of scope or otherwise inappropriate will be rejected by the editors without external peer review to avoid unnecessary delays. Before submitting, please read the terms and conditions of submission and the declaration of competing interests. You may also like to use the Submission Checklist to help you prepare your paper.

By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at <https://authorservices.wiley.com/statements/data-protection-policy.html>.

4. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. You may like to use [this template](#). When entering the author names into Editorial Manager, the corresponding author will be asked to provide a CRediT contributor role to classify the role that each author played in creating the manuscript. Please see the Project CRediT website for a list of roles.
- The main document must be anonymous. Please do not mention the authors' names or affiliations (including in the Method section) and refer to any previous work in the third person.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript but they must be mentioned in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi. All figures must be mentioned in the text.
- All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The

'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.

- All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading 'Practitioner Points'.
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide DOI numbers where possible for journal articles.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

If you need more information about submitting your manuscript for publication, please email Vicki Pang, Editorial Assistant (bjc@wiley.com) or phone +44 (0) 1243 770 410.

5. Brief reports and comments

These allow publication of research studies and theoretical, critical or review comments with an essential contribution to make. They should be limited to 2000 words, including references. The abstract should not exceed 120 words and should be structured under these headings: Objective, Method, Results, Conclusions. There should be no more than one table or figure, which should only be included if it conveys information more efficiently than the text. Title, author name and address are not included in the word limit.

6. Supporting Information

BJC is happy to accept articles with supporting information supplied for online only publication. This may include appendices, supplementary figures, sound files, videoclips etc. These will be posted on Wiley Online Library with the article. The print version will have a note indicating that extra material is available online. Please indicate clearly on submission which material is for online only publication. Please note that extra online only material is published as supplied by the author in the same file format and is not copyedited or typeset. Further information about this service can be found at <http://authorservices.wiley.com/bauthor/suppmat.asp>

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8. Colour illustrations

Colour illustrations can be accepted for publication online. These would be reproduced in greyscale in the print version. If authors would like these figures to be reproduced in colour in print at their expense they should request this by completing a Colour Work Agreement form upon acceptance of the paper. A copy of the Colour Work Agreement form can be downloaded [here](#).

9. Pre-submission English-language editing

Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. A list of independent suppliers of editing services can be found at http://authorservices.wiley.com/bauthor/english_language.asp. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

10. Author Services

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The corresponding author will receive an email alert containing a link to a web site. A working e-mail address must therefore be provided for the corresponding author. The proof can be downloaded as a PDF (portable document format) file from this site. Acrobat Reader will be required in order to read this file. This software can be downloaded (free of charge) from the following web site: <http://www.adobe.com/products/acrobat/readstep2.html>.

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12. Early View

British Journal of Clinical Psychology is covered by the Early View service on Wiley Online Library. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Articles are therefore available as soon as they are ready, rather than having to wait for the next scheduled print issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so they cannot be cited in the traditional way. They are cited using their Digital Object Identifier (DOI) with no volume and issue or pagination information. E.g., Jones, A.B. (2010). Human rights Issues. Human Rights Journal. Advance online publication. doi:10.1111/j.1467-9299.2010.00300.x

Further information about the process of peer review and production can be found in this document: What happens to my paper? Appeals are handled according to the procedure recommended by COPE.

Appendix B: Table of Study Characteristics and Main Findings

Study	Study type	Exposure	Study population	When trial conducted	Country	Aims	Brief findings	Commercial research support
Azienman & Jensen (2007)	Cross-sectional survey	Self-Injury, Body Piercing, Tattoos	College students	Not reported	USA	to determine the incidence, characteristics and age of onset of body-altering behaviours among college students. To identify similarities and differences in the motives and feelings of those choosing socially acceptable forms of painful BMs (piercing and tattooing) and those who self-injure.	High prevalence of self-injury. Those who self-injured motivated by a desire to alleviate emotional pain, those who tattooed and pierced motivated by self-expression. Those who self-injured scored higher than those who tattooed and pierced on measures of depression and scored lower on self-esteem and sense of control scales. The incidence of all three body altering behaviours was higher among participants reporting physical/sexual abuse or eating disorders.	Not reported

Cardasis et al. (2008)	Cross-sectional survey	Presence of tattoos, surface area covered by tattoos	Forensic psychiatric inpatients	Nov 1995-Apr 1996	USA	To determine if forensic psychiatric patients with tattoos are more likely to have a diagnosis of Anti-Social Personality Disorder (ASPD) than those without tattoos	significantly more forensic psychiatric inpatients with tattoos had a diagnosis of ASPD compared to patients without tattoos. Patients with ASPD also had a significantly greater number of tattoos, a trend towards having a greater percentage of their total body surface area tattooed and were more likely to have a history of substance abuse than patients without ASPD. tattooed subjects, with or without ASPD were significantly more likely to have histories of substance abuse, sexual abuse, and suicide attempts than non-tattooed patients.	Not reported
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Stirn & Hinz (2008)	Cross-sectional survey	History of self-cutting	readers of a tattooing and related BM practices magazine	May 2002	Germany	Investigate motives for obtaining BMs and relations to biographical events. Investigate possible relations between self-mutilation and BMs	BMs changed the participants' attitude toward their body considerably. 34% of all participants reported BM practices in conjunction with decisive biographical events. 27% or participants admitted self-cutting during childhood. This group differed from the group without self-cutting with respect to several features before, during and after BM.	Not reported
Bui et al. (2013)	Cross-sectional survey	Number of piercings	French-speaking adults	Not reported	Not reported	To examine the association between PTSD symptoms and piercings in young adults.	PTSD symptoms appear to be associated with piercings in young adults. 2 or more piercings might serve as an identifiable marker for PTSD symptoms.	Supported by a grant from the University of Toulouse.

Owen et al. (2013)	Cross-sectional survey	Tattoos, Lifetime Piercings, Intimate Piercings	Undergraduate college students	Not reported	USA	To explore associations between different types of BM and high-risk behaviours; emotional distress; and positive self-view strategies	Three consistent self-identity outcomes for body art were identified. It helped me express myself; feel unique; and, be myself. When quantifying their body art amounts, well-being similar to those with no body art was present in those with one tattoo and less than four piercings. individuals with four or more tattoos, seven or more piercings, and/or intimate piercings described higher risk behaviours and emotional distress.	Not reported
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Iannaccone et al. (2013)	Cross-sectional survey	Self-injurious behaviour and body modification practices	Eating disorder patients	Not reported	Italy	To explore the prevalence of self-injurious behaviours and BMs in a sample of patients with eating disorders. To determine if BM correlates with the presence of self-injurious behaviours. To analyse differences between patients who report self-injurious behaviours and/or BM with respect to characteristics related to eating disorders. To investigate the influences of diagnosis and the influences of syndrome severity on the variables under study.	Patients reporting only BMs showed more positive feelings towards their bodies, higher levels of self-esteem, less impulsivity, depression and anxiety, and lower levels of social dysfunction than those reporting only self-injury or both self-injury and BMs. self-injury was influenced by both diagnosis and severity of disorders.	Not reported
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Koch et al. (2015)	Cross-sectional survey	number of tattoos	College students	Not reported	USA	To explore the emotional motivations and outcomes that accompany escalating acquisitions of tattoos.	results indicate a four-fold higher level of reported suicide attempts among females with four or more tattoos as compared with those with no tattoos, or three or less. Results also indicate a statistically significant elevation in self-esteem with that same group. No other findings and comparisons are statistically significant.	Supported by a grant from the E.A. Franklin Charitable Trust
Pajor et al. (2015)	Cross-sectional survey	Presence of tattoos and piercings	General population	July 2012 - September 2013	Poland	To examine the level of satisfaction with life, self-esteem, and the state of mental health in people with BMs compared to those without BMs.	No significant differences in life satisfaction between the BM group and the control group. People with BMs had higher levels of self-esteem with regard to their competence and leadership abilities.	Financed by the Medical University of Lodz.

							They displayed fewer symptoms of social impairment and sleep disorders than the control group.	
Giles-Gorniak et al. (2016)	Cross-sectional survey	Presence of tattoos and piercings	General population	Not reported	USA	to determine differences in mental health history and engagement in social behaviours, health behaviours and risk behaviours between individuals with and without BMs. To explore possible demographic and BM characteristics that may predict engagement in these behaviours or the likelihood of reporting a mental health history.	Individuals with BMs were not more likely to engage in risky behaviours or report a history of mental health problems when compared to non-modified people. They were more likely to engage in social and health behaviours.	Not reported

Table 2: Study Characteristics

Appendix C: Table of Participant Characteristics

Study	Age	Gender	Characteristic of interest	Number of participants	Recruitment
Azienman & Jensen (2007)	17-39 (Mean=20.2, SD=2.57)	82% F, 17% M	Self-Injury, piercings, tattoos	1330 (36% never altered their body; 41% self-injured; 35% piercing; 15% tattoos)	College population, email sent to student body requesting voluntary participation. Entered into a prize draw for \$50 cash.
Cardasis et al. (2008)	20-59 (Mean=33.7, SD=10.3)	100% male	Presence of tattoos, surface area covered by tattoos	23 (15 had tattoos, 8 not tattooed)	Population: male admission unit of a maximum-security state forensic psychiatric facility. All patients sequentially admitted to the unit were approached to participate.
Stirn & Hinz (2008)	mean = 28.1y (range=18-63)	50.3% male, 49.7% female	History of self-cutting	Total = 432 (non-self-cutters = 313; self-cutters = 119)	Recruited from a specialist BM magazine in Germany. Convenience sample. Questionnaire published in magazine, participants self-selected whether to participate.
Bui et al. (2013)	19-35 (Mean = 25, SD = 3.8)	68.5% female, 31.5% male)	Body piercings, PTSD symptoms	391 (no piercings: 278; one piercing: 66; 2+ piercings: 47)	Virtual snowballing method (online survey), recruited from French-speaking population, recruited via email and social networking sites.
Owen et al. (2013)	Mean = 19.5 (range and SD not reported)	58% female, 42% male	Presence of tattoos, piercings and intimate piercings	595 (tattoos = 127, Lifetime piercings = 195, Intimate piercings = 17)	Undergraduate college population enrolled in introductory sociology course, rural southwestern USA. Survey distributed by sociology researchers (2 of the authors).

Iannaccone et al. (2013)	15-55 (mean = 27.46, SD=8.29)	100% female	Self-Injurious behaviour, Body modifications	58 (tattoos - 15, piercings - 27, planned body modification - 15, self-injurious behaviour - 29)	recruited from inpatients and outpatients referred to a specialised eating disorders treatment unit. Recruitment method not reported.
Koch et al. (2015)	82% aged 18-20 (range, mean and SD of ages not reported)	59% female, 41% male	Number of tattoos, gender, self-esteem, depression, suicide ideation and suicidal behaviour	2394 (number of participants in sub-groups not reported)	Recruited from undergraduate sociology students at 6 American public universities, geographically spread across the country. Recruitment method not reported.
Pajor et al. (2015)	16-58 (Mean=26.7, SD = 6.35)	Body modification group: 75.6% female, 24.4% male. Control group: 59.6% female, 40.4% male.	Presence of body modifications.	449 (Body modifications: 308 (tattoo: 90, body piercings:53, both tattoos and piercings: 165), Control: 141)	BM group recruited from BM community (customers of a tattoo studio, participants of festivals and conventions devoted to BMs). Control group recruited from the general population (outpatients at a general and aesthetic dermatology and dermatosurgery clinic who came to remove minor skin lesions).
Giles-Gorniak et al. (2016)	18-66 (Mean = 32, SD = 9.14)	female: 46.9%, male 53.1%	Presence of body modifications.	213 (body modification: 104, non-modified: 109)	BM group recruited from BM shops. Opportunity sample, with snowballing. Non-modified group: recruited from a local coffee shop and department store.

Table 3: Participant Characteristics

Appendix D: Crowe Critical Appraisal Tool v1.4 (Crowe, 2013)

Crowe Critical Appraisal Tool (CCAT) Form (v1.4)

Reference

Reviewer

This form must be used in conjunction with the CCAT User Guide (v1.4); otherwise validity and reliability may be severely compromised.

Citation	
	Year

Research design (add if not listed)	
<input type="checkbox"/> Not research	Article Editorial Report Opinion Guideline Pamphlet ...
<input type="checkbox"/> Historical	...
<input type="checkbox"/> Qualitative	Narrative Phenomenology Ethnography Grounded theory Narrative case study ...
<input type="checkbox"/> Descriptive, Exploratory, Observational	A. Cross-sectional Longitudinal Retrospective Prospective Correlational Predictive ...
	B. Cohort Case-control Survey Developmental Normative Case study ...
Experimental	<input type="checkbox"/> True experiment Pre-test/post-test control group Solomon four-group Post-test only control group Randomised two-factor Placebo controlled trial ...
	<input type="checkbox"/> Quasi-experiment Post-test only Non-equivalent control group Counter balanced (<i>cross-over</i>) Multiple time series Separate sample pre-test post-test [no Control] [Control] ...
	<input type="checkbox"/> Single system One-shot experimental (<i>case study</i>) Simple time series One group pre-test/post-test Interactive Multiple baseline Within subjects (<i>Equivalent time, repeated measures, multiple treatment</i>) ...
<input type="checkbox"/> Mixed Methods	Action research Sequential Concurrent Transformative ...
<input type="checkbox"/> Synthesis	Systematic review Critical review Thematic synthesis Meta-ethnography Narrative synthesis ...
<input type="checkbox"/> Other	...

Variables and analysis		
Intervention(s), Treatment(s), Exposure(s)	Outcome(s), Output(s), Predictor(s), Measure(s)	Data analysis method(s)

Sampling						
Total size	Group 1	Group 2	Group 3	Group 4	Control	
Population, sample, setting						

Data collection (add if not listed)	
Audit/Review a) Primary Secondary ... b) Authoritative Partisan Antagonist ... c) Literature Systematic ...	Interview a) Formal Informal ... b) Structured Semi-structured Unstructured ... c) One-on-one Group Multiple Self-administered ...
Observation a) Participant Non-participant ... b) Structured Semi-structured Unstructured ... c) Covert Candid ...	Testing a) Standardised Norm-ref Criterion-ref Ipsative ... b) Objective Subjective ... c) One-on-one Group Self-administered ...

Scores				
Preliminaries	Design	Data Collection	Results	Total [/40]
Introduction	Sampling	Ethical Matters	Discussion	Total [%]

General notes



Category Item	Item descriptors [Present; Absent; ■ Not applicable]	Description [Important information for each item]	Score [0–5]
1. Preliminaries			
Title	1. Includes study aims <input type="checkbox"/> and design <input type="checkbox"/>		
Abstract (assess last)	1. Key information <input type="checkbox"/> 2. Balanced <input type="checkbox"/> and informative <input type="checkbox"/>		
Text (assess last)	1. Sufficient detail others could reproduce <input type="checkbox"/> 2. Clear/concise writing <input type="checkbox"/> table(s) <input type="checkbox"/> diagram(s) <input type="checkbox"/> figure(s) <input type="checkbox"/>		
Preliminaries [/5]			
2. Introduction			
Background	1. Summary of current knowledge <input type="checkbox"/> 2. Specific problem(s) addressed <input type="checkbox"/> and reason(s) for addressing <input type="checkbox"/>		
Objective	1. Primary objective(s), hypothesis(es), or aim(s) <input type="checkbox"/> 2. Secondary question(s) <input type="checkbox"/>		
Is it worth continuing?			
Introduction [/5]			
3. Design			
Research design	1. Research design(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Suitability of research design(s) <input type="checkbox"/>		
Intervention, Treatment, Exposure	1. Intervention(s)/treatment(s)/exposure(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Precise details of the intervention(s)/treatment(s)/exposure(s) <input type="checkbox"/> for each group <input type="checkbox"/> 3. Intervention(s)/treatment(s)/exposure(s) valid <input type="checkbox"/> and reliable <input type="checkbox"/>		
Outcome, Output, Predictor, Measure	1. Outcome(s)/output(s)/predictor(s)/measure(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Clearly define outcome(s)/output(s)/predictor(s)/measure(s) <input type="checkbox"/> 3. Outcome(s)/output(s)/predictor(s)/measure(s) valid <input type="checkbox"/> and reliable <input type="checkbox"/>		
Bias, etc	1. Potential bias <input type="checkbox"/> confounding variables <input type="checkbox"/> effect modifiers <input type="checkbox"/> interactions <input type="checkbox"/> 2. Sequence generation <input type="checkbox"/> group allocation <input type="checkbox"/> group balance <input type="checkbox"/> and by whom <input type="checkbox"/> 3. Equivalent treatment of participants/cases/groups <input type="checkbox"/>		
Is it worth continuing?			
Design [/5]			
4. Sampling			
Sampling method	1. Sampling method(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Suitability of sampling method <input type="checkbox"/>		
Sample size	1. Sample size <input type="checkbox"/> how chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Suitability of sample size <input type="checkbox"/>		
Sampling protocol	1. Target/actual/sample population(s): description <input type="checkbox"/> and suitability <input type="checkbox"/> 2. Participants/cases/groups: inclusion <input type="checkbox"/> and exclusion <input type="checkbox"/> criteria 3. Recruitment of participants/cases/groups <input type="checkbox"/>		
Is it worth continuing?			
Sampling [/5]			
5. Data collection			
Collection method	1. Collection method(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Suitability of collection method(s) <input type="checkbox"/>		
Collection protocol	1. Include date(s) <input type="checkbox"/> location(s) <input type="checkbox"/> setting(s) <input type="checkbox"/> personnel <input type="checkbox"/> materials <input type="checkbox"/> processes <input type="checkbox"/> 2. Method(s) to ensure/enhance quality of measurement/instrumentation <input type="checkbox"/> 3. Manage non-participation <input type="checkbox"/> withdrawal <input type="checkbox"/> incomplete/lost data <input type="checkbox"/>		
Is it worth continuing?			
Data collection [/5]			
6. Ethical matters			
Participant ethics	1. Informed consent <input type="checkbox"/> equity <input type="checkbox"/> 2. Privacy <input type="checkbox"/> confidentiality/anonymity <input type="checkbox"/>		
Researcher ethics	1. Ethical approval <input type="checkbox"/> funding <input type="checkbox"/> conflict(s) of interest <input type="checkbox"/> 2. Subjectivities <input type="checkbox"/> relationship(s) with participants/cases <input type="checkbox"/>		
Is it worth continuing?			
Ethical matters [/5]			
7. Results			
Analysis, Integration, Interpretation method	1. A.I.I. method(s) for primary outcome(s)/output(s)/predictor(s) chosen <input type="checkbox"/> and why <input type="checkbox"/> 2. Additional A.I.I. methods (e.g. subgroup analysis) chosen <input type="checkbox"/> and why <input type="checkbox"/> 3. Suitability of analysis/integration/interpretation method(s) <input type="checkbox"/>		
Essential analysis	1. Flow of participants/cases/groups through each stage of research <input type="checkbox"/> 2. Demographic and other characteristics of participants/cases/groups <input type="checkbox"/> 3. Analyse raw data <input type="checkbox"/> response rate <input type="checkbox"/> non-participation/withdrawal/incomplete/lost data <input type="checkbox"/>		
Outcome, Output, Predictor analysis	1. Summary of results <input type="checkbox"/> and precision <input type="checkbox"/> for each outcome/output/predictor/measure 2. Consideration of benefits/harms <input type="checkbox"/> unexpected results <input type="checkbox"/> problems/failures <input type="checkbox"/> 3. Description of outlying data (e.g. diverse cases, adverse effects, minor themes) <input type="checkbox"/>		
Results [/5]			
8. Discussion			
Interpretation	1. Interpretation of results in the context of current evidence <input type="checkbox"/> and objectives <input type="checkbox"/> 2. Draw inferences consistent with the strength of the data <input type="checkbox"/> 3. Consideration of alternative explanations for observed results <input type="checkbox"/> 4. Account for bias <input type="checkbox"/> confounding/effect modifiers/interactions/imprecision <input type="checkbox"/>		
Generalisation	1. Consideration of overall practical usefulness of the study <input type="checkbox"/> 2. Description of generalisability (external validity) of the study <input type="checkbox"/>		
Concluding remarks	1. Highlight study's particular strengths <input type="checkbox"/> 2. Suggest steps that may improve future results (e.g. limitations) <input type="checkbox"/> 3. Suggest further studies <input type="checkbox"/>		
Discussion [/5]			
9. Total			
Total score	1. Add all scores for categories 1–8		

Total [/40]

Paper two: Empirical Paper

Experiences of Body Modification in Women with Experience of Self-Harm.

This paper has been broadly prepared in accordance with the requirements of the journal *Body Image*.

Author Guidelines are listed in Appendix A.

Supplementary information is presented within this paper to aid overall cohesion for thesis submission. This will be removed prior to journal submission.

Word Count: 7997

Abstract

Self-harm behaviour has been widely investigated in the psychological literature. It is associated with an increased risk of suicide. There are similarities between self-harm behaviour and body modification behaviour, however there has been limited research into associations between these behaviours. This study used Interpretative Phenomenological Analysis to investigate the experiences of body modifications in eight women from the UK with experience of self-harm behaviours. The superordinate themes identified that both self-harm behaviours and body modifications are used as coping strategies, and that body modifications can be protective. This may have clinical implications in the future as presence of body modifications could alert clinicians to the possibility of self-harming behaviour. This could then be explored with the individual to assess if support is needed in relation to the self-harming behaviour. Further research is needed to investigate if obtaining body modifications reduces the incidences of self-harming behaviour and if there is any relationship between body modification behaviour and risk of suicide in people with experience of self-harm behaviour.

Highlights

- Body modifications and self-harm are both used as coping strategies for emotions
- Body modifications can be protective
- Body modifications may be an indication of self-harm urges
- Clinicians should recognise this sign of self-harm urges and offer required support

Introduction

This paper explores the experiences of body modification (BM) in women who have experience of self-harm (SH) behaviour. BMs may be used as an alternative to SH behaviours and clinical experience suggests the meaning and location of BMs may discourage individuals from engaging in SH behaviour. However, associations between these behaviours has received little attention in the literature. The meanings participants make of their experiences, and of any connections between BMs and SH behaviour, were explored using Interpretative Phenomenological Analysis. This paper includes clinical implications of the findings and suggestions for further research in this area.

Body Modification

Wohlrab, Stahl, Rammsayer and Kappeler (2007) define 'body modification' as "the (semi-) permanent, deliberate alteration of the human body" (p.87). In this study, the term 'body modification' is used to encompass piercings ("an opening in any part of the body (except the earlobes) through which jewellery might be worn." Bone, Ncube, Nichols & Noah, 2008; p.2), tattoos ("the insertion of coloured pigment into the dermal layer through a series of punctures in the skin in order to create a permanent marking" Tiggemann & Golder, 2006; p.245), sub-dermal implants ("implantation of three-dimensional objects under the skin"; Hicinbothem, Gonsalves & Lester, 2006; p.351) and scarification (patterns of permanent scars in the skin; Kaatz, Elsner & Bauer, 2008).

A survey of 10,503 adults (48.8% male) aged 16 and over (the oldest age group analysed was ≥ 65 years) from the general population in England was conducted by Bone et al. (2008) to estimate the prevalence of body piercing, excluding earlobe piercings. They reported a prevalence rate in the whole sample of 10%. Body piercing was more common in women and younger age groups with almost half (46.2%) of the women aged 16-24 reporting having a piercing.

Self-Harm

A range of terms have been used to describe SH. Feigenbaum (2010) defines SH as "a wide range of behaviours that involve the individual engaging in behaviour which

causes damage, mutilation or destruction of the body” (p.116). The current National Institute for Health and Care Excellence (NICE) guidance (2004; 2011) defines SH as “self-poisoning or injury, irrespective of the apparent purpose of the act” (2004, p.7). The guidance for long term management (NICE, 2011) excludes harm to the self arising from excessive alcohol or recreational drug consumption, starvation as a result of anorexia nervosa, or accidental harm to the self from their definition.

Accurate prevalence figures for rates of SH are challenging to obtain as many people who engage in SH behaviours keep this private (Mental Health Foundation (MHF), 2016); however, it is reported that the UK has the highest rates of SH of any European country (MHF, 2019). The Avon Longitudinal Study of Parents and Children (Kidger, Heron, Lewis, Evans & Gunnell, 2012), a large longitudinal study with 4810 participants, reported that 18.8% of participants aged 16-17 had ever self-harmed, with the lifetime prevalence of SH being higher in females than males..

SH generally occurs in young adults and is particularly common in those under 35 years of age (Hawton, 2004). Klonsky (2011) reported a lifetime prevalence of non-suicidal self-injury (NSSI) of around six percent and higher lifetime prevalence among those aged 30 or less. Carr et al. (2016) found consistently higher rates of SH in females, with substantially higher rates of SH observed in females aged 15-24 years.

A strong link has been found between SH and psychiatric illnesses compared with a reference cohort of people who had a range of other conditions (Singhal, Ross, Seminog, Hawton & Goldacre, 2014). SH has been associated with an increased risk of suicide in a longitudinal study. People who presented to hospitals with non-fatal SH were found to have a risk of suicide 49 times greater than the general population in England and Wales (Hawton et al. 2015).

SH may be relatively unplanned or it may have been considered for some time (Hawton, 2004). Hawton states SH often occurs when an individual feels unable to cope with the problems they face and they are trapped in a painful situation. This behaviour is often explained as a way to ‘blot out’ distressing thoughts, to escape

from their problems or to communicate their distress to those around them. It is often attributed by medical professionals as a way of communicating anger, causing guilt or trying to influence others, as well as a way of signalling distress.

As there are similarities in the actions of both BM and SH behaviours (they both involve causing physical damage to the body) BM could be regarded as a form of SH, albeit one that is perceived as less pathological and more socially acceptable. Stirn and Hinz (2008) suggest that the increasing popularity and accessibility of BMs may mean they are increasingly used as an alternative to self-harming behaviours.

Functions of Self-Harm

Nock and Prinstein (2004) used a functional approach to examine SH behaviours. They considered previous research in this area and proposed that SH behaviour can be reinforced in both positive (followed by a favourable stimulus) or negative (removal of unpleasant stimuli) ways. They also proposed that this reinforcement may come from the individual themselves (automatic) or from others (social). SH can serve as a signal of distress; it is used when other, less intensive, communication strategies have failed and is reinforced by the caregiving behaviour it elicits from others (Nock, 2008). Motz (2010) argues that SH can be viewed as a communication that contains hope there will be a response and reveals an attempt to find a helpful response to the distress the individual is experiencing.

Recommendations for Alternatives to Self-Harm

The current NICE guidance (NICE, 2011) recommends that if discontinuing SH behaviours is unrealistic in the short term, less destructive methods of SH, such as pinching, squeezing ice or snapping rubber bands on the wrist, should be discussed. McDougall, Armstrong & Trainor (2010) suggested that people who SH could draw or write on themselves as an alternative way to cope with strong feelings

Motivations for Obtaining Body Modifications

Hill, Ogletree and McCrary (2016) found the two most commonly given reasons for engaging in BMs were 'to express myself' and 'to be an individual'. Pentina and Spears (2011) found motivations for getting a tattoo can be based on the significance of the meaning of the tattoo design for the individual. Stirn (2003)

reviewed psychological motivations for obtaining body piercings and found a variety of motivations including provocation by violating socially defined beauty standards, peer pressure, a rite of passage, fashion, a way to denote individuality or to commemorate both positive and negative experiences. Stirn suggests body piercing can be seen as therapeutic as the procedure is followed by a period of self-care.

Relationships between Body Modifications and Mental Health

The included review of the literature examining the relationship between BM and mental health reported four main categories: associations between BMs and mental health; associations between number of BMs and mental health; associations between BMs and past abuse; and associations of BMs with risk behaviours.

There is mixed evidence of the associations between BMs and mental health. Some studies reported an increased incidence of mental health conditions in people with BMs, while other studies found no such association. Some studies found that BMs were associated with improvements of some aspects of mental health, such as increased self-esteem and reduced anxiety and depression, and may be used in place of SH behaviour (Aizenman & Jensen, 2007; Bui, Rodgers, Simon, Jehel, Metcalf, Birmes & Schmitt, 2013; Cardasis, Huth-Bocks & Silk, 2008; Giles-Gorniak, Vandehey & Stiles, 2016; Iannaccone, Cella, Manzi, Visconti, Manzi & Cotrufo, 2013; Koch, Roberts, Armstrong & Owen, 2015; Owen, Armstrong, Koch & Roberts, 2013; Pajor, Broniarczyk-Dyła & Switalska, 2015).

An association between the number of BMs an individual has and mental health was found, with increasing numbers of BMs indicating a higher likelihood of mental distress (Bui et al. 2013; Cardasis et al. 2008; Koch et al. 2015; Owen et al. 2013). However, this was not reported by all studies included in the review.

An association between BMs and previous experiences of physical or sexual abuse was found and this may mediate the relationship between mental health and BMs (Aizenman & Jensen, 2007; Cardasis et al. 2008; Stirn & Hinz, 2008). There are mixed findings concerning the association between BM and risky behaviours, with

one study finding an association and another study finding associations between some risky behaviours but not others. A further study found no association with risky behaviours, but did find an association with social and health behaviours (Bui et al. 2010; Giles-Gorniak et al. 2016; Owen et al. 2013).

Relationships between Body Modifications and Self-Harm

In some people who SH by cutting the onset of piercing is reported to coincide with the end of cutting behaviours, and 'cutters' have been found to have more piercings than 'non-cutters' (Stirn, 2003). This implies that the process of piercing may replace the need to cut and could be viewed as an attempt to cope with the dissociation that results from emotional pain and distress (Suyemoto, 1998).

Stirn and Hinz (2008) investigated the relationship between BMs and self-injury. A group of respondents who reported self-injury behaviour was compared with respondents who did not report self-injury behaviour to investigate if their motivations for obtaining BMs differed. The number of tattoos was not significantly different between the two groups; however, the 'self-cutting' group were found to have significantly more piercings than the non-self-injuring group. Some individuals in the 'self-cutting' group stopped this behaviour after they had BMs, suggesting that they may use BMs as a substitute.

Cutting can be considered a form of SH. Liu and Lester (2012) state this can be done professionally in the form of BMs such as piercing and scarification. They suggest further research should investigate the relationship between cutting, other forms of self-injurious behaviours and the role of BM. Claes and Vandereycken (2007) investigated the functions of SH stating that distinguishing between normal and abnormal SH may be helpful and highlighting that the distinction between 'normal' and 'abnormal' is dependent on the social viewpoint and the motive or function of the behaviour. As such, 'normal variants' of self-harming behaviour, including body piercing and tattooing, may exist as a way to take care of oneself.

Aims

The current evidence suggests an association between BM and SH behaviours but has not explored the motivations and experiences of people who have engaged in

both. This study aims to explore the experiences of BM with people who currently, or have previously, engaged in SH behaviours to expand the knowledge base in this area. This study explores the sense people make of the associations between these behaviours to explore if there are relationships between these experiences.

Research Questions

1. What are the experiences of BM in people who have experience of engaging in SH behaviours?
2. What sense do people with experience of both BMs and SH make of the associations between these behaviours?

Method

Recruitment

Permission to conduct the study was obtained from the Staffordshire University Ethics Committee (appendix B). An interview schedule (appendix C) was developed to guide the semi-structured interviews with questions based on knowledge of this area from the existing literature. The content of the interview schedule was discussed with the second author.

Recruitment letters (appendices D and E) and posters (appendix F) were sent to five mental health charities in the local area, and twelve BM establishments (see appendix G for details of organisations contacted for recruitment). Emails with the same information were sent to two websites offering support to people engaging in SH behaviour. An account was created on the National Self-Harm Network (NSHN) online forum. Following their procedure for advertising research studies, a message was sent to the site moderators to obtain consent to post details of the study in the research section of the forum. A message with details of the study and contact details of the researcher was posted following consent from the moderators.

Despite the range of recruitment sites approached, no participants were recruited. An amendment was submitted to the Ethics Committee, requesting permission to recruit using social media and from relevant charities and services nationwide. Permission was requested to offer a gesture of gratitude for participating, and to

add the use of instant messaging services as a method of completing interviews. Additional information regarding responding to risk when completing interviews remotely was included.

Following approval of the amendments, letters and posters (as before) were sent to two national mental health charities. The administrators of ten social media groups offering peer support for people with experience of SH behaviours, and six groups related to body modifications, were contacted and asked to share the recruitment poster. The groups were identified by searching for 'self-harm support' or 'body modification' on the social media sites. As many of these groups are 'private' (the group members and the contents of their posts is only visible to other members of the group) the administrators were contacted by private message asking if they would be willing to share the recruitment poster to avoid the researcher joining the groups as this may have been perceived by group members to be a violation of their privacy. The administrators of two SH support groups agreed to publicise the study. The administrator of one group invited the researcher to join the group and post a message and a copy of the research poster to the group. The researcher joined and posted a single message noting that they had been invited to join and the post had been approved by the administrator. A social media page was created for the study and the recruitment poster was shared from this page across a variety of social media platforms.

Inclusion and Exclusion Criteria

People were eligible to participate if they were between 18 and 45 years of age, had a history of SH behaviour or were currently engaging in this behaviour, and had a history of BMs or were currently engaging in this behaviour. No restrictions were placed on the gender of participants. People were excluded from participating in the study if they were currently an inpatient in hospital, or were too physically or mentally unwell to participate.

Participants self-reported that they met these criteria. By contacting the researcher and consenting to participate in the research participants demonstrated their willingness to discuss their experiences of SH behaviour and BMs.

Participants

132 participants expressed interest in participating in the study (109 from posters shared in support groups, 15 from the study page, six from 'shares' of the poster, one from the post on the NSHN forum, and one from seeing the poster in a local charity). Everyone who expressed an interest was contacted and asked to provide their email address to enable a copy of the Information Sheet (appendix H) to be sent to them. 75 people did not provide this information, so the information sheet was sent to 57 people. Potential participants were encouraged to ask questions regarding the study.

16 people agreed to participate in interviews. However, three people reconsidered and opted not to participate. Initially, no restrictions were placed on the country that participants could reside in. However, due to the level of interest in the study it was decided that participants would only be recruited from the UK to enable effective risk management. Following Kasket's (2009a, 2009b) protocol for responding to participant distress when using instant messenger (appendices I and J), participants were asked to provide the contact details of someone who could be contacted in an emergency. If risk issues were identified during the interviews, the emergency contact and/or the local emergency services would be contacted. It was felt that this presented a challenge if completing interviews with people outside of the UK. Due to these ethical concerns participants not residing in the UK were excluded, meaning a further four people were unable to participate. Participants were contacted using their preferred method of communication (email or instant messenger) and the rationale for this decision was explained to them.

Participants were emailed a copy of the consent form (appendix K) and returned an initialled and signed copy of the consent form before completing the interviews. Contact information was received from all participants at the beginning of the interview, following Kasket's (2009a) protocol, in case of situations involving risk such as statements of intention to engage in SH behaviour or indications of suicidality. This information was removed from the transcripts and stored separately. Due to the immediate nature of instant messaging, the researcher was alert to signs of potential distress, such as long pauses between responses. No signs

of distress were identified. However, if distress was identified participants would have been asked if they wished to continue with the interview. If they had chosen to terminate the interview, debriefing would be commenced immediately, participants would be offered relaxation techniques to reduce agitation, and details of alternative sources of support (such as local charities) would be offered. Participants would be encouraged to remain in contact with the researcher until they felt able to keep themselves safe. The debrief letter (appendix L) was sent following the interview.

Nine female participants were interviewed; however, one individual withdrew their consent following the interview, but prior to analysis. The interviews for the remaining eight participants were used in the analysis. Table 1 (appendix M) contains relevant demographic and descriptive information about the participants. Participants were assigned pseudonyms which are used in the presentation of the findings.

Study Design

Participants were given the opportunity to complete interviews face to face, using video calling software, by telephone or using instant messaging software to enable people who were geographically distant from the research site to participate. Seven participants chose to complete interviews using instant messaging software and one chose to complete their interview by telephone.

All interviews were completed as one conversation between the participant and researcher to ensure that information provided was kept private due to the sensitive nature of the topics discussed. Identifiable details were changed or removed prior to analysis and dissemination to ensure participants' ethical rights to privacy and anonymity were upheld (The British Psychological Society (BPS), 2017).

Kasket's (2009a, 2009b) protocols for responding to participant distress when conducting interviews using telephone, video calling software or instant messenger software were followed in line with good ethical practice (BPS, 2017). All participants were debriefed at the end of the interview and were provided with a

written debrief sheet (appendix L) with details of support services should they wish to access these later.

Procedure

Interviews with participants were conducted as detailed above. The researcher used a conversational style in order to build rapport with the participants and encourage them to share their experiences. During the interviews, brief notes were taken as a prompt to explore interesting points the participant made in more depth if these were not expanded upon by the participant naturally. Copies were made of the typed conversation in interviews conducted using instant messaging software. This was entered on a word processing document for analysis. The telephone interview was digitally recorded using a Dictaphone and later transcribed verbatim using word processing software.

Data Analysis

Interpretative Phenomenological Analysis (IPA) aims to provide a detailed exploration of the meaning participants make of their personal and social world through the meanings various experiences, events and states hold for them (Smith & Osborn, 2008). IPA is phenomenological in that it attempts to explore the participant's personal experiences and is concerned with their personal perception of an object or event rather than trying to produce an objective statement about the object or event itself. The researcher plays an active role in the research process by attempting to get close to the participant's personal world. IPA acknowledges that the researcher is not able to do this directly or completely as their knowledge of the participant's world is influenced by their own ideas and perceptions. IPA involves a 'double-hermeneutic' process - a two stage interpretation process whereby the researcher is attempting to make sense of the sense that the participant is making of their world (Smith & Osborn, 2008).

Smith and Osborn (2008) state there is not a prescribed methodology for conducting IPA and argue that qualitative analysis is a personal process and the result of the interpretations of the researcher at each stage of the analysis. However, Smith, Flowers, and Larkin (2009) have developed guidelines for

undertaking analyses using IPA. They detail six stages of analysis, following verbatim transcription: Reading and re-reading the transcript; Initial noting of points of interest within the transcript; Developing emergent themes that describe and summarise the initial notes; Searching for connections across emergent themes to group similar themes together and extend the analysis by linking these themes with existing psychological theory; Moving to the next case; and Looking for patterns across cases. They recommend completing the first four stages with each case, before completing the final two stages.

Analysis was completed following these guidelines. Detailed notes were completed after the interview to reflect on the process of the interview and the reactions this provoked in the researcher. An idiographic approach to data analysis was used to examine one transcript in detail before examining the other transcripts. The first transcript was read in detail. Initial thoughts and comments on aspects of the transcript considered interesting were noted in the right margin. Following this, the transcript was re-read, and the comments made in the left margin to denote emergent themes, based upon the initial notes (see appendix N for evidence of the analysis process). The emergent themes were noted in a new document (appendix O) and possible connections between them were considered. This process was repeated for the subsequent interviews before the identified themes from all interviews were brought together to develop superordinate themes with links to psychological theory enabling investigation of any common patterns across the interviews. Some themes were dropped whilst developing the superordinate themes as they did not have sufficient support.

During the analysis process, extracts of the transcripts were analysed by peers and the second author to assess the validity of the emerging themes ensuring they were plausible, credible, trustworthy and accurately represented the experiences of the participants by demonstrating how they emerged from the data in the original transcripts.

Reflexivity

The choice of research topic was influenced by my status as someone with BMs, though I do not consider myself part of the BM community. I hold a positive view of

BMs, in contrast to much of the published literature in this area that focuses on the negative consequences of BMs, such as infections. Although I have no personal experience of SH, a close family member has engaged in SH behaviour in the past, meaning I have some insight into this behaviour and view it in a positive way, as a coping strategy.

This research was conducted using a realist epistemological position. A realist method reports the experiences and reality of participants. A simple, unidirectional relationship is assumed between meaning, experience and language (Braun & Clarke, 2006). This position claims that the world exists independently of the researcher and the researcher discovers the truth about the phenomenon being investigated.

The research presented here does not use a purely realist position as there are inevitable elements of interpretation. My experiences and opinions of body modification and SH affected all aspects of the research. The topics included in the interview schedule reflect what I felt was important and this clearly affects the content of the interviews. My interpretation of the interview transcripts affects the analysis as it influences what I felt was important to include, the initial codes that were created, how these were combined to create themes and how the themes were grouped together to create super-ordinate themes. My interpretations of the data affected what was felt *not* to be important and not examined further. However, I did not interpret the data at a deeper level. It was assumed that the participants were reporting their experiences in a factual manner.

During the interviews I did not disclose my position in relation to BMs or SH unless the participant raised this. Only one participant enquired about this at the end of the interview. This may have influenced the information the participants shared as they may have had made assumptions about my position in relation to these phenomena and given different answers if they were aware of my position.

Findings

Two superordinate themes relating BM and SH were identified from the interviews with participants, shown in table 2. Both SH and BMs were used by participants as a

strategy for coping with their emotions or challenging life events. BMs appear to be protective for many participants.

Coping Strategies

In many interviews, participants described that they engaged in SH behaviours to manage their emotions:

“I was going through a lot of negative feelings and pain was something that gave me a nice feeling.” (Emma; 257-258)

For many participants who began engaging in SH behaviour during their teenage years, this was a way to manage the different, stronger emotions that occurred at this time. However, for some participants the SH behaviour began as a way to manage their emotions after traumatic events, such as bullying or sexual violence:

“I was bullied at school because I was different and it made me so upset so instead of taking my anger out on others I took it out on myself. Then I managed to stop for a year from when I was 14 to 15 and then I was sexually assaulted which made me do it again up until I met [my partner]” (Alice; 127-130)

Similarly, some participants expressed that they had obtained BMs as a coping strategy following traumatic events.

“Last July. My ex-partner had raped me [...] In October. I'd gotten my tongue pierced. And that was my way of coping I guess because it was a self-harm but I got something from it too” (Becky; 223-236)

Participants described SH behaviour as a way to control and manage the pain they were experiencing.

“it takes my mind off everything and instead of having pain in my mind that I can't control I've got pain I can control” (Clare; 258-259)

Superordinate theme	Subordinate themes	Participants
Coping Strategies	SH as coping strategy	Alice, Clare, Emma, Becky, Fay, Grace, Imogen
	BM as coping strategy	Fay, Becky, Imogen
	Trauma	Alice, Clare, Emma, Becky, Daisy, Grace
	Alternative coping strategies failed	Clare, Fay, Imogen
	Pain	Alice, Emma, Clare, Becky, Fay, Daisy, Imogen
	Distraction	Alice, Clare, Emma, Fay
	Physical & mental	Clare, Becky
	Meaning of tattoos	All
	Planned vs. unplanned	Clare, Emma, Becky, Fay, Daisy, Grace
Body Modification as Protective	BM as alternative to SH	Clare, Emma, Becky, Fay, Daisy, Imogen
	Indirect pain	Fay, Imogen
	Money	Clare, Becky, Daisy, Grace, Imogen
	Perceptions of others	Alice, Becky, Daisy, Grace, Imogen
	BMs/Tattoos as protective	Clare, Emma, Imogen
	BM as positive	Alice, Clare, Becky, Fay

Table 2: Theme table showing superordinate and subordinate themes, and the participants that contributed to each theme.

This was related to both the natural physical responses to the SH behaviour and the SH behaviour acting as a distraction

“I was going through a lot of negative feelings and pain was something that gave me a nice feeling. It served many purposes - it gave me a nice feeling, I was in a place where I felt like I deserved bad things... I also found it helped to ground me if I was getting worked up and overwhelmed - almost calming, taking focus away from what else was going on” (Emma; 257-261)

Often, participants reported that self-harming behaviour was utilised when alternative coping strategies had been attempted but had not helped them effectively manage their distress or reduce the desire to engage in self-harming behaviour

“Before I cut I would sit for hours upset and crying trying to find things to do to distract my self hoping I wouldn’t cut again! I tried all the different techniques like twanging a bobble or holding ice in your hand” (Clare; 274-276)

Some participants described seeing blood flowing as a result of self-harming behaviour acted as a visual representation of the expression of the feelings they had been attempting to contain

“when it bled it was like all the frustration feelings were coming out it was like a mind visual thing. Like I'd imagine all the frustration chemicals coming out of my body when I saw the bleeding.” (Becky; 192-194)

For these participants seeing the physical wounds healing was a metaphor for their emotional wounds healing. They described the importance of being able to see the healing process taking place, reflecting the emotional healing that was happening.

“I deal with physical, visible pain better than mental, emotional pain [...] I think it's because I can visibly see it getting better.

Whereas mental pain I have to live with that day in day out”

(Becky; 285-289).

However, there were some differences between SH behaviour and obtaining BMs. All participants reported that their BMs, particularly tattoos, had meaning for them.

“All of my tattoos mean something to me” (Becky; 62)

However, participants did not report any meaning behind their SH behaviour. A number indicated that SH behaviour was unplanned, and undertaken in response to emotions, whereas obtaining BMs was planned in advance.

Another big difference is that I would self harm as a direct result of how I was feeling. Getting a tattoo has a lot of consideration, planning and takes time to arrange. I don't get really overwhelmed and walk into the tattooist to see someone right that second and get anything just so that I can experience it, but with self harm that was pretty much when and how quickly it would happen (Emma; 218-223)

For many participants their tattoos were memorial tattoos as a reminder of a loved one who had died, possibly indicating that obtaining a tattoo is part of the grieving process for these individuals and one strategy that they use to manage their feelings around the loss.

“I have a tattoo on my right hip that says [date in roman numerals] Which translates to the [date] which was the date that my nan died. I got this tattoo when I was 16 in memory of her”

(Alice; 48-50)

Body Modification as Protective

Many participants reported that they obtained BMs as a replacement for SH as this reduced the feeling of needing to SH to manage their emotions

"I had had the uncomfortable (pain) of the tattoo and along with seeing the Slight bleeding had settled the sh [self-harm] urges"
(Fay; 114-115)

Many participants reported experiencing similar feelings when obtaining BMs as they did when they self-harmed.

"I still have a positive internal reaction to pain. I'm not really sure how to describe it, other than not sexual? Endorphins or something? I don't know the science behind it, just a "nice" feeling. I made a promise to my Husband that I would not self harm any more, and while I think about it a lot I don't believe I would ever go through with it again. But getting a tattoo gives me the same nice feeling, and it's nice to be able to experience that without breaking the commitment I made" (Emma; 207-213)

Some participants obtained BMs when they had decided to stop self-harming.

"the big dragon one I had that shortly after I decided to stop self-harming" (Imogen; 240-241)

For these participants it was important that the pain they experienced was not caused by themselves

"I was finally able to feel some pain without it being myself directly doing it, [...] at that point I wanted to Avoid any pain with blood myself as I saw it as a weakness [...] I'd held off from actual sh for so long so to do something directly to myself to cause the blood and pain made me as weak and pathetic as my mind is constantly telling me I am [...] the blood was an effect of a 'normal' pain, so it calmed my urges as I'd seen it and felt it, but it wasn't my hand that had caused it so I hadn't failed at being a human / wasn't weak" (Fay; 137-150)

Therefore, BMs could be viewed as an alternative to SH behaviour and may be protective by reducing the desire to engage in SH behaviours. However, obtaining

BMs is not always an accessible alternative to engaging in SH behaviours due to the cost implications of obtaining BMs.

“when I had the second one and I remember feeling yeah I could really get into this it's really ticking a lot of the boxes. Obviously yeah I haven't got that kind of money to to keep doing that every time I want to self harm” (Imogen; 237-239)

For some participants the perception of other people was important. They felt a BM, particularly a tattoo, would enable them to experience the same feelings in a way that is more socially acceptable, thereby avoiding negative reactions from others.

“I thought I'd self harm but instead of it being cuts and people asking why I did it. I have people complimenting the art I have instead of judging the cuts” (Becky; 118-119)

This meant that they were able to avoid negative feelings, such as guilt and shame.

“because I was hiding it and keeping it secret obviously every injury I had to have pretty good explanation for, so you know having to, not having to set up the lie it it made it so much easier” (Imogen; 255-258)

For some participants the protective element of their tattoos was not just limited to the physical sensations they experienced while obtaining them, or the reduction of negative judgements from themselves or others. The meaning behind the design of their tattoo was protective as it represented a positive symbol for recovery from SH behaviours

“The first one I got is on my left wrist and says ‘courage’ with an outline of a butterfly (which I associate with self harm recovery). I got this to remind me that even when I don't feel like it, I always have the courage to push forward - it's a good visual reminder” (Fay; 57-59)

One participant obtained a tattoo at a time in their life when they were experiencing very low mood and suicidal ideation. The tattoo replaced SH behaviour and acted as a reminder of their reason for living until the intensity of these feelings had reduced.

“when I was about 17 I was really suicidal and because one of the things that I kind of promised myself I said no I wanna see my favourite band first before I do anything. So I used to actually cut kind of like a symbol that was for the band in that spot, and then when I turned 18 about I got it tattooed on there, and when I was 19 I saw my band and then after that I wasn't suicidal fortunately”
(Imogen; 51-56)

Discussion

This study aimed to explore the experiences of BM with people who currently, or have previously engaged in SH behaviours and to provide insight into the sense people make of the associations between these behaviours to explore if there are any relationships between them.

This area has received only limited attention in the literature. However, the response to the recruitment advertisement in this study suggests that this is a topic of great interest and importance to people who engage in SH behaviour. Stirn and Hinz (2008) reported associations between SH and BMs in a number of participants. However, as this was a questionnaire study they were unable to explore this association in depth and examine the motivations behind it.

This study identified two super-ordinate themes from interviews with participants: ‘coping strategies’ and ‘body modifications as protective’.

Both SH and BMs were used by participants as a coping strategy for managing their emotions, in line with previous research findings that people engage in SH behaviours to change their emotional state (Chapman, Gratz & Brown, 2006; Edmondson, Brennan & House, 2016; National Collaborating Centre for Mental

Health, 2012). However, this is the first study to report a relationship between BMs and emotion management, suggesting there are similarities in the function of these behaviours for individuals who currently engage, or have previously engaged, in both behaviours.

The finding that many participants obtained BMs in order to manage their urges to engage in SH behaviour supports this relationship. Many participants reported similarities between the two behaviours in terms of both emotional changes and physical sensations. Stirn and Hinz (2008) reported some of their participants ceased self-cutting after obtaining BMS and hypothesised that they used BMs as a substitute for self-cutting. The current study supports this hypothesis and extends it by providing evidence that the participants consciously decided to obtain BMs to reduce their urges to engage in SH behaviours.

BMs tend to receive more positive reactions from other people than SH does. Societal attitudes towards tattoos have changed in recent years. Tattoos have historically been viewed as a sign of deviance but they became 'mainstream' in the 1990s (Larsen, Patterson & Markham, 2014). BM could be an alternative to SH for individuals who experience the desire to engage in these behaviours without the negative reactions associated with SH behaviour. However, BMs cannot be considered as a direct alternative to SH behaviour due to the cost implications of obtaining professional BMs.

BMs may be protective by reducing the urge to SH. The meaning behind tattoos can also play an important protective role for some individuals. Many participants disclosed that their tattoos were positive symbols of their recovery from SH.

Implications

Participants report using both SH and BM to manage their emotions, suggesting these behaviours may serve a similar function. Many participants report using BM as an alternative to SH, stating that BM reduces their desire to engage in SH behaviours when other strategies have been unsuccessful suggesting BM is different from these other strategies. Clinicians should explore the motivations behind BMs with individuals with a history of engaging in SH behaviour by

discussing any visible BMs and exploring how the individual was feeling when they obtained them, and any associations they have noticed with SH behaviour.

Obtaining new BMs may be an indicator that they have been struggling with urges to SH providing an opportunity to discuss if they are having intrusive thoughts about engaging in SH behaviour and require additional support. Clinicians should continue to offer alternative emotion regulation strategies.

This study utilised an innovative method of conducting interviews (instant messaging software). Feedback from participants indicated this did not affect their willingness to participate, and for some this method encouraged them to participate. For instance, one participant stated that she was unwilling to participate when the study was originally publicised. She was unable to travel to Staffordshire University to complete a face to face interview and did not feel comfortable with using the telephone or video calling to complete the interviews. However, she felt comfortable using instant messenger to do this. Another participant said during her interview that she found typing easier than talking to people about difficult feelings.

Instant messaging software has become an increasingly common method of communication (Ofcom, 2017). Instant messaging offers an immediate and flexible method of communication. Early research suggested that text-based forms of computer mediated communication (such as instant messaging) may lose non-verbal cues present in face to face communication, including facial expressions, gestures or tone (Culnan & Markus, 1987; Daft & Lengel, 1984; Kiesler, 1986; Rice & Love, 1987). However, the development of emoticons (“A representation of a facial expression such as a smile or frown, formed by various combinations of keyboard characters and used to convey the writer's feelings or intended tone.”; Oxford Dictionaries, 2019) and, more recently, emojis (“small digital images that are used to express ideas or emotions”; Oxford Dictionaries, 2018) enables users to convey emotional expression within text-based communications (Kaye, Wall & Malone, 2016), supporting the user to express themselves as intended in a similar manner to the non-verbal cues in face to face conversations (Walther & D’Addario, 2001). Emoticons aid personal expression and reduce the ambiguity of textual statements

by establishing the intended emotional tone (Kaye et al. 2016). All participants who used instant messaging services used emoticons or emojis in their interviews.

The Staffordshire University Ethics Committee expressed concern regarding the quality of data obtained using this method. However, the quality and richness of data obtained from interviews using instant messenger was comparable to that obtained from the interview completed by telephone. The data obtained from the instant messenger interviews contained fewer filler words (such as 'erm' or 'y'know') and less repetition meaning the transcripts were shorter. This did not affect the analysis for this study, but may impact on studies using other forms of analysis.

The interviews conducted using instant messenger took longer to complete than the one conducted by telephone (an average of three hours for instant messenger versus one hour for the telephone interview). There is therefore an additional time commitment for participants which should be borne in mind when seeking ethical approval and informing participants about the study. Whilst conducting these interviews was an extra time commitment for the researcher, this was off-set by the reduction of time needed for transcription of the interviews which was substantially reduced. Other researchers should consider this methodology, especially if working with people of a generation comfortable with this technology.

Consideration of issues surrounding risk and safety for participants is important due to the remote nature of this method of communication. Kasket's (2009a, 2009b) protocol for conducting interviews using instant messenger was followed for all interviews. All participants were aware of the need to provide contact information for this reason before consenting to participate and no participants expressed concern around providing this information. Regular checks on the emotional state of the participants were conducted, especially if they had disclosed a particularly sensitive issue, to limit the risk and allow for intervention at an early stage if this was necessary. No risk issues were identified during the interviews, so no interventions were necessary in this study.

Limitations

Whilst this is the first study to explore the experiences of BMs in people who have experienced SH behaviour, it does have a number of limitations. All participants self-identified as having experience of both SH and BM behaviours and no attempts were made to verify this. Different people may have had different interpretations of what is classed as 'self-harm' or 'body modification', despite the definitions used in this study being provided. All participants reported SH by cutting. Some other forms of SH, such as burning or self-hitting, were mentioned by some participants but cutting was the main form of SH for them. Other forms of SH, such as overdosing on medications, were not mentioned by any participants. As SH by cutting is focused on the skin people who SH in this way may have a different relationship with BMs, which are also focused on the skin, than people who SH in other ways.

All participants had, or were considering, tattoos and most had (or had previously had) piercings. Although the recruitment poster specified more 'extreme' types of BMs, such as scarification or sub-dermal implants, none of the participants had these forms of BM. This may reflect the fact that all participants were recruited from mental health or SH related areas. A number of establishments that provide BMs were contacted and asked to display the recruitment poster, however none were willing to advertise the study. This may be due to caution about the aims of the study, and an assumed negative implication (Giles-Gorniak et al. 2016). There may be differences in the experiences of people who have experience of SH and have more 'extreme' BMs. For instance, participants in this study viewed their BMs as more socially acceptable than SH. Schramme (2008) reports that some 'extreme' BMs such as "cuttings, [and] subcutaneous implants" are currently regarded by "many" as "a repellent mutilation" (p.10). Therefore, those with more 'extreme' BMs may have a different experience of public perceptions of their BMs and may experience different associations with SH.

Further development of some subordinate themes may have added further information about the relationship between BMs and SH. For instance further examination of the theme 'Indirect pain' may have revealed important differences between self-administered SH and BM administered by others. The theme

'Perceptions of others' discussed how participants felt others reacted to their BMs or indications of SH, such as scars. This may be related to the visibility of BMs or SH scars. Further exploration could reveal if any particular aspects relating to the visibility were important for participants, such as whether participants felt they had control over when these were displayed and to whom. Further development of this theme may also reveal whether participants felt differently about this in relation to BMs compared to SH scars.

Recommendations for Further Research

A number of additional themes were apparent in the interviews but did not directly answer the research question so have not been discussed. These themes warrant further investigation to add to the knowledge base around SH and to provide further information that may be helpful in treating this behaviour.

For example, a number of participants described the SH behaviour as 'addictive' and engaged with it because they enjoyed doing so rather than in response to a trigger such as dysphoric mood. This may have implications for the treatments suggested for this behaviour. Some participants felt there was a lack of understanding of SH behaviour amongst professionals meaning there was a lack of support available.

For some participants BMs appeared to impact on their body image in a positive way. This warrants further investigation as it may be relevant to other areas of mental health such as eating disorders. The existing literature has found mixed results in this area (Iannaccone et al. 2013; Kertzman, Kagan, Hegedish, Lapidus and Weizman, 2013).

Finally, many participants who were no longer engaging in SH behaviour stopped this due to relationships with others. For some this was related to mood improvement as a result of new romantic relationships, whereas for others it was related to having a responsibility to care for another. This warrants further investigation into the factors that are important in ending SH behaviour.

Further research into the experiences of BM in people who have self-harmed in ways other than cutting would increase the knowledge base in this area and may

lead to different treatment approaches for different forms of SH. Similarly, research into the experience of SH in people with more 'extreme' BMs would add information about whether this differs from more socially acceptable forms of BM. Research in the area of 'extreme' BMs is sparse, possibly due to reluctance of people with these kinds of BMs to engage with research due to perceptions of the behaviour being pathologised (Schramme, 2008).

Additionally, further research in this area would benefit from attempting to recruit participants from BM establishments to explore if there are differences in motivations or associations between these behaviours compared to people who are engaging with support for their mental health or SH behaviour. Recruitment from BM establishments would enable exploration of whether BM is used as an emotion management strategy in people who have never engaged in SH behaviours.

There was a great deal of interest in participating in this study. This unfortunately meant that not everyone who wished to participate was able to. This suggests this is a topic of great importance to people who engage in SH behaviour. The participants in this study were drawn from the general population of the United Kingdom; however, people from many different countries, including the United States, Australia and India, expressed an interest in participating. It is recommended that future research is conducted in these countries.

Further research should be conducted to investigate if obtaining BMs reduces the incidence or frequency of SH behaviour, and if so, further exploration of the possible mechanism for this would be beneficial to guide future interventions for SH behaviour.

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Appendices

Appendix A: Journal Guidelines



BODY IMAGE

An International Journal of Research

AUTHOR INFORMATION PACK

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DESCRIPTION

Body Image is an international, peer-reviewed journal that publishes high-quality, scientific articles on **body image** and human **physical appearance**. Body image is a multi-faceted concept that refers to persons' perceptions and attitudes about their own body, particularly but not exclusively its appearance. The journal invites contributions from a broad range of disciplines - psychological science, other social and behavioral sciences, and medical and health sciences. The journal publishes original research articles, brief research reports, theoretical and review papers, and science-based practitioner reports of interest. The journal gives an annual award for the best doctoral dissertation in this field.

Suitable topics for submission of manuscripts include:

- The effects of body image and physical characteristics (e.g., body size, attractiveness, physical disfigurements or disorders) on **psychological functioning**, interpersonal processes, and quality of life;
- Body image and physical appearance in the full range of medical and allied health contexts;
- Body image and physical appearance in diverse cultural contexts;
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- Factors that influence positive and negative body image development;
- Adaptive and maladaptive body image processes and their clinically relevant consequences on **psychosocial** functioning and quality of life;
- Relationship of body image to **behavioral** variables (e.g., exercise and other physical activity, eating and weight-control behaviors, grooming and appearance-modifying behaviors, and social behaviors);
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Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Personal communications may be cited (with exact date) in the text but are not included in the reference list. Unpublished studies or papers may be cited but must include a date (year) and follow APA style. Citing reference as "in press" indicates that the work has been accepted for publication."

Data references

This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author

name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

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Journal of Scientific Communications, 163, 51–59. <https://doi.org/10.1016/j.Sc.2010.00372>.

Reference to a journal publication with an article number:

Van der Geer, J., Hanraads, J. A. J., & Lupton, R. A. (2018). The art of writing a scientific article.

Heliyon, 19, e00205.

<https://doi.org/10.1016/j.heliyon.2018.e00205>.

Reference to a book:

Strunk, W., Jr., & White, E. B. (2000). *The elements of style*. (4th ed.). New York: Longman, (Chapter 4).

Reference to a chapter in an edited book:

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Reference to a website:

Cancer Research UK. Cancer statistics reports for the UK. (2003).
<http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>
Accessed 13 March 2003.

Reference to a dataset:

[dataset] Oguro, M., Imahiro, S., Saito, S., Nakashizuka, T. (2015). *Mortality data for Japanese oak wilt disease and surrounding forest compositions*. Mendeley Data, v1. <https://doi.org/10.17632/xwj98nb39r.1>.

Reference to a conference paper or poster presentation:

Engle, E.K., Cash, T.F., & Jarry, J.L. (2009, November). The Body Image Behaviours Inventory-3: Development and validation of the Body Image Compulsive Actions and Body Image Avoidance Scales. Poster session presentation at the meeting of the Association for Behavioural and Cognitive Therapies, New York, NY.

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**Life Sciences and
Education**

ETHICAL APPROVAL FEEDBACK

Researcher name:	Taryn Talbott
Title of Study:	Exploring individuals' experiences of body modification and self-harm: is there a relationship?
Status of approval:	Approved

Thank you for addressing the committee's comments. Your research proposal has now been approved by the Ethics Panel and you may commence the implementation phase of your study. You should note that any divergence from the approved procedures and research method will invalidate any insurance and liability cover from the University. You should, therefore, notify the Panel of any significant divergence from this approved proposal.

You should arrange to meet with your supervisor for support during the process of completing your study and writing your dissertation.

When your study is complete, please send the ethics committee an end of study report. A template can be found on the ethics BlackBoard site.

A handwritten signature in grey ink, appearing to read "Dr. Naemi".

Signed: Dr Roobeh Naemi

Date: 05.10.2018

Ethics Coordinator
School of Life Sciences and Education

Appendix C: Interview Schedule

Safety Information (Emergency contact details)

Demographic Information

- Where did you hear about the project? (BM or SH recruitment location)
- Age
- Gender

Interview

1. Tell me about your body modifications?
 - a. *What are they? (tattoos, piercings etc?)*
 - b. *How many have you got?*
 - c. *Where are they?*
 - d. *Where did you get them done? (professional or done themselves)*
 - e. *Why did you get them? (any cultural factors?)*
 - f. *When did you get them?*
 - g. *When did you get your first BM?*
 - h. *When was the most recent?*
 - i. *Any more planned?*
2. How do you feel about your body modifications?
 - a. *How did you feel when you first got them?*
 - b. *Has that changed?*
 - c. *How do you feel about them now?*
 - d. *How did you feel just before you got it (most recent BM)?*
 - e. *How did you feel immediately afterwards?*
 - f. *What were you thinking just before you got it?*
 - g. *What were you thinking just afterwards?*
3. Tell me about your experiences of self-harm?
 - a. *When did it start?*
 - b. *Do you still self-harm?*
 - c. *Why do/did you self-harm?*
 - d. *How do you feel about self-harming? (do you wish you could stop? Do you find it a useful coping strategy?)*
 - e. *How do you self-harm? (cutting, burning etc)*
 - f. *Has the method of self-harm you use changed over time?*
 - i. *Why?*
4. How do/did you feel about self-harm?
 - a. *How do/did you feel just before self-harming?*
 - b. *How do/did you feel immediately afterwards?*
 - c. *What thoughts do you have just before?*
 - d. *What thoughts do you have immediately afterwards?*
5. Does the SH change when you get a BM?
 - a. *how?*
 - b. *In what way?*

PROMPTS: Can you tell me more about that? What do you mean by [...]?

Appendix D: Cover Letter for Mental Health Support Charities

Dear _____

I am a Trainee Clinical Psychologist in my final year at Staffordshire University. As part of the course I am doing a research project exploring people's experiences of body modifications (e.g. tattoos, piercings, scarification and sub-dermal implants) and self-harm.

I am writing to you as your organisation offers support to people who have experiences of self-harm/ offers support to people with experience of mental health difficulties, which may include self-harm. I am looking to contact people with experience of **both** body modification and self-harm for an interview about their experiences. I would be grateful if you could assist me with this by displaying the attached/included poster in your centre and/or on your website. You will not be expected to do anything else to assist with the project. Interviews can be conducted via Skype if someone is unable to travel to Staffordshire University.

The study has received ethical approval from Staffordshire University.

I am happy to answer any questions you, or any potential participants, may have about the study.

Please contact me on: t025083g@student.staffs.ac.uk

Yours faithfully,

Taryn Talbott

Appendix E: Cover Letter for Body Modification Organisations

Dear _____

I am a Trainee Clinical Psychologist in my final year at Staffordshire University. As part of the course I am doing a research project exploring people's experiences of body modifications (e.g. tattoos, piercings, scarification and sub-dermal implants) and self-harm.

I am writing to you as you provide body modification services for people in the local area. I am looking to contact people with experience of **both** body modification and self-harm for an interview about their experiences. I would be grateful if you could assist me with this by displaying the attached/included poster in your shop and/or on your website. You will not be expected to do anything else to assist with the project.

The study has received ethical approval from Staffordshire University.

I am happy to answer any questions you, or any potential participants, may have about the study.

Please contact me on: t025083g@student.staffs.ac.uk

Yours faithfully,

Taryn Talbott

PARTICIPANTS NEEDED



Do you self-harm? Have you self-harmed in the past?

Do you have any tattoos, piercings (except ear lobe piercings) or other body modifications? Or have you had these before?

I am interested in finding out about people's experiences of self-harm and body modifications.

If you have experience of both self-harm and body modifications, are aged between 18 and 45 and would be willing to talk about your experiences, I would love to hear from you. You can take part in person, by phone, or by using video calling or instant messaging.

Unfortunately, you cannot take part if you are currently an inpatient in hospital, or are too physically or mentally unwell to take part.

You will be offered a shopping voucher to thank you for volunteering your time and taking part in this study.

Please contact Taryn Talbott on t025083g@student.staffs.ac.uk for more information.

Appendix G: List of Organisations Contacted for Recruitment

- One local self-injury support charity
- Three internet based self-harm support communities
- 12 local body modification organisations
- The Tattoo and Piercing Industry Union (asking tattoo artists & piercers to display a poster promoting the study in their premises)
- Four local mental health charities
- One non-local self-injury support charity (it was planned to contact more, but this was not necessary as sufficient numbers of participants were recruited from other sources)
- One non-local mental health charity (it was planned to contact more, but this was not necessary as sufficient numbers of participants were recruited from other sources)
- Study specific social media page
- Ten social-media based self-harm support communities
- Six body modification social media pages

Participant Information Sheet (PIS)

Study title: Exploring individuals' experiences of body modification and self-harm: is there a relationship?

Invitation and brief summary

Previous research has looked at why people get body modifications such as tattoos and piercings. Research has also looked at why people harm themselves.

Some people think that there may be a relationship between the reasons for getting body modifications and self-harm, but this has not been researched yet.

This study aims to investigate if there is a relationship between body modification and self-harm, and, if there is a relationship, what this relationship is like.

You have been invited to take part in this study as you have said that you have experience of both self-harm and body modification. You have also said that you are willing to talk about your experiences with the researcher.

What's involved?

Explanation: purpose of and background to the research and invitation

Many people in the UK engage in self-harm behaviour. Other researchers have done studies looking at the reasons people give for engaging in self-harm behaviour and body modification behaviour. Some similarities between self-harm and body modifications have been talked about in academic papers, but no-one has yet looked at the relationship between them.

We aim to conduct interviews with between eight and twelve people about their experiences of body modification and self-harm and any relationships between them.

What would taking part involve?

After reading this information sheet you will be able to ask the researcher any questions you have about taking part in the study. When you are happy with the answers to your questions you will be asked whether you would like to take part in the study or not. You will have at least 24 hours, or as much time as you need, to decide if you want to take part.

If you choose to take part in the study you will be asked to sign a consent form to confirm that you are willing to take part.

You do not have to take part in this study. If you choose to take part and then change your mind, you can stop taking part in the study (withdraw from the study) until [date]. Unfortunately, we will not be able to remove your information from the study after this date as the researcher will have started looking at it to see if there are any relationships mentioned. Please let the researcher know if you wish to stop taking part.

You will then arrange a time and place to speak to the researcher to complete an interview to answer some questions about your experiences of body modification and self-harm. This will usually be face-to-face, but you might agree to have the interview with the researcher by telephone or using video calling (e.g. Skype) or instant messaging (e.g. Skype instant messenger, Facebook messenger or WhatsApp). If you complete an interview by telephone or using video calling or instant messaging you will be asked for some extra information (your full name, the town or city that you live in and an emergency contact number) so that emergency services can be contacted if the researcher has serious concerns about your safety. This information will not be linked with what you say in the interview and will only be used if the researcher is very concerned for your safety.

When you speak to the researcher, they will ask you to complete a short questionnaire about yourself. This may include questions about your age, your gender, your race or cultural background and your religion. The researcher will then ask you some questions about your experiences of self-harm and body modification. This will probably take about an hour, but it may take longer if you have a lot of experiences that you wish to share.

This conversation will be audio recorded (tape recorded) so the researcher can look back at what you say. If you complete the interview using instant messaging the words that you type during the interview will be saved into a word processing document so the researcher can look back at what you said. The information you provide when you talk to the researcher will be looked at with the information that other people provide when they talk to the researcher.

What are the possible benefits of taking part?

You will probably not benefit directly from this study, but you may like sharing your experiences of self-harm and body modification. A lot of people tell us that they like sharing their experiences as they may not have had a chance to talk to somebody about their experiences in this way before.

This area has not been looked at by researchers before so you will help to increase our knowledge in the area of self-harm and body modification.

What are the possible disadvantages and risks of taking part?

Some people may find talking about their experiences upsetting.

Some people may find that taking part in this study might cause emotional distress and anxiety. If this happens you will be signposted to sources of support and will be given a letter with details of organisations that can support you.

We do not anticipate that there are any other disadvantages of taking part.

Further supporting information

What if something goes wrong?

If you find it upsetting to talk about your experiences, you can contact The Samaritans by telephone on: 116 123 (this number is free to call from all phones), or by email: jo@samaritans.org

If you wish to speak to other people who have experience of self-harm, you could access the National Self Harm Network Forum at <http://www.nshn.co.uk/>

You can also talk to your GP about any concerns you have. They will be able to refer you to other services if they feel you need extra support.

What will happen if I don't want to carry on with the study?

If you don't want to carry on with the study please let the researcher know. If you want to remove your information, please let us know by [date]. Unfortunately we will not be able to remove your information from the study after this date as the researcher will have started looking at it to see if there are any relationships mentioned.

How will my information be kept confidential?

Everything you say will be kept confidential within the research team. This means that we will not tell anyone else what you say. If you say something that makes us worry about your safety, or the safety of someone else, we might have to tell someone so that you can get the support that you need. We will try to tell you before we do this.

Your name and any information you mention in your interview that could be used to identify you, such as the name of your street or town, will be removed. You will be given a unique identification code that you can use to let the researcher know if you want your information removed from the study.

The information you provide will be stored electronically (on computers). This will be kept secure by using passwords to protect your information. Some of your information will be kept on paper. This information will be stored in a locked filing cabinet at Staffordshire University to keep it secure.

In line with Staffordshire University's Research Data Management Policy the information gathered in this study will be stored for 10 years after the study has finished.

What will happen to the results of this study?

The information from everyone that takes part in this study will be looked at together to see if any relationships between body modification and self-harm are talked about. When this has been done the findings from the study will be written up as part of the work needed for the researcher to complete their Doctorate in Clinical Psychology. The results of the study might also be written up and published in an academic journal so that other researchers can see what was found.

When the results are written up anything that could be used to identify you will be removed or changed.

Who has reviewed this study?

This study has been reviewed by the Staffordshire University Ethical Review Committee.

Further information and contact details

If you would like further information about the study you can contact the researcher by emailing: t025083g@student.staffs.ac.uk.

You can also contact the researcher's supervisors Helena Priest (H.M.Priest@staffs.ac.uk) and Ken McFayden (K.McFadyen@staffs.ac.uk)

Version control

Appendix I: Protocol for Responding to Participant Distress (Kasket, 2009a). Adapted Version for Instant Messaging

Protocol for Responding to Participant Distress, Adapted Version for Instant Messaging

Notes: This protocol for responding to research participant distress has been adapted from the one devised by Cocking (2008). Adaptations have been made to reflect the fact that interviews for the above-named research project will take place over the telephone rather than face to face.

Dr. Elaine Kasket, the researcher, is a chartered Counselling Psychologist and has experience in managing situations where distress occurs. Due to the nature of the questions (i.e., focusing on aspects of the participants' mourning/memorialisation processes 6+ months post bereavement), it is not expected that extreme distress will occur, nor that the relevant action will become necessary.

Steps taken prior to commencement of interview questions:

- 1) Interview questions will have been given to the participant in advance so that the participant can acclimate to the idea of these questions being asked.
- 2) First and last name of participant and town/city of current residence will be sought, in order to facilitate contacting emergency services if necessary.
- 3) Emergency contact number will be obtained from participant. Participant will be informed that if researcher has significant concerns about the participant's or others' safety, and/or if the telephone conversation is terminated in the context of severe distress, the researcher may need to use this emergency contact.
- 4) Appropriate helpline(s) in each participant's area will be identified by researcher (using list of links on <http://www.befrienders.org/helplines/helplines.asp?c2=USA>) in order to be able to offer participants immediate further sources of support if distress arises in interview.

Mild distress:

Signs to listen out for:

- 1) Sounds that indicate participant may be weeping, e.g., sniffing, hesitation
- 2) Voice becomes choked with emotion/ difficulty speaking / tremulous voice
- 3) Verbal signals such as "This is really hard for me to talk about," or "I didn't realise it would affect me so much to talk about it".

Action to take:

- 1) Ask participant if they are okay to continue
- 2) Offer them time to pause and compose themselves
- 3) Remind them they can stop at any time they wish if they become too distressed

Severe distress:

Signs to listen out for:

- 1) Uncontrolled crying/ wailing, heaving sobs, inability to talk coherently
- 2) Expressions of strong feelings of personal guilt about the death or participant's behaviour to person in life, accompanied by obvious emotional distress
- 3) Signs of high anxiety or panic attack, as heard by researcher and/or as reported by participant, e.g., hyperventilation, shaking

Action to take:

- 1) The researcher will intervene to terminate the interview/experiment.
- 2) The debrief will begin immediately
- 3) Relaxation techniques will be suggested to regulate breathing/ reduce agitation
- 4) The researcher will acknowledge participants' distress, and reassure them that bereavement can be very traumatic and can sometimes result in traumatic stress reactions.
- 5) If any unresolved issues arise during the interview, accept and validate their distress, but suggest that they discuss with mental health professionals and remind participants that this is not designed as a therapeutic interaction.
- 6) Offer details of counselling/therapeutic/helpline services available to participants (see point 4 under "Steps taken prior to commencement of interview questions", above).

Extreme distress:**Signs to listen out for:**

- 1) Severe agitation, lack of coherence, especially coupled with sudden termination of telephone connection.
- 2) Verbal indications of suicidality, especially coupled with sudden termination of telephone connection.

Action to take:

- 1) If termination of telephone connection has occurred, attempt to re-contact. If this is unsuccessful, and termination occurred *in the context of a level of agitation or emotionality that caused the researcher concern for the participant's or others' safety*, inform emergency contact and/or local emergency services.
- 2) If the researcher has concerns for the participant's or others' safety and the participant is still on the line, she will inform them that she has a duty to inform the emergency contact provided and/or local emergency services.
- 3) If the researcher believes that either the participant or someone else is in immediate danger and the participant is still on the line, then researcher will suggest that they present themselves to nearest emergency room, and contacting the emergency contact may also be necessary.

**Adapted from © Chris Cocking, London Metropolitan University
Nov 2008**

Appendix J: Protocol for Responding to Participant Distress (Kasket, 2009b). Adapted Version for Telephone/Skype

Protocol for Responding to Participant Distress, Adapted Version for Telephone/Skype

Notes: This protocol for responding to research participant distress over the telephone has been adapted from the one devised by Cocking (2008). Adaptations have been made to reflect the fact that interviews may not always take place face to face.

Steps taken prior to commencement of interview questions:

- 1) Consider giving questions to the participant in advance so that the participant can acclimate to the idea of these questions being asked.
- 2) Seek the first and last name of participant and the town/city of current residence, in order to facilitate contacting emergency services if necessary.
- 3) Obtain emergency contact number from the participant. The participant should be informed in the informed consent that if the researcher has significant concerns about the participant's safety, and/or if the telephone conversation is terminated in the context of severe distress, the researcher may need to use this emergency contact.
- 4) Appropriate helpline(s) in each participant's area should be identified by the researcher in order to be able to offer participants immediate further sources of support if distress arises in an interview.

Mild distress:

Signs to listen out for:

- 1) Sounds that indicate participant may be weeping, e.g., sniffing, hesitation.
- 2) Voice becomes choked with emotion, or the participant has difficulty speaking or has a tremulous voice
- 3) Verbal signals such as "This is really hard for me to talk about", or "I didn't realise it would affect me so much to talk about it".

Actions to take:

- 1) Ask participant if they are okay to continue
- 2) Offer them time to pause and compose themselves
- 3) Remind them they can stop at any time they wish if they become too distressed

Severe distress:

Signs to listen out for:

- 1) Uncontrolled crying/ wailing/heavy sobs, inability to talk coherently
- 2) Expressions of strong feelings of personal guilt or responsibility for a negative event or harm to others (if applicable to topic)

- 3) Signs of high anxiety or panic attack, as heard by researcher and/or as reported by participant, e.g., hyperventilation, shaking

Actions to take:

- 1) The researcher should intervene to terminate the interview
- 2) The debrief will begin immediately
- 3) Relaxation techniques will be suggested to regulate breathing and reduce agitation
- 4) The researcher should acknowledge the participant's distress, and reassure him/her that (for example, according to topic) the experience that they're describing can be quite traumatic or difficult and can sometimes result in traumatic stress reactions.
- 5) If any unresolved issues arise during the interview, accept and validate the participant's distress, but suggest that s/he discuss with mental health professionals and remind the participant that this is not designed as a therapeutic intervention.
- 6) Offer details of counselling/therapeutic/helpline services available to participants (see point 4 under "steps taken prior to commencement of interview questions", above)

Extreme distress:

Signs to listen out for:

- 1) Severe agitation, lack of coherence, especially coupled with sudden termination of telephone connection.
- 2) Verbal indications of suicidality, especially coupled with sudden termination of telephone connection.

Action to take:

- 1) If termination of telephone connection has occurred, attempt to re-contact. If this is unsuccessful, and termination occurred *in the context of a level of agitation or emotionality that caused the researcher concern for the participant's or others' safety*, inform emergency contact and/or local emergency services.
- 2) If the researcher has concerns for the participant's or others' safety and the participant is still on the line, s/he will inform them that s/he has a duty to inform the emergency contact provided and/or local emergency services.

If the researcher believes that either the participant or someone else is in immediate danger and the participant is still on the line, then the researcher will suggest that the participant presents him- or herself to the nearest Accident & Emergency department, and it may also be necessary for the researcher to contact the emergency contact.

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Appendix K: Consent Form

Participant Identification Number for this study:

CONSENT FORM

Title of Project: Individual's experiences of body modification: relationships to self-harm

Name of Researcher: Taryn Talbott

Please
initial box

1. I confirm that I have read the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.

3. I understand that I can ask for my data to be removed from the study until [date] by contacting the researcher with my Participant Identification Number

4. I understand that my interview will be audio recorded. If completing the interview using instant messaging, I understand that the words I type during the conversation will be saved into a word processing document.

5. I understand that this research may be published in an academic journal. All the information that I provide will be anonymised so I cannot be identified.

6. I agree to take part in the above study.

Name of Participant

Date

Signature

Name of Person
taking consent

Date

Signature

Appendix L: Debrief Sheet

Dear _____

Thank you for taking part in this interview and sharing your experiences of self-harm and body modification.

The information you have shared will be made anonymous (anything that could be used to identify you will be removed or changed) so that you cannot be identified. It will be combined with the information other people have shared and will be looked at together to see if any relationships between body modification and self-harm are talked about.

The results will be written up as part of the work needed for the researcher to complete their Doctorate in Clinical Psychology. The results of the study might also be written up and published in an academic journal so that other researchers can see what was found.

If the conversation we have had about your experiences has made you feel upset you can contact The Samaritans by telephone on: 116 123 (this number is free to call from all phones), or by email: jo@samaritans.org

If you wish to speak to other people who have experience of self-harm, you could access the National Self Harm Network Forum at <http://www.nshn.co.uk/>

You can also talk to your GP about any concerns you have. They will be able to refer you to other services if they feel you need extra support.

If you want to remove your information from the study, please let the researcher know by 5th April 2019. Unfortunately the researcher will not be able to remove your information from the study after this date as they will have started looking at it to see if there are any relationships mentioned.

If you would like to receive a summary of the findings of this research, please contact the researcher using the details below and they will be happy to send this to you once the results have been written up.

If you have any questions regarding this study, please feel free to ask the researcher or research supervisors at this time or by using the contact details below.

Thank you again for sharing your experiences with me.

Taryn Talbott
T025083g@student.staffs.ac.uk

Research Supervisors:
Helena Priest: H.M.Priest@staffs.ac.uk
Ken McFayden: K.McFadyen@staffs.ac.uk

Appendix M: Table showing demographic and descriptive information about the participants

Pseudonym	Age	Recruitment Source	Participation method	General Location	Interview Length (HH:mm)	Currently Self-harming	Type of BMs	Form of SH
Alice	18	Facebook (poster shared)	WhatsApp	West Midlands UK	02:45	No	Tattoos	Cutting
Clare	19	Facebook (Support Group page)	WhatsApp	North East UK	02:57	No	Tattoos, Piercings	Cutting, Restricting food
Emma	30	Facebook (Study page)	Facebook messenger	South West UK	03:20	No	Tattoos	Cutting, Hitting self
Fay	25	NSHN Forum	WhatsApp	South West UK	03:31	No	Tattoos	Burning, Cutting
Daisy	30	Facebook (poster shared)	Facebook messenger	South West UK	01:55	No	Tattoos, Piercings	Cutting
Becky	23	Local Charity	WhatsApp	West Midlands UK	03:27	No	Tattoos, Piercings	Burning, Cutting, Restricting food
Grace	30	Facebook (poster shared)	WhatsApp	South West UK	02:15	No	Piercings	Cutting, Hair pulling
Imogen	45	Facebook (Support Group page)	Phone	North East UK	01:05	Yes	Tattoos	Cutting, Hitting self

Table 1: Demographic and descriptive information about the participants

Appendix N: Evidence of Analysis Process

BM as coping strategy	BMs as way of coping	305. But with every other time I've had a tattoo and/or piercing. All that goes and I see life more clearly. 306. 307. 308. 309. 310. 311. 312. 313.	When has B.M. symptoms/feelings go away & she is able to manage.
Physical & mental	mental vs physical pain	314. B: I think it helps in a way for me because I see that technically it's wounded at the moment. Like when I get them, my mental health is. But I see the tattoos and piercings getting better in time and I know that in time. So will my mental health. Sometimes with tablets. Sometimes without tablets. It depends how hard I hit rock bottom.. Most of the time whether I'm on or not on tablets. 315. 316. 317. 318.	link between physical wounds & mental wounds. Associates them with each other. Complicates them/associates them. Can see the physical wounds healing/ getting better so knows that mental wounds will too
BM as coping strategy	BMs as way of coping	319. Tattoos and piercings will always help me to heal. We are all like tattoos and piercings. We all use different stuff to help with the healing whether it's savlon. Salt water. Bepanthen witchhazel. Or even let it heal on its own. But in the end. 320. 321.	tattoos & piercings help her to heal. Does not foresee a time when this will not be true. Draws links between healing of BMs and healing of emotional wounds that we all experience.

All have own coping mechanisms.

- 322. We almost all heal with our own coping mechanisms.
- 323. T: That's a really nice way of looking at it 😊
- 324. T: Sounds like you.... draw parallels between the healing that's going on outside
- 325. and the healing that's going on inside?
- 326. B: That's the best way of putting it! I've tried to explain to other people of how i
- 327. do it. But end up getting frustrated and telling them go away because they don't
- 328. understand the way I try explain it haha. I sound really mean there. But I don't
- 329. try to be.
- 330. But yeah, everybody heals. Now this is going sound so horrible but I don't mean
- 331. it to. Everybody heals in their own way. Whether it's tattoos and piercings
- 332. (which I'm glad that's my self harm coping mechanism)
- 333. Some people overdose.
- 334. Some people self harm as in cuts. Burns anorexia, bulimia etc
- 335. Some people commit suicide because they don't see no way out of it.
- 336. But people have their very own mechanisms. It's how we deal with things :)
- 337. T: Mhmmm
- 338. T: Yep

Everyone heals in their own way.
BMs as SH coping mechanism

Different forms of SH, but all coping mechanisms

BM as alternative to SH BMs as SH

SH as coping strategy SH as coping mechanism

Appendix O: List of Superordinate and Sub-Ordinate Themes

Coping Strategies

1. SH as Coping Strategy
 - a. SH as Protective
 - b. SH to express/manage emotions
2. BM as Coping Strategy
3. Trauma
4. Alternative Coping Strategies Failed
5. Pain
6. Distraction
7. Physical & Mental
 - a. External Pain Reflects Internal Pain
 - b. Physical & Mental Pain
 - c. Physical & Mental Healing
8. Meaning of Tattoos
 - a. Memorial Tattoos/Loss
 - b. Religion/Spirituality
9. Planned vs Unplanned

BM as Protective

1. BM as alternative to SH
2. Indirect Pain
3. Money
4. Perceptions of Others
5. BMs/Tattoos as Protective
6. BMs as Positive
 - a. Mood Improvement
 - b. Tattoos covering/hiding scars

Paper three: Executive Summary

**Experiences of Body Modification in Women with Experience
of Self-Harm.**

Word Count: 1491

This report is a summary of a research study looking at the experiences of body modification (piercings and tattoos) in UK women with experience of self-harm behaviours. The research looked at how these women made sense of the links between self-harm behaviours and body modifications. This report talks about what is already known about these topics, then how the study was done, what was found, and what this means.

What do we already know?

Earlier research has found that self-harm behaviour is linked with a range of mental health difficulties. Self-harm behaviours are linked to a higher risk of suicide. Self-harm behaviour is more common in young adults, especially women. Some people use self-harm behaviour to cope with painful feelings. Self-harm behaviour can be used as a way of telling other people about these feelings.

Self-harm behaviours are similar to body modifications (piercings and tattoos) in some ways. Both self-harm behaviours and body modifications are common in women and younger people. Both self-harm behaviours and body modifications cause damage to the body in some way.



Photo credit:
Lucie Turner¹

The current advice for coping with self-harm behaviours is that people who use self-harm behaviours could try different, less harmful, ways of doing this if they do not feel that they can stop the self-harm behaviour at the moment. The advice suggests trying things like pinching, squeezing ice or drawing on the skin. Some researchers think that body modifications might be used in place of self-harm behaviours.

Why do this study?

There has not been much research looking at self-harm and body modification behaviours together. The research that has been done has found that for some people who self-harmed by cutting, they stopped this behaviour when they got body piercings. This might mean that the action of getting a piercing could replace the need to self-harm by cutting. So, getting a piercing could be a way to cope with

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upsetting feelings. That research did not look at why people got the piercings or how they felt about them.

This study wanted to find out how people who had experience of self-harm behaviours felt about getting body modifications. This study wanted to find out what these people thought about the links between these behaviours.

What happened?

A poster about the study was shared in groups on the social media site Facebook that offer support to people who use self-harm behaviours. A page about the study was set up on Facebook with a copy of the poster and more information about the study. Friends of the researcher shared the poster on their personal Facebook pages and on Twitter (another social media site). Mental health charities in the local area and across the UK were emailed and asked to put up a copy of the poster. A post was put on the 'Research Topics' board in the discussion forum on the website of the National Self-Harm Network.

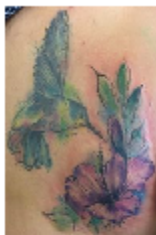


Photo credit:
Sarah Stockham¹

Eight women from across the UK took part in the study. They were between the ages of 18 and 45 years old. They talked about their feelings about body modifications and self-harm behaviours with the researcher. They also talked about any links they thought there were between these behaviours. Most of the people that took part talked to the researcher using instant messaging services like WhatsApp or Facebook Messenger. One person talked to the interviewer on the telephone. Each person talked to the interviewer once.

The researcher looked for important themes that came up in each talk. These were put together with the themes from other talks to make main themes. Themes that came up in lots of the talks might mean that lots of people have similar feelings about these topics. The main themes were linked with what psychologists already know about self-harm behaviours and body modifications.

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What was found?

Two main themes came out of the talks: Coping Strategies and Body Modifications as Protective.

Coping Strategies

"I was going through a lot of negative feelings and pain was something that gave me a nice feeling." – Emma

The women talked about using self-harm behaviours as a way of coping with their feelings. Some of the women said they got body modifications for the same reason. This was sometimes after they had experienced a very upsetting event. They said the self-harm behaviour was a way of controlling and coping with the pain they felt and that it helped to take their minds off other things that were going on.



Photo credit:
Sarah Parkin¹

The themes showed there were some differences between body modifications and self-harm behaviours. The women said their body modifications, especially tattoos, had a meaning for them. They did not say that self-harm behaviours had a meaning. They said they usually thought about getting a body modification before they got one. They said the self-harm behaviour was more often carried out when they felt strong emotions. They did not usually plan to use self-harm behaviours.

Body Modifications as Protective

"I thought I'd self harm but instead of it being cuts and people asking why I did it. I have people complimenting the art I have instead of judging the cuts" – Becky

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Photo credit:
Brett Barfield¹

Most of the women said they got body modifications instead of using self-harm behaviours. Some people said getting body modifications meant that they felt they had less need to use self-harm behaviours to cope with their feelings.

Most of the women said they had the same feelings when they got a body modification as they did when they used self-harm behaviour. Some people said they got body modifications after they decided to stop using self-harm behaviours. These people said it was important that they could feel pain but not cause it themselves.

Getting body modifications might be different to using self-harm behaviours.

Getting body modifications could help to lower the urges to use self-harm behaviours. Getting body modifications cannot be thought of as a replacement for self-harm behaviours as there are some differences. For example, people have to pay for body modifications but don't have to pay when they use self-harm behaviours.

The women said other people reacted in a better way to body modifications than they did to scars from self-harm behaviours. For some of the women the meaning of the body modifications was a reminder of things that were important to them or made them feel good. This might mean getting body modifications makes people feel like they need to use self-harm behaviours less often.

What does this mean?

These findings are important for people who work with people who use self-harm behaviours. If they can see a body modification, they could use this to talk about how the person was feeling when they got it. Getting a new body modification could be a sign that someone is feeling like they want to use self-harm behaviours. They should talk about this together to see if they need more help.



Photo credit:
Sam Standerwick¹

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Are there any problems with the study?

All the women said they had experiences of body modification and self-harm behaviours. This was not checked in any way. This might mean that different people were talking about different behaviours.

All the women said they used self-harm by cutting behaviours. Different self-harm behaviours were not talked about or were talked about less often. This might mean the findings from this study do not apply to different self-harm behaviours.

None of the people who took part in this study had more 'extreme' body modifications like scarification or sub-dermal implants. People who have these more 'extreme' body modifications might have different experiences to those who took part. This means some of the findings from this study might not apply to people with these body modifications.

What next?

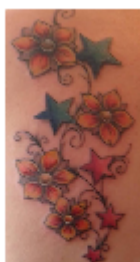


Photo credit:
Emma Johnson¹

More research should be carried out in this area. All the people who took part in this study were women. They might have different experiences to men. More research should look at the experiences men have.

More research should look to see if the findings from this study apply to people with different forms of body modifications.

Other research should also look to see if the findings apply to people who use different types of self-harm behaviours.

How will this information be shared?

All the women who took part asked for a copy of this summary. This will be sent to them by email.

A copy of this summary will be posted on the Facebook page for the study. A copy will be posted on the National Self Harm Network website. The Facebook support groups will be contacted to check if they are happy for a copy of this summary to be posted on their page. A copy of the summary will be sent to the charities that

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helped to tell people about the study so they can share this summary with the people they support.

A written report about the study will be sent to an academic journal. If this is published this will mean other people working in this area will be able to see the findings.

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