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REVIEW ARTICLE

Scoping review: Alternatives to self-harm recommended on mental health self-help websites

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ABSTRACT: *Less than half of all young people with mental health difficulties will seek professional treatment. Due to the private nature of self-harm it is estimated that only 1:28 young males and 1:18 young females who self-harm ever present to hospital. Self-help supports improved coping strategies and life changes without reliance on a clinical intervention which could be used to reduce self-harming behaviours. The study objective is to review self-help alternatives to self-harm on mental health websites that can be accessed by young people. Google, Bing, and Yahoo search engines were used to search for appropriate websites. Eighty-two unique websites on mental health were identified, of which 55 met the inclusion criteria. A total of 1177 self-help suggestions were found for those struggling with self-harm urges. The average number of suggestions per site was 42 (Range 3–252). The main techniques suggested were: seeking social contact/help, physical activity, displacement/mimicking techniques, relaxing/comforting techniques, sensory techniques, fun/diverting techniques, aggressive techniques, creative/reflective techniques. This review found not all strategies were suitable for young people and that the large number of possible strategies could be challenging for a young person to navigate. However, mental health self-help websites were generally of high quality and gave a range of potentially helpful strategies. The categories created from this review could be used as a guide to consider with the young person when making an individualized self-help plan to manage self-harm urges. Further research is required to assess if and how these techniques could be used individually or in combination to reduce self-harm.*

KEY WORDS: *mental health, scoping review, self-harm, self-help, self-injury, websites.*

INTRODUCTION

The lifetime prevalence of self-harm in young people is currently 10–20% for adolescents (Gillies *et al*. 2018). Certain populations, such as nonbinary or transgender young people are particularly vulnerable, with self-harm rates around 50% higher than their cisgendered peers (Liu *et al*. 2019). However, due to the private nature of self-harm it is estimated that only 1:28 young males and 1:18 young females who self-harm ever present to hospital (Geulayov *et al*. 2018). The term 'self-harm' can include a wide range of behaviours, from scratching the skin, to head banging, or taking overdoses. The most common form of self-harm is by cutting (De Leo & Heller 2004) which can leave the young person vulnerable to infection, blood loss, and scarring. Young people who self-harm are more likely to experience mental ill health and are around 100 times more likely to die by suicide than their non-self-harming peers (Carroll *et al*. 2014).

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Many young people start self-harming as a way of coping with challenging experiences, thoughts, and feelings (Fliege *et al*. 2009). There are a wide range of bio-psycho-social factors that contribute to self-harming behaviour, including how impulsive a person is, the way they approach the challenges in their lives, and their family environment (Sim *et al*. 2009). A systematic review found that after attending hospital for self-harm many adolescents will repeat the behaviour, with 15% continuing to self-harm after 1 year, rising to 25% after 4 years (Owens *et al*. 2002).

Less than half of all young people with mental health difficulties will seek professional treatment (Eisenberg *et al*. 2012). The main barriers to seeking treatment include inconvenience, stigma, and other demands on their time (Eisenberg *et al*. 2012). Those who do seek referral to CAMHS in England may have to wait up to 6 months for treatment (NHS Digital 2021). As such, there is a need for robust, effective self-help for self-harming urges and suicidal ideation.

Self-help supports improved coping strategies and life changes without reliance on a clinical intervention, "helping people to help themselves" (Harwood 2010). Almost 90% of all young people under 25 years have home access to the Internet (Unicef 2020). Online self-help for self-harming behaviours, therefore, provides a potential solution for young people who are reluctant or unable to seek help or who are on a waiting list for it. Studies of online self-help, including mobile apps, for mental health have found it to be an effective, scalable solution (Aschbrenner *et al*. 2019; Cliffe *et al*. 2021a).

Although there have been trials assessing a range of therapies for self-harm, until recently, research has neglected to examine alternatives to self-harm. Currently there is no agreed definition of what constitutes an alternative to self-harm. Pengelly *et al*. (2008) used a broad definition which includes: Help-seeking information including therapy, Problem-solving techniques, Written techniques to aid positive reframing (such as use of diaries), Distraction, Comfort and relaxation, and Harm minimization.

In a leaflet for patients who self-harm Kilburn and Whitlock (2009) described alternatives to self-harm as a distraction or substitution behaviour which helps the person cope with their emotions and the urge to self-harm. A number of websites, including some NHS sites, utilize the term alternatives to self-harm when describing a variety of distraction-style techniques to manage self-harm urges. The National Institute for Health and Care Excellence (NICE) guidance currently advises having discussions around harm reduction and alternative behaviours to self-harm. In this review the definition provided by Pengelly *et al*. (2008) will be used.

Research into coping strategies found that avoidance, which includes distraction and diversion, is consistently utilized by those who self-harm more than those with no history of self-harm (Brereton & McGlinchey 2020; Kiekens *et al*. 2015). A recent study has shown that it can be helpful to use distractions when managing self-harm urges (In *et al*. 2021). In a study by Klonsky and Glenn (2008) 90% of those who self-harmed had used distractions or diversions such as "keeping busy", "seeing friends", and "doing sports or exercise" to resist self-harm urges. Research by Wadman *et al*. (2020) examined the use of harm minimization techniques which included strategies that would mimic, in a less damaging way, the sensation or sight of self-harm. In this study only 0.9% of participants had utilized such techniques, mostly in the form of snapping elastic bands against their skin. Harm minimization techniques were perceived as ineffective at preventing self-harm episodes occurring, although some participants did describe it helping "a bit", as these techniques do not address the underlying cause of the urges to self-harm (Wadman *et al*. 2020).

There are currently numerous self-help mental health websites for those struggling with self-harming behaviours, however, there has been very little evaluation of the information they provide. Other areas of medicine, such as pain management, have conducted scoping reviews of the self-help health information provided on websites (Devan *et al*. 2019). Given the barriers to accessing professional treatment, there is need for this to occur for self-harm self-help websites.

AIMS

Aim of this study: To conduct a scoping review of the suggested self-help alternatives to self-harm that can be accessed by young people using mental health websites.

METHODOLOGY

A scoping review methodology framework was adopted (Arksey & O'Malley 2005; Tricco *et al*. 2018). This methodology is not eligible for registration on PROSPERO.

Inclusion and exclusion criteria

The search was restricted to English language websites. The search was conducted from a computer with its geolocation set as England.

There is no current agreed definition for what constitutes a mental health website, we consulted mental health clinicians and adapted the World Health Organization (2004) definition of mental health. The definition of a mental health website used in this scoping review is: A website that provides content on the biological, psychological, and/or social aspects of emotions, coping, relationships, and/or learning (excluding tutoring) with the aim of providing information, advice, or help to improve mental wellbeing.

After consultation with clinicians and an expert by experience, it was agreed young people accessing the Internet would be unlikely to consider the credentials of the organization or person creating website content; therefore, this search did not have any constraints in relation to this. Websites created by charities, health organizations, and experts by experience were included. The website must be easily accessed (does not require payment, registration, or anything to be downloaded, e.g., an application or document), focused on public information, have self-help advice for mental health difficulties, make reference to alternatives or distractions to use for self-harm, suicidal ideation, a mental health emergency, or crisis. Websites that stated clearly on the page with content relating to self-harm/mental health crisis self-help that the suggestions were for adults only were also excluded.

Due to the wide range of possible self-help strategies, all suggestions that did not require input from a professional were included in the initial analysis. Prescribed medication and formal therapy were excluded as distractions/alternatives to self-harm for the purpose of this study as these do not fall under the remit of "self-help" and usually require input from a professional.

Data collection

The search was conducted on 14/5/21 using the three most popular search engines in the UK at that time: Google, Bing, and Yahoo. The following search terms were used in each search engine: Self-harm OR Self injury OR Cutting OR Mental Health Self-help. Similar to previous scoping reviews the first 50 websites for each search engine were screened for inclusion (Ahmed *et al*. 2012; Devan *et al*. 2019). The search was conducted and charted by CF and a 25% (random sample) was checked by EK. Browser history and cookies were cleared prior to the search being conducted. The search was conducted on a computer which had its geolocation set as London, England. The information was downloaded to Microsoft word and duplicate websites were removed.

Websites including information on the topic of self-harm and/or mental health were viewed and searched for any evidence of recommendations for self-help strategies when in crisis or self-harming. If the website advised and linked other websites these were also explored. Self-help suggestions were extracted along with any explanatory text such as when or how to use the suggestion.

The data chart included summary information about the website; country of origin, how the content was created, the organization or person affiliated with the content, and any statement that the website was designed specifically for young people. All self-help suggestions were listed along with the context in which they were made. The total number of suggestions was recorded along with the number of unique suggestions (removing duplicates within the page content).

Analysis of data

A narrative synthesis of the results was conducted, with the raw number of suggestions made recorded before grouping them into categories. The data were approached with no predefined hypothesis, utilizing Grounded theory (Glasser & Strauss 1967) inductive approach. As categories emerged, an axial coding approach (Corbin & Strauss 2008) was used. The authors independently coded the data with any differences resolved through discussion. The categories that emerged were discussed with child and adolescent mental health clinicians to ensure comprehensibility. This analysis resulted in an overview of all self-help suggestions, along with specific examples with a description and overview of the categories created.

Critical evaluation

The quality of the websites was evaluated using the framework developed by Tao *et al*. (2017) which assesses the information's: Accuracy, Completeness, Depth, Understandability and Relevance. Each category was independently scored by the authors on a five-point Likert scale, giving a possible total of 25 for very high-quality websites. Where there was a

difference in score between the two authors a discussion and re-review of the website occurred to achieve agreement. Other assurances of quality were recorded where found (e.g. Health On the Net [HON] code 2010).

RESULTS

Study characteristics

After accounting for duplicate results, 82 unique websites on mental health were identified from the search (Fig. 1) of which 55 met the inclusion criteria. Most were excluded due to having no self-help information, three were excluded due to having only information pertinent to attracting paying customers, often for private therapy, and two were excluded as they stated they were for professionals. The websites were from a range of English-speaking countries, 57% from the UK (Table 1) which is likely due to the algorithm of the search engines prioritizing those from the geolocation of the computer the search was conducted on. The majority of websites were those of charities or affiliated with professional organizations such as the NHS, American Academy of Child & Adolescent Psychiatry, The Royal College of Psychiatry and Health Direct Australia. Thirty-five websites described gathering information from experts to create the content, although it was not always possible to discern if these were experts by experience, clinicians, or academics. The majority of websites did not give age-specific advice or state which age groups the information was suitable for. Six websites were specifically designed for young people.

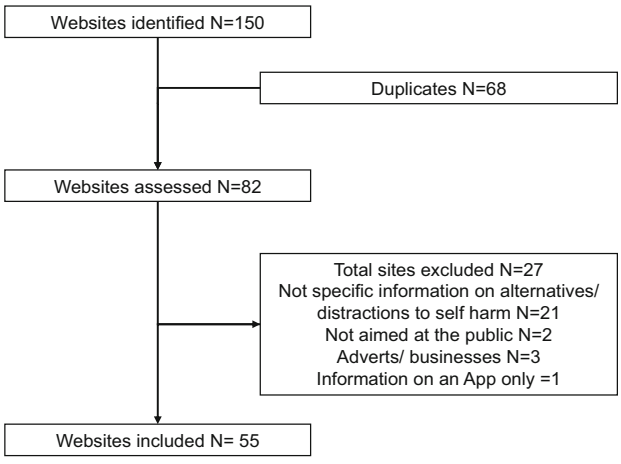

FIG. 1 PRISMA flow chart.

In total 2287 techniques were suggested on all the websites. Many websites suggested techniques for different emotions, thus there was some repetition, for example, exercise could be suggested not only for someone feeling sad but also for anger. Removing repetition within each website gave 1177 suggestions. The average number of suggestions per site was 42 (Range 3–252). The websites were generally of high quality, using research or experts either clinically, academically, or by experience (Table 1). A detailed breakdown of the website quality assessment by category can be found in the Appendix I.

Analysis resulted in nine categories of self-help suggestions (Table 2). There were some suggestions which overlapped between two categories, such as hitting something. In this circumstance, consideration was given to what was felt to be the primary function of the most common specific suggestions given on the website. For example, hitting/throwing was commonly associated with exercise on websites and, therefore, felt to be primarily about expending energy rather than expressing anger or aggression.

Fourteen suggestions could not be satisfactorily categorized by the authors (Table 3). These included suggestions such as "thinking about the scars" or timing how long the person can go without self-harming. Creation of a safety plan was suggested by four websites, but this is a written plan of distractions and telephone numbers to call if in need of help and the authors felt it did not constitute a self-help technique in itself. Two websites mentioned the use of non-prescribed medication amongst self-help suggestions for self-harm which the authors felt could be potentially harmful for someone with urges to self-harm to consider using without it being approved by a professional.

The most popular suggestions come from a variety of themes, although talking techniques featured heavily. The most common suggestions on mental health websites for those struggling with self-harm urges are:

- Talking/messaging someone they trust or a professional organization
- Writing something
- Listening to music
- Drawing/painting
- Ice/cold water
- Screaming/shouting

Some websites also gave information about strategies for avoiding things that could potentially cause harm.

TABLE 1 *Summary of mental health websites*

Website	Country of origin	Total no. of alternatives to self-harm	Website quality† (out of 25)	Website comments on how content was sourced
Sane	UK	14	24	Research carried out by SANE, with the help of 946 participants who shared their experiences
Mind	UK	36	24	References are available on request
ULifeline	USA	14	23	No information
Recover your life	UK	252	20	Expert by experience
Self-injury outreach and support	Canada	9	23	Expert knowledge "Undergraduate and graduate students at both the University of Guelph and McGill University"
Anna Freud	UK	101	25	General statement that resources are created with young people and through research
Harmless	UK	20	23	Discusses a "collaboration with service users, therapists and the Institute of Mental Health"
Lifesigns	UK	51	19	Experts by experience
Papyrus	UK	128	23	Expert knowledge
Self-injury support	UK	73	22	Experts by experience
Young minds	UK	55	24	Expert knowledge and experts by experience
Adolescent self-injury foundation	USA	146	21	Expert knowledge
Staying safe	UK	10	23	Expert reference group and experts by experience
NHS	UK	9	25	"peer-reviewed scientific research from NHS Evidence"
Mental health America	USA	50	23	Makes reference to experts by experience, "Adapted from Red Flags: Harmful Coping Responses and Coping Responses"
Childline	UK	66	23	Reference made to using experts by experience
Mental Health UK	UK	24	24	"developed using content from Bloom, Mental Health UK's young people's resilience programme"
Helpguide	Canada	35	23	HON certified. Expert knowledge
Rape crisis	UK	71	23	Information from Bristol Crisis Service for women, information from internet
Rethink mental health	UK	41	25	References given
Support Line	UK	35	24	"Information from Bristol Crisis Service for Women, information from internet, Support line resources"
No Panic	UK	5	21	Expert knowledge
Self-harm UK	UK	36	22	Describes expert "contributors"
Mindwise	UK	56	22	No information
Kids Health	USA	14	22	Expert knowledge
Save	USA	13	22	Taken from a SAMSHA's document
Royal college of psychiatry	UK	9	22	Expert knowledge by RCP public education editorial board
Psychology Today	USA	21	19	Reviewed by staff
NSPCC	UK	12	25	References given
The Mighty	USA	6	19	Expert by experience
East London CAMHS NHS Trust	UK	38	22	No information
Ditch the label	USA	17	25	Research, experts by experience
Healthy place	USA	51	23	HON certified. Experts by experience
Anxious Lass	UK	50	20	Expert by experience - blog
CAMHS Wales	UK	40	23	Experts by experience
Kelty eating disorders	Canada	109	22	Experts by experience
Project LETS	USA	250	23	Experts by experience
Re-cognition health	USA	40	20	Expert knowledge

(*Continued*)

TABLE 1 (Continued)

Website	Country of origin	Total no. of alternatives to self-harm	Website quality[†] (out of 25)	Website comments on how content was sourced
Love my anxious brain	USA	12	19	Expert by experience - blog
Get self-help	UK	17	21	No information
HSE	Ireland	11	24	Describes a quality assurance framework
NTW NHS self-help guide	UK	53	23	NHS healthcare staff, service users and local voluntary sector groups in NTW
Priory group	UK	18	22	Expert knowledge
Better health	Australia	16	22	Expert knowledge
SAMH	UK	32	23	Collation of reported experience
Headsup	UK	16	23	Experts by experience "health professionals, professional bodies, lay and voluntary organizations"
Self-Injury support	UK	28	23	"researchers and policy makers"
AACAP	USA	7	22	"Multiple committees"
Here to help	Canada	3	22	Describes a group of experts from different professional institutions
Oxford health NHS	UK	17	25	Experts by experience, academics and clinicians at the University of Oxford's Centre for Suicide Research
Mental health NZ	NZ	6	23	Expert knowledge
Healthy Cornwall	UK	17	23	No information
Health direct Australia	Australia	8	25	Describes a clinical governance and quality assurance framework
Beyond blue	Australia	13	25	Describes expert knowledge, mixed method research and consultation with experts by experience
Crisis text line	USA	6	23	Describes a number of experts advising
		Total: 2287 (Mean: 42)		

[†]The website quality assessment framework developed by Tao *et al*. (2017).

TABLE 2 *A summary of alternatives to self-harm themes*

Self-help alternatives to self-harm	Number of times suggested	Percentage of all techniques suggested
Displacement techniques	94	8
Physical activity techniques	138	12
Reflective and creative techniques	138	12
Relaxing/comforting techniques	170	14
Fun diverting techniques	262	22
Aggressive techniques	75	6
Help-seeking/communication techniques	195	17
Sensory techniques	90	8
Other techniques	14	1

TABLE 3 *Other strategies*

Other strategies	Number of times suggested	Comments
Delay for some minutes	6	Time 10 min resisting the urge to self-harm Delay for 5 min then try to delay for a further 5 min
Medications	2	Over the counter medication, Herbal medication
Think about the negatives	2	Not wanting scars for summer, not wanting to go to hospital
Safety plan	4	A plan of distractions and contact numbers
Cry	6	

Mindwise advised against using drugs or alcohol and distractions that bring the person into proximity with something they could use to harm themselves, such as medication. Four websites advise caution while using social media or the Internet as a distraction due to concerns that content could be upsetting, or the person could interact in an unhelpful way with others on the internet when trying to manage thoughts of self-harm.

Many websites described different distractions for different emotions, such as advising exercise for anger but more relaxing activities for sadness. Two websites

TABLE 4 *Displacement/mimicking techniques*

Specific displacement techniques	Number of times suggested	Example comments
Ice/cold water	35	Put hands in cold water, cold shower, Cold water on face, Put face in cold water, Dive reflex, Hold an ice cube, Put your hand in a bowl of ice cubes
Drawing on your skin	25	Write positive words or quotes on your skin, Draw pretend wounds, thin pens are sharp and scratchy- leave a red mark, The Butterfly project, Henna tattoo, Draw on your arm in fake blood
Flicking elastic band	23	
Use bandages/plasters	6	Put plasters where you would cut, Put plasters over the tool you use to cut, Wrap up where you would cut
Put dry peas in shoes	1	
Pluck out hair	1	
Pinch yourself	1	
Put glue on hands	1	Peel it off
Capsicum/Menthol lotion	1	Tiger balm

TABLE 5 *Physical activity techniques*

Specific physical activity techniques	Number of times suggested	Example comments
Go for a walk	41	Take time and concentrate on footsteps Concentrate on surroundings
Hitting/throwing	30	Hit a pillow/cushion, Throw rolled up socks, Slap a hard surface, throw stones into water, Write about what you are feeling and throw it, Punch bag
Dancing	26	Dance like no one is watching, Dance with a pet/plant
Any formal Exercise	24	Sit ups, burpees, push ups, swimming, kickboxing, Pilates, hand ball, Tennis, Squash, High-intensity exercise, archery, climbing, fencing
Running	15	Go for a run, run up and down the stairs
Shake	2	

advised that using the wrong distraction technique could result in self-harm urges increasing:

> holding ice cubes, snapping a rubber band on your arm or drawing lines on your skin with a red pen… can actually increase your desire to self-harm… or injure you… Punching or screaming into pillows also gets recommended, but it often just makes you feel more aggravated and upset…. It's better to focus on calming yourself Love my Anxious Brain

> some people find that using meditation or mindfulness makes their suicidal thoughts worse. Mindwise

Displacement/mimicking techniques

In this review, displacement techniques included all activities that mimics an aspect of self-harm or any activity that was directly applied to the skin as a substitute for self-harm but caused little or no damage, such as drawing a butterfly on the skin (Table 4). Displacement techniques overall were not commonly suggested, although using ice or cold water to create a less harmful sensation of pain the 9th most popular suggestion. This sensation of pain without causing significant harm was also described by many websites in relation to flicking elastic bands on skin. A number of websites described different ways of drawing on the skin in a place where the person wants to self-harm, this included the Butterfly project. This project states "draw a butterfly on the place(s) that you would self-harm… If the butterfly fades without self-harming, it means that the butterfly lived and has flown away." (https://thebutterflyprojectnow.org/) The majority of drawing suggestions, however, focused on mimicking the visual image of the wound or bleeding that would occur if the person cut themselves (e.g. drawing in red ink).

Physical activity

The most popular physical activity suggestion was walking, 73% suggested this may be helpful. Hitting or throwing something was also popular, with

TABLE 6 *Reflective & Creative Techniques*

Specific creative/Reflective techniques	Number of times suggested	Example comments
Write something	51	About emotion, Journal, Write what you are feeling, make lists, write a letter, Gratitude journal, something kind, Christmas lists, how you would like to feel instead and try and think of small ways to get there, I love me because… or a list of achievements, whatever you want, tracking the urges to self-harm throughout the day and then describing the urges, Songs, poetry, Write your memoirs, Make words out of your name
Drawing/painting	42	Draw your emotion, Draw what makes you angry, paint by numbers, Scribble, Make a collage, Draw on the wall, Face paint, Put a blindfold on and draw whatever comes into your mind
Crafting/creating activities	24	Make a collage of how you feel, Design a house, Loom bands, Make a paper chain of the days it has been since you have self-harmed, Part of the butterfly project: make bracelets and/or necklaces and buy butterfly charms (or any charm form/symbol you like) for every week not self-harming add a butterfly, Scrap book
Use your imagination	8	Imagine what yourself as a child – would say to stop the child self-harming, focus your mind on pleasant and positive thoughts, Think about the people you will be leaving behind
Self-talk	8	Name your feelings, Say positive things to yourself, Ask yourself why you are feeling this emotion
Remember good times	3	Positive memories, Think of three things you are grateful for each day

TABLE 7 *Relaxing/comforting techniques*

Specific relaxing/Comforting techniques	Number of times suggested	Example comments
Deep breathing	30	4-7-8 suggested, Mindful breathing, breath slowly, in through your nose and out through your mouth, belly breathing, Deep breathing, Breath in for 5 s through your nose, hold for 5 s then breath out for 5 s
Have a shower/bath	30	Warm bubble bath with candles, shower, scrub forearms with a body wash
Have a nap/go to sleep	20	Go to bed, have a nap, reset with sleep
Cuddling something	19	Hug a toy, curl up under a blanket, have a hug from someone you care about, stroke a soft toy
Massage	14	Hands, face, Where you want to harm
Progressive relaxation	13	Tense muscles then relax and repeat
Mindfulness	13	Mindfulness colouring books
Meditation/Yoga	9	
Self-care	6	Face mask, body scrub, pamper yourself
Count/name things	5	30 ways to describe things, name your stuffed animals, how many blue things are in your room, counting backwards
Silence	3	Do nothing, sit in silence, switch off all your technology and take time for yourself sitting in the dark
Religion	2	Read the bible, pray

websites suggesting it helped to expend excess energy and some describing it as a way to reduce feelings of anger (Table 5). One suggestion including writing about feelings and throwing it therefore was categorized in both physical activity and writing. The context for some of the throwing and hitting suggestions discussed emotional release which also occurred for aggressive techniques. It is likely that there is an overlap between physical activity, particularly one that involves hitting and throwing and the aggressive techniques category.

Reflective and creative techniques

The majority of suggestions that involved creativity, such as drawing also included reflection. Conversely most reflective techniques also included an element of creativity. These were, therefore, categorized together (Table 6). The most popular specific suggestion was encouraging people to write something. However, there was a lot of variety in what was suggested as the content of the writing, and many websites gave multiple different suggestions. Most websites focused on writing

TABLE 8 *Positive diverting techniques*

Specific positive diverting techniques	Number of times suggested	Example comments
Listen to music	46	positive lyrics and up beat melodies, podcasts, private rave, loud music
Do some chores	27	Give your room a deep clean, do something you have been putting off, laundry, wash the dishes, sort out bills, polish, homework
Spend time with an animal	25	Stroke, cuddle, go for a walk with a pet, cut the pets hair, poke the pet, go to your nearest farm, watch the pet, spend time with animals, feed animals, catch a butterfly, listen to your cat purring
Watch TV/videos	24	watch your favourite funny film, watch funny videos, watch a box set, disney film, watch sport
Play an instrument/sing	24	Learn a new song, play an instrument even if you are not good, bang a drum
Go out with friends/family	19	visit a friend or an elderly relative, go out for dinner with friends
Go out e.g. shopping	17	Buy ice cream, go to the cinema, go to a shopping mall, buy some flowers, go to a public place and people watch, go to a concert, go shopping and treat yourself, going on day trips or holiday
Read something	12	A good book, stories, inspirational quotes postcard with some steady breathing techniques written on it, read the story of someone you admire, read a thesaurus
Games	10	Skim stones, juggle, tetris, puzzles, darts, solitaire, scrabble, hide and seek, video games, board games, chess, rubix cube
Gardening	10	Water plants
Cooking	8	
Go on the internet	6	Google yourself, go on an online forum, online information, search for ridiculous things on the web
Paint nails	6	
Do a good deed	6	Do something for someone else, volunteer, help a stranger, activism
Make something	5	Knit something, make a video, make someone a present, origami, make a happy board and cover it with bright/positive things
Do something funny	4	Make funny faces, tell jokes, keep smiling for 10 min
Take photos	3	
Blow bubbles	2	
Change clothes	2	Fresh pyjamas, dress up glamorous, put all the clothes in your wardrobe on and try to walk
Learn something new	2	A new language, a new hobby
Throw a party	1	
Masturbate	1	

about emotions or being compassionate to emotions felt, but others discussed writing creatively, such as plans or stories. Similarly, suggestions for drawing focused both around drawing to be creative or drawing out emotions and their triggers.

Comfort/relaxing techniques

Twelve websites described Mindfulness (Table 7) as an alternative to self-harm. It was implied from the context of this being described alongside distractions and displacement techniques that the website was not advising the young person engaging in Mindfulness as a formal therapy. It appeared that the term "Mindfulness" and others such as "Meditation" and "Yoga" would be understood, at least to a basic level, by the person as a way to relax. Bathing and showering was a common theme but it was only included as a comforting/relaxation technique if it did not describe anything that could mimic self-harm sensations, for example, having a cold shower.

Positive diverting techniques

The largest number of different suggestions were under the category of positive diverting techniques, with music being the most popular (Table 8). These activities were felt to be focusing around distractions

TABLE 9 *Aggressive techniques*

Specific Aggressive techniques	Number of times suggested	Example comments
Scream/shout	33	Scream into a cushion, pillow, shout
Destroy something	33	Tear up: Magazines/writings about your feelings/telephone book. Get a cheap plate and decorate to expresses your pain and smash it. Build a pillow fort and destroy it, throw a watermelon to smash it, hit nettles with a stick, hitting a rolled up newspaper on a door frame, snap twigs, pop balloons, stab an orange
Bite something	7	Ginger, hot pepper, grapefruit peel, lemon, chilli, cloth
Tantrum	2	Throw a temper tantrum

TABLE 10 *Help-seeking/communication techniques*

Specific help-seeking/communication techniques	Number of times suggested	Example comments
Talk to/message a friend	47	Brainstorm with a friend, open up to a friend, it does not have to be about self-harm
Use/message a helpline	40	
Talk to someone (unspecified)	39	Someone you trust, tell someone how you feel
Talk to a family member	36	
Talk to/message a professional e.g.: crisis team/counsellor	30	Identify who this person (or people) will be ahead of time and have a back-up plan if they do not answer. Reach out to your therapist even if they do not get back immediately
Social media/internet	7	Answer someone's post, make a new online friend, chat online, self-help websites, apps delivering self-help strategies

TABLE 11 *Sensory techniques*

Specific sensory techniques	Number of times suggested	Example comments
Smell	22	Aromatherapy oils, scented body wash, coffee shops, your favourite food, a favourite perfume, soap, lavender, incense
Eating/drinking	20	Sensation focused cold or hot drink, chocolate, tea, something yummy, fizzy sour sweets, comfort food, the weirdest sandwich you can eat
Creating and use a self soothe/happy box	13	Emergency box, crisis box, safe box, distraction box, emergency coping skills tool-box, self-soothe box/self-soothe kit, hope box, happy box, coping skills box, emergency kit safety kit
Touch something	12	Small stone, play doh, kinetic sand, stress ball
Vision: Look at things	12	Pretty things, photos of good times, calm jar (water and glitter shaken), candles
Senses outside	9	Watch the clouds, stand in the rain, look at the stars, listen to nature
Grounding activities	2	

that created a sense of positivity either through pleasure, humour, improved sense of self-efficacy, or self-esteem. As many suggestions did not state explicitly that the outcome of the activity was a sense of positivity it is possible that some were designed as distractions without any change in emotion.

Aggressive techniques

Aggressive techniques mainly involved shouting or destroying something to vent emotions (Table 9). Seven websites suggested biting something. This technique could potentially have been classified as a displacement technique or a sensory technique, however, the use of the word "bite" was felt to separate it from sensory techniques which used words such as "taste". It was, therefore, agreed that the action of biting could be used to vent emotion.

Communication techniques

Help-seeking and communication suggestions were the second most common technique suggested in this review. All websites suggested more than one way of

seeking help from others for self-harm, with the most popular suggestions being to reach out to a friend or use a helpline. Communication with a family member was slightly less commonly recommended (Table 10), possibly due to some of the websites not being specifically designed for young people. Those websites, however, did include a statement about reaching out to someone, which could be interpreted by young people as a family member or trusted adult. This category includes both help-seeking and more general communication (which was not specifically described as being fun or enjoyable by the website) as it was felt that reaching out to someone was an act of help-seeking, even if it did not result in a disclosure of self-harm thoughts.

Sensory techniques

Sensory techniques were classified as such if they were categorized as sensory on the website or the strategy emphasized the focus on the sensation. For example, a cold drink could potentially be a displacement technique but was described in the context of focusing on sensations. Similarly, some of the sensory techniques could also be relaxing or comforting, such as looking at the stars, or listening to nature sounds, however, they were classed as sensory if the emphasis appeared to be on the sensation with no reference made to relaxation or comfort. Self-soothe boxes were classified as sensory techniques (Table 11) as the most common component of their content was sensory items.

Self-soothe boxes were called a large variety of different names but the content recommended was similar in all websites describing it:

> This is essentially a box that you fill with various items … in order to utilize self-care and bring yourself to a calmer, safer emotional place. Sensory: lotion, soft blanket, granola bars, bubbles, candles… Distractions: markers, sudoku, colouring books, word searches, rubber bands. Reframing thoughts/mindset: positive affirmation cards… favorite/helpful quotes, phone list of supportive people. Lifesigns

> Collect together items that are meaningful, or those you know will be helpful… Music, Pictures, Smells, Reminder of compassionate image (self or other), Book, poem, quotes, Letter from your compassionate self, Objects with meaning, Hobby, Reminders of your strengths, Grounding or soothing objects. Get Self-Help

> A range of sensory things and something to focus your mind on. You could include something to smell, something to touch, something to look at and maybe even something to taste. YoungMinds

> Many people find it helpful to put self-soothe items into their HOPEBOX… The 5 senses and some ideas of what these items could be are…See: photos of loved ones, images of places you feel safe, something with soothing patterns. Smell: scented candles, aromatherapy oils, jars of spices, scented lotions, a comforting perfume, scratch and sniff stickers. Hear: a USB filled with relaxing noises, your favourite CD, a musical instrument, audio books, clickers, phone apps with soothing sounds. Touch: stress balls, nail file, a soft piece of clothing, hand lotion to massage hands with, tactile beads, rubber bands to snap on wrist or stretch, clay, PVA. Taste: chocolate, hard sweets, mints, sour sweets, flavoured tea bag, popping candy. Papyrus

These descriptions of self-soothe box content were themed into sensory stimulation, distraction, and positive emotional triggers.

DISCUSSION

The purpose of this review is to provide a synthesis of the current recommendations for self-help alternatives to self-harm from mental health self-help websites that could be readily accessed by young people. A total of 55 mental health websites were identified, with a total of 1177 different suggestions found after removing duplicates. A benefit of such a large number of suggestions could be that the act of looking through these becomes an alternative to self-harm in itself if the young person accesses the websites whilst struggling in the moment with self-harm urges. This is quite a large number of techniques to try, especially for a young person navigating the Internet in an effort to find help for themselves. The majority of mental health websites did not have specific advice for CYP, it was largely generic to all ages, as were the specific alternatives suggested. The sheer volume of these alternatives may be overwhelming for some young people.

The 1177 alternative techniques were grouped into nine categories, however, there was some ambiguity, particularly between the sensory and comfort/relaxing categories, and the physical activity and aggressive categories.

Displacement/mimicking techniques

In this review only 8% of alternatives to self-harm were displacement techniques which would appear to support the conclusions made by Wadman *et al*. (2020)

who found that such techniques were generally felt to be ineffective for managing self-harm urges. Klonsky and Glenn's (2008) study of the techniques used to resist the urge to self-harm in young adults found displacement techniques such as snapping elastic bands or drawing on skin were endorsed as helpful by only 8% of participants. In contrast, an analysis of health records (Cliffe *et al*. 2021b) found 51% of people seeking help for self-harm mentioned substitution methods as helpful, which included ice, and use of elastic bands along with harm minimization techniques and punching a pillow. 91% of those who used these techniques reported finding it helpful. The sensory impact coupled with the distraction of ice or cold water, drawing on the skin or watching fake blood dripping from skin could theoretically account for the possible positive impact found by Cliffe *et al*. (2021b). Horne and Csipke (2009) explored the body-based experiences of those with self-harming behaviours and found self-harm served as a form of sensory stimulation, helping the person to "physically feel again" and allowing their body and mind to feel "aligned". Alongside the possible sensory stimulation, displacement techniques could act as a distraction, as described in a qualitative study by Sutton and Nicholson (2011).

Physical activity

Physical activity has been associated with a number of positive mental health outcomes, including for depression (Byrne 1993) and anxiety (Anderson & Shivakumar 2013). Research on the Youth Aware of Mental Health suicide prevention program found those engaging with sport as a coping strategy had lower levels of suicidal ideation (Kahn *et al*. 2020). Klonsky and Glenn (2008) found exercise to be perceived as one of the most helpful strategies to prevent a self-harm episode, although only 66% felt able to engage in this when struggling with self-harm urges. Research into adolescent relationships with sport and self-harm has shown some differences in gender. A large study of 41 secondary schools found males were more likely to mention sport-related activities when asked how to prevent self-harm than females (Fortune *et al*. 2008). This scoping review found "going for a walk" to be the most commonly recommended technique which would be an accessible form of exercise for most people. The required level of intensity or duration for exercise to have an impact on self-harming behaviours is not established, but research into anxiety and exercise has suggested 20 min of aerobic exercise is adequate to have a significant positive impact (Paluska & Schwenk 2000).

Reflective and creative techniques

Writing something down was a popular suggestion in this review which could aid in the exploration or reframing of thoughts and feelings. Klonsky and Glenn's (2008) research found 1:4 participants had tried this with 57.7% stating it was helpful when resisting the urge to self-harm. Therapies such as cognitive behavioural therapy (CBT) and dialectical behavioural therapy (DBT) discuss the importance of understanding how and why distressing feelings and thoughts arise to improve self-awareness and distress tolerance (Beck 1976; Linehan 1993). Safety plans are often created for people seeking help for self-harming behaviours; these plans often involve a reflective component (Holliday *et al*. 2019). Qualitative studies examining how young people manage self-harm urges have found writing down reflections or reframing thoughts were considered helpful (McManama O'Brien *et al*. 2021a; Wadman *et al*. 2018). Creativity while reflecting could potentially allow the young person to combine distraction and relaxation while exploring thoughts and feelings. This combination is utilized in art therapy (Neece *et al*. 2013). In this review reflective and creative techniques were often found to be coupled with aggressive techniques such as ripping the writing up. A qualitative study by McAndrew and Warne (2014) also found these techniques were sometimes combined, such as "writing letters to people who have hurt you and then ripping them up".

Positive diverting techniques

DBT discusses the use of distraction as a distress tolerance technique (Linehan 1993). Literature on the use of distractions for self-harming behaviours suggest that those that take a significant amount of focus are the most helpful (Fortune *et al*. 2008; Kiekens *et al*. 2015). Khurana and Romer (2012) found that although distraction did not have a significant direct impact on suicidal ideation in young people it did have an impact on problem solving, support seeking and emotional regulation, all of which reduced suicidal ideation. This suggests that the use of positive distractions could be helpful for young people while they are too distressed for more productive strategies to be used effectively. Research by Czyz *et al*. (2013) found those young people attending the emergency

department in crisis who had used distractions when managing emotions were significantly less likely to have previously attempted suicide than those who had not used this strategy.

Music was the most popular positive distraction technique. This may be due to its ability to be adjusted to suit the emotion which means it has the potential to be used as a means to vent emotion or self-soothe as well as distract. Qualitative research on self-harm prevention has found listing to music to be beneficial and was sometimes used in combination with other strategies, for example, exercise (Povey *et al*. 2020). 59% of young adults described music as "somewhat helpful" in resisting self-harm urges in Klonsky and Glenn's (2008) research.

Comfort/relaxing techniques

The use of relaxing and calming techniques has been found to be associated with reduced self-harm rates (Czyz *et al*. 2013; Knafo *et al*. 2015). Qualitative research also indicates that young people struggling with self-harm find strategies such as having a hot bath and deep breathing are helpful (Klonsky & Glenn 2008; McAndrew & Warne 2014). These strategies closely resemble tension reduction coping styles which include muscle relaxation, meditation, and deep breathing. Tension reduction coping strategy appears to have conflicting evidence of its impact on self-harm with van der Wal and George's (2018) research concluding that this was linked to increased rates of self-harm but George and Moolman (2017) finding the opposite. Most of the techniques suggested are similar to those used in Mindfulness meditation which has been found to have a positive impact on anxiety disorders (Creswell & Lindsay 2014).

Aggressive techniques

The aggressive techniques found in this review closely mapped onto coping strategies of emotional release or venting emotions. Cross sectional surveys have found a correlation between the use of this strategy and self-harm (Brown *et al*. 2007; Silverman *et al*. 2018) but the direction of this relationship is not clear. Hall and Place (2010) found shouting and screaming was significantly more likely to be used as a tension reduction technique by those with a history of self-harm than those without. A qualitative study suggested some young people use aggression to reduce the urge to self-harm: "I don't want to self-harm, but I want to get this anger out." (Wadman *et al*. 2018). It has been found that males with self-harming behaviours use aggressive strategies significantly more than women (Silverman *et al*. 2018). Catteau and Chabrol (2005) found aggressive release of emotion was associated with increased suicidal ideation in females but reduced suicidal ideation in men.

Communication techniques

Communicating the need for help has been demonstrated to be an important and helpful component in a young person's management of their self-harming behaviours (e.g. George & Moolman 2017; Kiekens *et al*. 2015). The main form of communication found in this review was help-seeking for the emotions or thoughts of self-harm; however, a number of suggestions also described communication that did not include any disclosure. This form of communication could be considered social contact rather than help-seeking and may help young people to resist self-harm urges through a different mechanism. Hall and Place (2010) found young people were more likely to seek social contact or seek to belong than to seek help. Klonsky and Glenn (2008) had similar findings with 80% of participants describing being around friends as a strategy for resisting self-harm.

Research indicates that help-seeking from friends or family may be most beneficial when it is focused on problem solving rather than venting emotions (Klonsky & Glenn 2008). A longitudinal study by Khurana and Romer (2012) concluded that asking for "ideas or suggestions to make problem better" significantly predicted a reduction in suicidal ideation at 1 year follow up ($P < 0.05$). However, young people described seeking love, care, and attention from their family as well as turning to them for support to solve the problem (Fortune *et al*. 2008). This scoping review found that friends were suggested as a confidant when help-seeking more than others, such as family or professionals. A survey of secondary school pupils found 40% disclosed their urge to self-harm to a friend, compared to only 11% to their family due to not wanting to worry their family, or worries that parents would be judgemental (Fortune *et al*. 2008).

Seeking help from trained volunteers or professionals via phone, text, or through the Internet has expanded over the last two decades as stigma has reduced and the Internet has provided a medium through which help can be easily accessed (Marchant *et al*. 2017). Young people appear to prefer texting, with 50% stating this in McManama O'Brien *et al*. (2021b) research. An

assessment of the content of calls to a crisis line showed the majority phoned when struggling with feeling suicidal and 46% considered new strategies for managing during the call (Mokkenstorm *et al*. 2017). Despite the evidence that helplines and forums are helpful, most young people continue to be wary of accessing them (Michelmore & Hindley 2012). Qualitative studies in this area found young people struggled with concern about the consequences of the disclosure and wanting to keep their self-harm private (McDermott 2015; Fortune *et al*. 2008; Wadman *et al*. 2018).

Sensory techniques

Sensory techniques involved the use of strong or soothing sensations, sometimes termed sensory modulation, or grounding techniques. The proposed mechanisms through which sensory input could impact on self-harm includes distraction, self-efficacy, inducing positive emotions and emotional release (Sutton & Nicholson 2011). Sensory techniques have been found to be helpful for managing emotion in young people with learning difficulties (Smith *et al*. 2005) or autism (Pfeiffer *et al*. 2005) but there is little research into their use for those with self-harming behaviours. Sensory processing disorders have some similarities with mechanisms for self-harm, with under or over stimulation causing the person to feel dissociated or overwhelmed (Kranowitz 1998; Nock 2010).

One of the most popular specific sensory techniques was use of a self-soothe box (which was also called a number of different names such as hope box or crisis box). This box is a collection of items which not only focuses on sensations but also includes elements from other techniques such as positive diversions, reflection, help-seeking, and comforting techniques. Currently there is very little literature to support the use of self-soothe boxes for self-harming behaviours in young people; however, reference is made to their use in some suicide prevention programs and therapeutic interventions (Asarnow *et al*. 2009; Berk *et al*. 2004; Stanley *et al*. 2009). A small pilot study of adolescent psychiatric inpatients using self-soothe boxes to manage the urge to self-harm found the intervention was described as helpful for reducing the urge to self-harm by 60% of participants (Loveridge 2013).

LIMITATIONS

This review has a number of limitations that should be considered when interpreting the results. Inherent to many reviews that utilize popular global search engines, the geolocation settings create results which are more likely to originate from the searcher's current country (in this case, the UK). As a result, a number of mental health websites, particularly those in languages other than English, were excluded. The quality assessment tool used is designed for health websites but is not specific to or validated for mental health, therefore findings should be interpreted with caution. It should be noted, however, that the scores created independently by the two authors showed little disparity. It was not within the remit of this review to assess the mechanisms underpinning the suggestions and the majority of the suggestions did not give any context around when they should be used or when they could be contraindicated. This review, therefore, based the analysis on the attributes of the suggestion. Further research is required to create more nuanced categories of self-help alternatives to self-harm which would incorporate emotions, situations, or the mechanism through which the strategy impacts on self-harm urges.

CONCLUSIONS

This is the first review to examine self-help alternatives to self-harm for young people suggested on mental health websites. A large number of suggestions were identified for those struggling with self-harm urges. These were grouped into categories of techniques based on the information provided on each website. Some information was given on specific techniques that could be more helpful for certain situations or emotions, but this was uncommon and sometimes conflicting. The techniques found in this review were: seeking social contact/help, physical activity, displacement/mimicking techniques (i.e. a similar, less harmful activity such as holding an ice cube), relaxing/comforting techniques, sensory techniques (including self-soothe boxes), fun/diverting techniques, aggressive techniques (such has screaming/tearing something up), and creative/reflective techniques. There is research evidence that each theme could be helpful for managing self-harm urges, but this requires further exploration, particularly into how these techniques could reduce self-harm. Further research is also required to assess if and how these techniques could be used individually or in combination to reduce self-harm urges in young people.

RELEVANCE FOR CLINICAL PRACTICE

The present review draws attention to the large number of suggestions for alternatives to self-harm on

mental health self-help websites, some of which may not be suitable for young people. It is important that clinicians, schools, and other agencies working with young people who self-harm are aware of this and consider advising a more collaborative approach to researching self-help websites for appropriate strategies. It is reassuring to find that mental health self-help websites were generally of high quality and gave a range of strategies that could be helpful.

NICE advises that a plan is created if the urge to self-harm is unlikely to reduce. To date, however, little research has been conducted into what the self-help content of such a plan should include. The categories created from this review could be used as a guide to consider with the young person when making an individualized self-help plan to manage self-harm urges. A self-soothe box could be a helpful way to bring a number of items required for self-help together.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

REFERENCES

Ahmed, O., Sullivan, S., Schneiders, A. & McCrory, P. (2012). Concussion information online: Evaluation of information quality, content and readability of concussion-related websites. *British Journal of Sports Medicine*, *46* (9), 675–683. https://doi.org/10.1136/bjsm.2010.081620

Anderson, E. H. & Shivakumar, G. (2013). Effects of exercise and physical activity on anxiety. *Frontiers in Psychiatry*, *4*, 27.

Arksey, H. & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, *8* (1), 19–32. https://doi.org/10.1080/1364557032000119616

Asarnow, J. R., Berk, M. S. & Baraff, L. J. (2009). Family intervention for suicide prevention: A specialized emergency department intervention for suicidal youths. *Professional Psychology: Research and Practice*, *40* (2), 118–125. https://doi.org/10.1037/a0012599

Aschbrenner, K. A., Naslund, J. A., Tomlinson, E. F., Kinney, A., Pratt, S. I. & Brunette, M. F. (2019). Adolescents' use of digital technologies and preferences for mobile health coaching in public mental health settings. *Frontiers in Public Health*, *7*, 178. https://doi.org/10.3389/fpubh.2019.00178

Beck, A. T. (1976). *Cognitive Therapy and the Emotional Disorders*. Madison, CT: International Universities Press.

Berk, M. S., Henriques, G. R., Warman, D. M., Brown, G. K. & Beck, A. T. (2004). A cognitive therapy intervention for suicide attempters: An overview of the treatment and case examples. *Cognitive and Behavioral Practice*, *11* (3), 265–277. https://doi.org/10.1016/S1077-7229(04)80041

Brereton, A. & McGlinchey, E. (2020). Self-harm, emotion regulation, and experiential avoidance: A systematic review. *Archives of Suicide Research*, *24* (sup1), 1–24. https://doi.org/10.1080/13811118.2018.1563575

Brown, S. A., Williams, K. & Collins, A. (2007). Past and recent deliberate self-harm: Emotion and coping strategy differences. *Journal of Clinical Psychology*, *63* (9), 791–803. https://doi.org/10.1002/jclp.20380

Byrne, D. G. (1993). The effect of exercise on depression, anxiety and other mood states: A review. *Journal of Psychosomatic Research*, *37* (6), 565–574.

Carroll, R., Metcalfe, C. & Gunnell, D. (2014). Hospital presenting self-harm and risk of fatal and non-fatal repetition: Systematic review and meta-analysis. *PLoS One*, *9*, e89944. https://doi.org/10.1371/journal.pone.0089944

Catteau, V. & Chabrol, H. (2005). Étude des relations entre les stratégies d'adaptation aux sentiments dépressifs, la symptomatologie dépressive et les idées suicidaires chez l'adolescent. *L'Année Psychologique*, *105* (3), 451–476. https://doi.org/10.3406/psy.2005.29704

Cliffe, B., Tingley, J., Greenhalgh, I. & Stallard, P. (2021a). mHealth interventions for self-harm: Scoping review. *Journal of Medical Internet Research*, *23* (4), e25140. https://doi.org/10.2196/25140

Cliffe, C., Pitman, A., Sedgwick, R., Pritchard, M., Dutta, R. & Rowe, S. (2021b). Harm minimisation for the management of self-harm: A mixed-methods analysis of electronic health records in secondary mental healthcare. *BJPsych Open*, *7* (4), e116. https://doi.org/10.1192/bjo.2021.946

Corbin, J. & Strauss, A. (2008). Strategies for qualitative data analysis. In: *Basics of qualitative research. Techniques and procedures for developing grounded theory*, 3rd edn. Thousand Oaks, CA: SAGE Publications Inc.. https://doi.org/10.4135/9781452230153

Creswell, D. & Lindsay, E. (2014). How does mindfulness training affect health? A mindfulness stress buffering account. *Current Directions in Psychological Science*, *23*, 401–407.

Czyz, E. K., Horwitz, A. G., Eisenberg, D., Kramer, A. & King, C. A. (2013). Self-reported barriers to professional help seeking among college students at elevated risk for suicide. *Journal of American College Health*, *61* (7), 398–406. https://doi.org/10.1080/07448481.2013.820731

De Leo, D. & Heller, T. S. (2004). Who are the kids who self-harm? An Australian self-report school survey. *Medical Journal of Australia*, *181* (3), 140–144. https://doi.org/10.5694/j.1326-5377.2004.tb06204.x

Devan, H., Perry, M. A., van Hattem, A. *et al*. (2019). Do pain management websites foster self-management support for people with persistent pain? A scoping review. *Patient Education and Counseling*, *102* (9), 1590–1601. https://doi.org/10.1016/j.pec.2019.04.009

Eisenberg, D., Speer, N. & Hunt, J. B. (2012). Attitudes and beliefs about treatment among college students with

untreated mental health problems. *Psychiatric Services*, *63*, 711–713. https://doi.org/10.1176/appi.ps.201100250

Fliege, H., Lee, J. R., Grimm, A. & Klapp, B. F. (2009). Risk factors and correlates of deliberate self-harm behaviour: A systematic review. *Journal of Psychosomatic Research*, *66* (6), 477–493.

Fortune, S., Sinclair, J. & Hawton, K. (2008). Adolescents' views on preventing self-harm. A large community study. *Social Psychiatry and Psychiatric Epidemiology*, *43* (2), 96–104. https://doi.org/10.1007/s00127-007-0273-1

George, A. & Moolman, R. (2017). Resilience and suicide ideation: Coping mediator-moderator effects among adolescent learners. *Journal of Psychology in Africa*, *27* (6), 494–502.

Geulayov, G., Casey, D., McDonald, K. C. *et al*. (2018). Incidence of suicide, hospital-presenting non-fatal self-harm, and community-occurring non-fatal self-harm in adolescents in England (the iceberg model of self-harm): A retrospective study. *The Lancet Psychiatry*, *5* (2), 167–174.

Gillies, D., Christou, M. A., Dixon, A. C. *et al*. (2018). Prevalence and characteristics of self-harm in adolescents: Meta-analyses of community-based studies 1990-2015. *Journal of the American Academy of Child and Adolescent Psychiatry*, *57* (10), 733–741. https://doi.org/10.1016/j.jaac.2018.06.018

Glasser, B. G. & Strauss, A. L. (1967). *The Development of Grounded Theory*. Chicago, IL: Alden.

Hall, B. & Place, M. (2010). Cutting to cope–a modern adolescent phenomenon. *Child: Care, Health and Development*, *36* (5), 623–629. https://doi.org/10.1111/j.1365-2214.2010.01095

Harwood, M. (2010). *Self-Help in Mental Health, A Critical Review*. (p. 5). New York, NY: Springer. https://doi.org/10.1007/978-1-4419-1099-8

Health on the Net Foundation. (2010). HONcode: Principles - Quality and trustworthy health information. [Cited June 2021]. Available from: URL: http://www.hon.ch/HONcode/Webmasters/Conduct.html. Accessed June 1 2022.

Holliday, R., Rozek, D. C., Smith, N. B., McGarity, S., Jankovsky, M. & Monteith, L. L. (2019). Safety planning to prevent suicidal self-directed violence among veterans with posttraumatic stress disorder: Clinical considerations. *Professional Psychology - Research & Practice*, *50* (4), 215–227.

Horne, O. & Csipke, E. (2009). From feeling too little and too much, to feeling more and less? A nonparadoxical theory of the functions of self-harm. *Qualitative Health Research*, *19* (5), 655–667. https://doi.org/10.1177/1049732309334249

In, S., Hur, J. W., Kim, G. & Lee, J.-H. (2021). Effects of distraction, cognitive reappraisal, and acceptance on the urge to self-harm and negative affect in nonsuicidal self-injury. *Current Psychology*. https://doi.org/10.1007/s12144-021-02151-2

Kahn, J. P., Cohen, R. F., Tubiana, A. *et al*. (2020). Influence of coping strategies on the efficacy of YAM (youth aware of mental health): A universal school-based suicide preventive program. *European Child & Adolescent Psychiatry*, *29* (12), 1671–1681. https://doi.org/10.1007/s00787-020-01476-w

Khurana, A. & Romer, D. (2012). Modeling the distinct pathways of influence of coping strategies on youth suicidal ideation: A national longitudinal study. *Prevention Science*, *13* (6), 644–654. https://doi.org/10.1007/s11121-012-0292-3

Kiekens, G., Bruffaerts, R., Nock, M. K. *et al*. (2015). Non-suicidal self-injury among Dutch and Belgian adolescents: Personality, stress and coping. *European Psychiatry*, *30* (6), 743–749. https://doi.org/10.1016/j.eurpsy.2015.06.007

Kilburn, E. & Whitlock, J. L. (2009). *Distraction Techniques and Alternative Coping Strategies. The Practical Matters Series, Cornell Research Program on Self-Injury and Recovery*. Ithaca, NY: Cornell University.

Klonsky, E. D. & Glenn, C. R. (2008). Resisting urges to self-injure. *Behavioural and Cognitive Psychotherapy*, *36* (2), 211–220. https://doi.org/10.1017/S1352465808004128

Knafo, A., Guilé, J. M., Breton, J. J. *et al*. (2015). Coping strategies associated with suicidal behaviour in adolescent inpatients with borderline personality disorder. *Canadian Journal of Psychiatry*, *60* (2 Suppl 1), S46–S54.

Kranowitz, C. S. (1998). *The Out-of-Sync Child: Recognizing and Coping with Sensory Processing Disorder*, 1st edn 1998, 2nd edn 2005. New York, NY: Penguin Putnam Inc.

Linehan, M. M. (1993). Dialectical behavior therapy for treatment of borderline personality disorder: Implications for the treatment of substance abuse. *NIDA Research Monograph*, *137*, 201.

Liu, R. T., Sheehan, A. E., Walsh, R. F., Sanzari, C. M., Cheek, S. M. & Hernandez, E. M. (2019). Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis. *Clinical Psychology Review*, *74*, 101783. https://doi.org/10.1016/j.cpr.2019.101783

Loveridge, S. M. (2013). Use of a safe kit to decrease self-injury among adolescent inpatients: A pilot study. *Journal of Psychosocial Nursing and Mental Health Services*, *51* (9), 32–36. https://doi.org/10.3928/02793695-20130612-03

Marchant, A., Hawton, K., Stewart, A. *et al*. (2017). A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: The good, the bad and the unknown. *PLoS One*, *12* (8), e0181722. https://doi.org/10.1371/journal.pone.0181722

McAndrew, S. & Warne, T. (2014). Hearing the voices of young people who self-harm: Implications for service providers. *International Journal of Mental Health Nursing*, *23* (6), 570–579. https://doi.org/10.1111/inm.12093

McDermott, E. (2015). Asking for help online: Lesbian, gay, bisexual and trans youth, self-harm and articulating the 'failed' self. *Health*, *19* (6), 561–577. https://doi.org/10.1177/1363459314557967

McManama O'Brien, K. H., Almeida, J., View, L. *et al*. (2021a). Safety and coping planning intervention for suicidal adolescents in acute psychiatric care. *Cognitive*

and Behavioral Practice, *28* (1), 22–39. https://doi.org/10.1016/j.cbpra.2019.08.003

McManama O'Brien, K. H., Nicolopoulos, A., Almeida, J., Aguinaldo, L. D. & Rosen, R. K. (2021b). Why adolescents attempt suicide: A qualitative study of the transition from ideation to action. *Archives of Suicide Research*, *25* (2), 269–286. https://doi.org/10.1080/13811118.2019.1675561

Michelmore, L. & Hindley, P. (2012). Help-seeking for suicidal thoughts and self-harm in young people: A systematic review. *Suicide and Life-threatening Behavior*, *42* (5), 507–524.

Mokkenstorm, J. K., Eikelenboom, M., Huisman, A. *et al*. (2017). Evaluation of the 113Online suicide prevention crisis chat service: Outcomes, helper behaviors and comparison to telephone hotlines. *Suicide & Life-Threatening Behavior*, *47* (3), 282–296. https://doi.org/10.1111/sltb.12286

Neece, C. L., Berk, M. S. & Combs-Ronto, L. A. (2013). Dialectical behavior therapy and suicidal behavior in adolescence: Linking developmental theory and practice. *Professional Psychology: Research and Practice*, *44* (4), 257–265. https://doi.org/10.1037/a003339

NHS Digital. (2021). Waiting times for children and young people's mental health services, 2020-21. https://digital.nhs.uk/supplementary-information/2021/waiting-times-for-children-and-young-peoplesmental-health-services-2020-2021. Accessed September 7 2022.

Nock, M. K. (2010). Self-injury. *Annual Review of Clinical Psychology*, *6*, 339–363. https://doi.org/10.1146/annurev.clinpsy.121208.131258

Owens, D., Horrocks, J. & House, A. (2002). Fatal and non-fatal repetition of self-harm: Systematic review. *The British Journal of Psychiatry*, *181* (3), 193–199. https://doi.org/10.1192/bjp.181.3.193

Paluska, S. A. & Schwenk, T. L. (2000). Physical activity and mental health. *Sports Medicine*, *29* (3), 167–180. https://doi.org/10.2165/00007256-200029030-00003

Pengelly, N., Ford, B., Blenkiron, P. & Reilly, S. (2008). Harm minimisation after repeated self-harm: Development of a trust handbook. *Psychiatric Bulletin*, *32* (2), 60–63. https://doi.org/10.1192/pb.bp.106.012070

Pfeiffer, B., Kinnealey, M., Reed, C. & Herzberg, G. (2005). Sensory modulation and affective disorders in children and adolescents with Asperger's disorder. *The American Journal of Occupational Therapy*, *59* (3), 335–345. https://doi.org/10.5014/ajot.59.3.335

Povey, J., Sweet, M., Nagel, T. *et al*. (2020). Drafting the aboriginal and islander mental health initiative for youth (AIMhi-Y) app: Results of a formative mixed methods study. *Internet Interventions*, *21*, 100318. https://doi.org/10.1016/j.invent.2020

Silverman, J. R., Ross, E. H. & Kearney, C. A. (2018). Non-suicidal self-injury among male adjudicated adolescents: Psychosocial concerns, coping responses, diagnoses, and functions. *Journal of Child and Family Studies*, *27*, 3564–3571. https://doi.org/10.1007/s10826-018-1172-7

Sim, L., Adrian, M., Zeman, J., Cassano, M. & Friedrich, W. N. (2009). Adolescent deliberate self-harm: Linkages to emotion regulation and family emotional climate. *Journal of Research on Adolescence*, *19* (1), 75–91. https://doi.org/10.1111/j.1532-7795.2009.00582

Smith, S. A., Press, B., Koenig, K. P. & Kinnealey, M. (2005). Effects of sensory integration intervention on self-stimulating and self-injurious behaviors. *The American Journal of Occupational Therapy*, *59* (4), 418–425. https://doi.org/10.5014/ajot.59.4.418

Stanley, B., Brown, G., Brent, D. A. *et al*. (2009). Cognitive-behavioral therapy for suicide prevention (CBT-SP): Treatment model, feasibility, and acceptability. *Journal of the American Academy of Child and Adolescent Psychiatry*, *48* (10), 1005–1013. https://doi.org/10.1097/CHI.0b013e3181b5dbfe

Sutton, D. & Nicholson, E. (2011). *Sensory Modulation in Acute Mental Health Wards: A Qualitative Study of Staff and Service User Perspectives*. Auckland, New Zealand: Te Pou o Te Whakaaro Nui.

Tao, D., LeRouge, C., Smith, K. J. & De Leo, G. (2017). Defining information quality into health websites: A conceptual framework of health website information quality for educated young adults. *JMIR Hum Factors*, *4* (4), e25. https://doi.org/10.2196/humanfactors.6455

Tricco, A. C., Lillie, E., Zarin, W. *et al*. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine*, *169*, 467–473. https://doi.org/10.7326/M18-0850

Unicef. (2020). Available from: URL: https://www.unicef.org/media/88381/file/How-many-children-and-young-people-have-internet-access-at-home-2020.pdf. Accessed May 1 2022.

van der Wal, W. & George, A. A. (2018). Social support-oriented coping and resilience for self-harm protection among adolescents. *Journal of Psychology in Africa*, *28* (3), 237–241. https://doi.org/10.1080/14330237.2018.1475508

Wadman, R., Armstrong, M., Clarke, D. *et al*. (2018). Experience of self-harm and its treatment in looked-after young people: An interpretative phenomenological analysis. *Archives of Suicide Research*, *22* (3), 365–379. https://doi.org/10.1080/13811118.2017.1355286

Wadman, R., Nielsen, E., O'Raw, L. *et al*. (2020). These things don't work. Young people's views on harm minimization strategies as a proxy for self-harm: A mixed methods approach. *Archives of Suicide Research*, *24* (3), 384–401. https://doi.org/10.1080/13811118.2019.1624669

World Health Organization (2004). *Promoting Mental Health: Concepts, Emerging Evidence, Practice (Summary Report)*. Geneva: World Health Organization.

APPENDIX I:

Breakdown of quality assessment scores.

Website	Country of origin	Total number of SH alternatives	Accuracy	Depth	Understand ability	Relevance	Completeness
Sane	UK	14	5	5	5	4	5
Mind	UK	36	5	5	5	4	5
ULifeline	USA	14	3	4	5	5	5
Recover your life	UK	252	4	4	4	4	4
Self-injury outreach and support	Canada	9	4	5	5	4	5
Anna Freud	UK	101	5	5	5	5	5
Harmless	UK	20	5	5	4	5	4
Lifesigns	UK	51	3	4	4	4	4
Papyrus	UK	128	4	5	5	5	4
Self-injury Support	UK	73	4	5	5	4	4
Young Minds	UK	55	4	5	5	5	5
Adolescent self-injury foundation	USA	146	4	4	5	4	4
Staying Safe	UK	10	4	5	4	5	5
NHS	UK	9	5	5	5	5	5
Mental health America	USA	50	4	5	4	5	5
Childline	UK	66	4	5	5	5	4
Mental Health UK	UK	24	4	5	5	5	5
Helpguide	Canada	35	5	4	5	5	4
Rape crisis	UK	71	4	5	5	5	4
Rethink mental health	UK	41	5	5	5	5	5
Support Line	UK	35	4	5	5	5	5
No Panic	UK	5	4	5	4	4	4
Self-harm UK	UK	36	4	5	4	5	4
Mindwise	UK	56	3	5	5	5	4
Kids Health	USA	14	4	5	4	5	4
Save	USA	13	4	4	5	5	4
Royal college of psychiatry	UK	9	4	5	4	4	5
Psychology Today	USA	21	4	4	4	4	3
NSPCC	UK	12	5	5	5	5	5
The Mighty	USA	6	4	4	4	4	3
East London CAMHS NHS Trust	UK	38	3	5	5	5	4
Ditch the label	USA	17	5	5	5	5	5
Healthy Place	USA	51	5	5	5	4	4
Anxious Lass	UK	50	3	5	4	4	4
CAMHS Wales	UK	40	4	5	5	4	5
Kelty Eating Disorders	Canada	109	4	5	5	4	4
Project LETS	USA	250	4	5	5	4	5
Re-cognition Health	USA	40	4	4	5	4	3
Love My Anxious Brain	USA	12	3	4	5	4	3
Get self-help	UK	17	3	4	5	4	5
HSE	Ireland	11	5	5	5	4	5
NTW NHS Self-help guide	UK	53	4	5	5	4	5
Priory Group	UK	18	4	4	5	4	5
Better Health	Australia	16	4	4	5	4	5
SAMH	UK	32	4	5	5	4	5
Headsup	UK	16	4	5	5	4	5
Self-Injury Support	UK	28	4	5	5	4	5
AACAP	USA	7	4	4	5	5	4

(*Continued*)

APPENDIX 1 (Continued)

Website	Country of origin	Total number of SH alternatives	Accuracy	Depth	Understand ability	Relevance	Completeness
Here to Help	Canada	3	4	4	5	4	5
Oxford Health NHS	UK	17	5	5	5	5	5
Mental Health NZ	NZ	6	4	5	5	4	5
Healthy Cornwall	UK	17	3	5	5	5	5
Health Direct Australia	Australia	8	5	5	5	5	5
Beyond Blue	Australia	13	5	5	5	5	5
Crisis text line	USA	6	4	5	5	4	5

Quality assessment using the framework developed by Tao *et al.* (2017).