

Adolescent Deliberate Self-Harm Therapies with the Family Inclusion.

Literature Review of Therapies for Adolescent Self-Harm.

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<p>Abstract</p> <p>Deliberate self-harm (DSH) is a rapidly negative phenomenon. Although participants include multiple age groups, DSH vastly effects the adolescent population. Adolescent DSH is not solely a causation of mental health disorders, DSH has been numerously connected to healthy adolescent population through multiple community and school based research as a maladaptive coping strategy. Thus, adolescent DSH potentially affects vast numbers, not restricted to participants but including parents and family members.</p> <p>The concept for this study was to collate frequent therapies employed to manage adolescent DSH, therapeutic content, and potential success.</p> <p>A systematic literature review was conducted to compile frequent therapies employed to manage adolescent DSH, from multiple databases. Meta-summary analysis was employed, and the subsequent source studies coded into according themes.</p> <p>Multiple therapies are employed to manage adolescent DSH, with Cognitive Behavioural Therapy (CBT), Dialectic Behavioural Therapy (DBT), Family Based Therapy (FBT), Multisystemic therapy (MST), and No-Harm Contracts (NHC) the most commonplace.</p> <p>In conclusion a paucity of research is available based solely upon adolescent DSH, thus additional research would benefit this age population and the type of intervention therapy best suited to manage adolescent DSH.</p>		
Keywords (adolescent deliberate self-harm , self-harm , DSH , non-suicidal self-injuries , NSSI , adolescent , adolescence , youth , parent , parents , family , families , therapy , therapies , itsetuhoisuus , tahallinen/tarkoituksellinen itsensä vahingoittaminen , itsetuhoinen käyttäytyminen)		
Miscellaneous		

Contents

1	Introduction: Adolescent Deliberate Self-Harm, the Basics.....	1
2	Adolescent Self-Harm	2
2.1	Understanding Self-Harm in the Adolescent Population.....	5
2.1.1	Repeat Adolescent Deliberate Self-Harm Behaviors.....	8
2.1.2	Adolescent Deliberate Self-Harm and Adolescent Suicide.....	10
2.2	Adolescent Mental Health and Deliberate Self-Harm	11
3	The Impacts of Adolescent Deliberate Self-Harm on Parents and Families	
	13	
4	Research Design	15
4.1	Aims and Purpose	15
4.2	Research Method	16
5	Data Analysis.....	18
6	Results.....	19
6.1	Common Therapies	19
7	Discussions.....	23
7.1	Reliability and Limitations	23
7.2	Discussion of the Results	24
7.3	Further Discussions	26
8	References.....	27
9	Appendices	45
9.1	List of Reviewed Source Articles.....	45
9.2	Glossary of terms	49

Tables

Table 1	Number of adolescent DSH percentages with community & education-based studies.	2
Table 2	Percentage Rates of Common Reasons for Adolescent DSH.....	6

Table 3 Commonly Reported Effects of Adolescent DSH upon Parents & Family Members.....	14
Table 4 Inclusion Criteria for Literature Review	18
Table 5 Inclusion for articles to be reviewed.....	18
Table 6 Common Therapies for Adolescent DSH.....	19

1 Introduction: Adolescent Deliberate Self-Harm, the Basics

There is an alarming and consistent rise in number of reported deliberate self-harm (DSH) behaviors amongst the adolescent population. Per the World Health Organization (WHO), DSH is the fifth most common condition amongst adolescents. Depression is first and anxiety disorders are eighth, amalgamate these with the fact that adolescent suicide is the third most common cause of death for this population (World Health Organization, 2014), and the statistical conclusion indicated via these parallels, is that adolescent DSH is a vast global concern for modern healthcare services. These correlations are only subjective as one can only hypothesises as to the number of adolescent suicides whose sole aim was DSH void of fatal resolve, or those who conceal their DSH behaviors (Sandy 2013, 358).

DSH as an act, is not a recent phenomenon but has traces in primal cultures. Flagellation was practiced amongst Native American cultures; similar rituals were evident in Roman and Spartan cultures. Whilst the catholic church, whom converted the ritual into a self-flagellation one (penance for disobedient clergymen), transcending it into common populations during the bubonic plague and finally evolving into an underground order after the condiment by Pope Clement IV, (Abbott. 2016; Rissanen, Kylmä & Laukkanen. 2011, 575). However, in a modern cultural context, DSH conveys a complex self-loathing behavior, shrouded within mental health disorders. In truth DSH engulfs a wider spectrum than the simplicity of cutting at one's wrists and forearms, often manifesting itself through poisoning, burning, stabbing, head-banging (against a wall or similar harden surface) and hazardous or risky behaviors.

The purpose of the research is to conduct a literature review of adolescent DSH therapeutic management, with consideration towards parents and family members.

2 Adolescent Self-Harm

Adolescent DSH without basis in suicidal tendencies is rapidly becoming the new teenage craze, comparable to anorexia and bulimia, as suggested by Patrick Welsh in his article *Look students' scars point to emotional pain* (USA Today 2004).

The turbulence of adolescent-hood has been recognized as a potential catalyst for self-destructive behavior. It is a pivotal period of vast development; emotionally, psychically, socially, and cognitively. Adolescents are often torn between the desire for autonomy and the need for assistance. There are social associations and protocols to be understood, sexual arousals and desires to be processed, intimate bonds created with peers and the development of individuality, self-conception, and self-image. Whilst developing philosophical concepts; such as abstract thought, (Timlin 2015, 21). These new awakenings coupled with the additional stress of examinations and dramatic life events, it seems logical to accept that adolescents frequently adopt coping mechanisms, some of which are maladaptive in nature, (Johnstone, Roake, Sheikh, Mole, Nigg & Oken 2016, 100).

Table 1 Number of adolescent DSH percentages with community & education-based studies.

COUNTRY OF RE- SEARCH	RESEARCH DATE & AU- THORS	ADOLESCENT DSH PER- CENTAGE
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USA	Laye-Gindhu & Schonert-Reichl. 2005	14-38
USA	Kibler. 2009	10.4
IRELAND	Power, Morgan, Byrne, Boylan, Carthy, Crowley, Fitzpatrick & Guerin. 2009	13
FINLAND	Rissanen, Kylmä & Laukanen. 2010	12
ENGLAND	Kidger, Heron, Lewis, Evans & Gunnell. 2012	21.2
SWEDEN	Kidger, Heron, Lewis, Evans & Gunnell. 2012	17.1
UK	Hu, Li, Glauert & Taylor 2017	17

When one discusses the phenomenon of adolescent DSH, the volume of participants is an alarming. DSH behavior has undeniable correlations to mental health disorders, with evidence supporting that DSH is widespread throughout a multitude of conditions, (Calvete, Orue, Aizpuru & Brotherton 2015, 223; Nixon, Cloutier & Aggarwal 2002, 1333). Yet more disturbing is the pandemic emergence that DSH experimentation and ritualization has mutated into mainstream adolescent population.

Sample studies reveal that adolescent DSH, is widespread. In the United Kingdom (UK) the figures were 21.2% (Kidger, Heron, Lewis, Evans & Gunnell 2012, 1). Approximately 1 in every 5 16-17 years old in the UK has participated in DSH, with a lifetime expectancy of approximately 13.2% (ibid 2012, 7) Whilst research suggests that approximately 17% of adolescents in Australia are effected by DSH, and up to 20% of DSH actions require urgent medical treatment for DSH per annum, however, under reporting due to mental health stigmas and clinical a lack of psychiatric diagnosis methodologies only masks the true volume of adolescent DSH cases (Hu, Li, Glauert & Taylor

2017, 791-792). Table 1 displays the number of DSH incidents recorded within the adolescent population across multiple countries from community-based studies. Suggesting a pandemic participation in DSH within the adolescent population. Research also suggests that of those adolescents who present at hospital for treatment for DSH, between 12-20% will return to the same hospital following a repetition of DSH participation (Hawton, Witt, Taylor Salisbury, Arensman, Gunnell, Townsend, van Heeringen & Hazell 2016, 6). Here in Finland one study showed a prevalence rate of nearly 12% (Rissanen, Kylmä & Laukkanen. 2010, 158). Recent research suggests that not all adolescents whom participate in DSH activities meet the criteria for any diagnosed psychological and/or mental health disorder. Prevalence rates of between 13%-16% of non-clinical adolescents who have experimented with DSH, equating to approximately 4 in every class of 26 adolescents, (Kibler 2009, 311), with 14%-38% of adolescent and graduate populations dabbling with DSH activities (Laye-Gindhu & Schonert-Reichl 2005, 447-448). Adolescent DSH has an estimated community based prevalence rate of between 5-15%, possibly even high give that evidence suggests that adolescent DSH volume numbers are widely under reported, and that there is peak DSH participation between the ages of 12-14 within community based adolescent populations, (Stanford, Jones & Hudson 2017, 916; Power, Morgan, Byrne, Boylan, Carthy, Crowley, Fitzpatrick & Guerin 2009, 3).

This alarming trend of DSH showing prevalence within non-clinical adolescent populations is also discussed by Power et al. (2009, 2), with approximately 13% of all adolescents experimenting with DSH. Another study estimated that 1 in every 15 adolescents in the UK have experimented with DSH, resulting in approximately 25,000 accident and emergency department (A&E) attendances and stands in the top 5 reasons for acute medical admissions

(Rapheal, Clarke & Kumar 2006, 10; Burton 2014, 245). Further research into DSH in non-clinical adolescent populations predicts that this number is escalating (Kibler 2009, 311). This body of research further suggests, that a pattern of constant increase in adolescent DSH participation has occurred. Additional research would necessitate to attain the rationale behind such numbers, possibly DSH has manifested itself as commonplace amongst the adolescent population as a standardize copy strategy.

2.1 Understanding Self-Harm in the Adolescent Population

“it’s a temporary refuge from life reality” “we cut so the pain is anywhere but in our minds” “that temporary relief it becomes a comfort” “it was the only thing that could be controlled” “especially addictive because we become accustomed to the feeling of something other than the emotional and psychological pain we have”

(www./cups.com/self-harm/ 2016)

There is a multitude of reasons as to why adolescents self-harm, often the commencement coincides with a major stressful event, emotional regulation and rumination, or the build-up of stimuli from a single incident can prove too overwhelming, thus creating the requirement for a relief. This form of maladaptive coping strategy is commonly commenced during adolescence and if left untreated frequently continues into adulthood (Nock, Teper & Hollander 2007, 63; Walsh 2006).

DSH has a contagious effect, adolescents who indulge in DSH frequently have friends who also participated in DSH activities. The contagious aspect of DSH has been well documented amongst clinical in-patients, but recent studies with non-clinical adolescents indicate similar conclusions. Social cognitive

theory reflects that behaviors are often modeled on others, often role models or figures whom we identify with. Such behavior is especially prevalent during adolescence, thus with celebrities, such as, Jonny Depp and Angelina Jolie revealing their DSH behaviors, plus songs like razor by the Foo Fighters, scissors by Slipknot and more recently eraser by Ed Sheeran, connections are evident as to where adolescents might begin to contemplate the DSH ideation (Shapiro 2008, 126). Kibler (2009, 310-313) discusses that adolescents may commence DSH behaviors simply because their peers do, and that there is an inherent risk that group therapy sessions can lead to cutting groups or at least an increase in experimentation.

These DSH pandemic findings raise the question as to whether a form somatic release is a viable solution for today's adolescent's turmoil, comparable to alcohol and recreational drug abuse? (Dimmock, Grieves & Place 2008, 43). Both of which have degree tolerability by society (Prymachuk & Trainor 2010, 53). Somatic pain is more rational and easier to process than emotional pain. Adolescents may use DSH as a tool to alter their emotional status or reboot themselves into reality through the sensation of somatic pain. Skin trauma releases endorphins which can produce a momentary calming sensation, plus serotine release which is another autonomic response, elevates our mood creating a positive ambiance. The act of bandaging or repairing, via one's self or another person can be therapeutic (Burton 2014, 247).

Table 2 Percentage Rates of Common Reasons for Adolescent DSH

<i>Common Reasons for Adolescent DSH</i>	<i>Percentage of Frequency</i>
<i>Relief from a terrible state of mind</i>	66.5 - 71.8
<i>I wanted to die</i>	56.7 – 59
<i>I wanted to punish myself</i>	43.6 - 48.4

<i>To show how desperate I was feeling</i>	33.4 - 35.6
<i>I wanted to get my own back on someone</i>	20 - 21.2
<i>I wanted to get some attention</i>	20.5 - 20.7

Scoliers, Portzky, Madge, Hewitt, Hawton, Jan de Wilde, Ystgaard, Arensman, De Leo, Fekete & van Heeringen (2009, 602-606), conducted a series of school-based studies regarding the reasons why adolescents participate in DSH.

Their findings (displayed in table 2), differed between countries but most agreed that, primarily DSH was used a *relief from a terrible state of mind* (66.5-71.8%) followed by *I wanted to die* (56.7-59%). They also discuss that the *I wanted to die* reason maybe a post-answer used to generate sympathy and that most adolescents who responded with this answer, might be motivated via an expression of distress and/or a desire for escapism as opposed to suicide.

Other common reasons reported were *I wanted to punish myself* and *to show how desperate I was feeling*. Last on the table is, *I wanted to get some attention*, the recent phenomenon of salfishing, has been highlighted in the media as potential concern for adolescent mental health, and problematic issues with social media, which plays an increasing role in the adolescent population's daily activities (Sky News, 2019).

There is a definable theory for DSH, unlike masochism, where somatic pain is the main ambition. DSH uses somatic pain sensations as a method of achieving their goal. Often the sight of blood is sufficient in resetting the adolescent's emotional status from a marginalized impulse into reality, linking the internal with the external (Hicks & Hinck 2008, 409 & Schoppmann, Schröck, Schnepf & Buscher 2007, 592). Blood-letting sensations such as warmth and dampness are also further possible reasons for DSH. Warmth and dampness are basic perceptions we experience during babyhood, and even prior to this, inside the womb (Schoppmann et al 2007, 593).

Interpersonal conflict is another common catalyst for adolescent DSH. Frequently occurring the 24 hours prior to the DSH act, this is especially prevalent in adolescent females (Arkins, Tyrrell, Herlihy & Crowley 2013, 31). Evidence that binge drinking (of alcohol), which is considered orthodox amongst adolescent populations, has significant correlations to impulsivity and DSH. Prior to admission to A&E departments over one third of adolescent DSH cases involved alcohol (ibid., 30-31).

DSH has long be associated with family dysfunction and a breakdown in adolescent-parental communication (Power et. Al. 2009, 2; Kindsvatter A & Desmond. 2013, 105), yet as previously mentioned DSH has mutated into a maladaptive regimen adopted by both clinical and non-clinical adolescents, from a variety of family environments. Adolescents who suffer difficulties in processing their emotions and from alexithymia, are more likely to develop DSH routines. Rumination was proven to exasperate negative thinking and increased self-criticism all potential catalysts for DSH. Higher levels of rumination and alexithymia were evident in adolescents who participated in DSH compared to those who opted for other maladaptive coping strategies, such as avoidance or emotional-focused coping (Borril et al. 2009, 369).

2.1.1 Repeat Adolescent Deliberate Self-Harm Behaviors

Adolescence is fraught with difficult and confusing experiences, thus DSH can easily develop into a maladaptive coping regimen. Intervention and accurate assessment during the early stages produces the best results, as adolescents appear more susceptible to alternative interventions and less dependent upon DSH as a platform for coping, (Shapiro 2008, 127). Research also agrees that

with each episode of DSH the increased likelihood of suicide either deliberate or accidental increases too, (Prymachuk & Trainor 2010, 52-53; Patterson, Whittington & Bogg 2007, 100; Hume & Platt 2007, 1-2). Most adolescents who are admitted to hospital for DSH, performed self-poisoning acts or overdosing, whereas DSH adolescents who cut or slash themselves seldom received medical attention. This could be that self-cutting is frequently associated with impulsive actions, as opposed to self-poisoning, which is associated with considered thought, deeming the intent a more lethal resolve (Scoliers et al. 2009, 602). Research suggests that self-cutters are more likely to develop a regular DSH regimen, given that their habit is easier to conceal, more impulsive and less likely to require medical intervention. Self-cutting is more prevalent amongst females and peaks between the ages of 15-19, (Bennardi, McMahon, Corcoran, Griffin. & Arensma 2016, 2-8). Bennardi et al. (2016, 6-7) discovered a pattern amongst DSH frequency rates. As the volume of A&E attendances increased so the time between each subsequent readmission reduced, exhibiting an increased dependency upon DSH.

Madge, et al. (2008, 671-672), discuss the issue of self-harm through an epidemic viewpoint, their research engulfed several thousand adolescents from countries throughout the world. They suggest that there is little difference between repeat self-harmers, both contain approximately 50% of both sexes. DSH from a single episode perspective is often employed as a reflex response to temporary adversities and can disappear without requiring intervention. Yet approximately 10-20% of adolescents will DSH repeatedly. Borril et al. (2009, 362) discovered similar results through an anonymous non-clinical college-based study. The results established that 37% of females who admitted to one occasion of DSH and 17% admitted to repeat occasions, whereas 44% of male students confessed to a single act of DSH and 26% of repeated DSH

behaviors. Both results revealed approximately 50% of those who participated in DSH developed DSH regimens. The risk of suicide too, nearly doubles when compared between single DSH adolescents and those who participate in repeat DSH activities, this is evident in both sexes (Bennardi et al. 2016, 3). DSH repeaters are of greater concern to the mental health profession, as they are more likely (both adults and adolescents), to complete a suicide attempt, (Prymachuk & Trainor 2010, 53).

2.1.2 Adolescent Deliberate Self-Harm and Adolescent Suicide

Previously adolescent DSH and adolescent intention to suicide (ITS) were considered as one. Both gravely affect adolescent populations with suicide the third most common cause of adolescent death (WHO), and approximately one million people die for suicide annually. The risk factor from initial DSH to successful suicide is 50 to 100 times increase, plus DSH is one of the strongest pre-indicators for suicide attempt, (Hsu, Chen & Lung. 2013, 1-2). Yet there is vast disparity between the motivations behind DSH and suicide, (Hsu, et.al. 2013 1). DSH has only recently been recognised as a stand-alone condition, there are numerous characteristics of DSH and ITS that are virtually identical. Depression, externalised anger, and irritability were frequent amongst adolescents who had attempted suicide and possessed a history of DSH. Studies found these characteristics are prevalent in both clinical and non-clinical adolescents. Another study directed at understanding the differences between adolescent DSH and adolescent ITS showed that; severe depression and suicidal ideation were more prevalent in adolescents who had attempted suicide, as was a disposition for post-traumatic stress disorder. Whereas reasons for living characteristics were more prevalent in adolescents who only engaged in DSH. There is also conflicting data regarding differences between DSH and

suicide (Stanley, Gameroff, Michalsen & Mann. 2001, 427-428) found marked differences in hopelessness, yet (Guertin, Lloyd-Richardson, Spirito, Donaldson & Boergers. 2001, 1062–1063.) found no significant difference in hopelessness, when comparing adolescents who only participate in DSH and those who had ITS.

Hicks & Hinck (2008, 409-410) summarised that adolescents who participate in DSH desire to improve their current situation, that they want to live, and that DSH is not an act of suicide. ITS is a terminal solution to temporal issues, whereas DSH is temporal solution to permanent problems. This baseline recognition is pivotal in understanding that adolescents with ITS and adolescents who DSH are not one in the same, and that any individual adolescent who participates in DSH may not ITS or even ruminate suicidal ideation.

2.2 Adolescent Mental Health and Deliberate Self-Harm

Adolescence as a developmental phase is pivotal with regards to mental health, frequently mental health disorders commence during adolescence, even when though they are diagnosed during adulthood (Patel, Flisher, Hetrick & McGorry 2007, 1302). Diminished mental health has proven negative impacts upon numerous aspects of suffers lives. During adolescence these a commonly, a reduction in educational achievement, increased risk of substance abuse, increased violent behavior and poor sexual health. Whilst adolescence has vast numbers of DSH and suicide is one of the leading causes of death for adolescents, it is also apparent that adolescent mental health needs and mental health promotion are significantly low, even in high-economic societies (ibid. 1302-1303).

Evidence suggests a global trend amongst adolescent mental health sufferers to participate in DSH without ITS. One Australian study reported figures as high as 47% inpatient psychiatric DSH (Berntsen, Starling, Durheim, Hainsworth, de Kloet, Chapman & Hancock 2011, 64). Yet not all participation results in compliance to a regular regime, often experimentation is conducted as a standalone act. Another notable phenomenon of the condition is, that, DSH is common amid nearly all disorders, (Calvete et al. 2015, 223; Nixon et al. 2002, 1333), although is it most commonly associated with, disassociation, schizophrenia, depression, and bipolar disorder. Notably DSH was originally considered a manifestation of borderline personality disorder (BPD) only and was described as such in the Diagnostic and Statistical Manual of Mental Disorders-TR (DSM-4, American Psychiatric Association, 2000), and only in recently has research concluded that DSH displays direct correlations to multiple mental health disorders, resulting in a reclassification and a hypotheses of a condition that requires further examination (Calvete et al. 2015, 223; Nixon, Cloutier & Aggarwal 2002, 1333).

Adolescent DSH is also equally found between sexes, although there are discrepancies involving the types of DSH techniques used. Girls are far more likely to cut themselves, whilst boys are more likely to beat or hang themselves, (Madge et al. 2008, 671).

With approximately half of all clinical adolescent inpatients participating in DSH the need for a secure environment is paramount (Berntsen et al. 2011, 63-64), and a strong nurse-patient-relationship (Schoppmann et al. 2007, 588). Past behaviors may offer assistance in preempting adolescent DSH as does understanding the adolescent's condition, catalysts and possible triggers. It is characteristic for clinical inpatients suffering from interpersonal and

intrapersonal trauma to adopt a strategy to enable them to cope with their trauma, (Bennardi et al. 2016, 6-7). Shapiro discusses that adolescent associative relationships may encourage adolescents to develop connections with others whom they share common bonds, and that they may emulate their peer's behavior too. This concept is validated by Social cognitive theory, which states that we mirror the behaviors of those whom we identify with, (Shapiro 2008, 126). Such behavior is highly prevalent during adolescence (ibid. 126).

3 The Impacts of Adolescent Deliberate Self-Harm on Parents and Families

Adolescent DSH directly affects the those connected to the participant, and possibly no-one more than the parents. In 1992 the UK government white paper, *The Health of the Nation*, recognized a need for specialised healthcare to treat the DSH population, and whilst it discusses the requirement for healthcare professionals in the treatment of DSH, there is a clear recognition of parental influence and involvement, due, in part to the fact that DSH is frequently associated with adolescence and early adulthood. Thus, parental participation is pivotal in the understanding and positive management of adolescent DSH (Raphael Clarke & Kumar 2006, 10).

Overwhelming emotions of guilt, fear, devastation, and shame are frequently reported by parents of an adolescent who DSH, as were anger, helplessness, disbelief, and embarrassment (Raphael et al. 2006, 15-16). Parents also suffer from negative somatic responses, unhealthy weight loss, vomiting, insomnia and a constant state of alertness, were all reported. Stigma surrounding

adolescent DSH, resulted in a reduction in social activities and an increased feeling of isolation for parents, and was an additional reason for parent's unwillingness in seeking professional assistance or discussing the DSH concerns with others. (ibid. 2006, 13-18). Parental concern is frequently bias towards the DSH adolescent resulting in over-protective and hypervigilant parent behaviors, sometimes defying the parental-child-relationship trust. This causes additional anxieties for the parent, shame for not trusting their child, guilt for neglecting siblings, plus a heightened sense of alertness which negatively impacts family dynamics, whilst disrupting sleep (Raphael et al. 2006, 15-16).

Table 3 Commonly Reported Effects of Adolescent DSH upon Parents & Family Members

Emotional/Psychological Effects	Somatic Effects
Guilt	Unhealthy weight loss
Fear	Vomiting
Shame	Insomnia
Devastation	Hypervigilance
Anger	Reduced social activity
Helplessness	
Disbelief	
Embarrassment	
Anxiety	
Increased stress	
Isolation	

Table 3 highlights the impact adolescent DSH can create for parents. Both the emotional and somatic responses are comprehensible. The frequency of volume was of create concern, with research suggesting that all parents interviewed experienced several negative emotional reactions and at one somatic response (Raphael et al. 2006, 18). Another concern for both parents and healthcare professionals, is the alarming response that some parents

considered healthcare professionals behaviors unhelpful and possibly disrespectful. When managing adolescent healthcare, often the healthcare professional will conduct their behaviors and questions towards the patient first and the patient's family secondly. Some parents considered this disrespectful, especially if the healthcare professional requested patient permission to involve the parents and for consent to be given prior to divulging information (ibid 2006, 15-16). Research also suggests that nurses and healthcare professionals frequently consider parents as an additional barrier to circumnavigate (ibid 2006, 10). Research lead to the creation of a group program to assist parents whose adolescent participate in DSH activities. The program was conducted by mental healthcare professionals and aimed at educating parents as to; treatment types, adolescent concerns, family bonding, positive communication and setting boundaries, whilst addressing parental concerns too. (Power et al. 2009, 3-4).

4 Research Design

4.1 Aims and Purpose

The purpose of the research is to conduct a literature review of adolescent DSH therapeutic management, with consideration towards parents/family members. With the aim of highlighting any themes within the therapies are that employed, such as frequency, type of therapy, rationale, effectiveness and parental/family inclusion. If nurses and other healthcare professionals can understand the parental perspective of adolescent DSH, and in turn parents/family members better understand potential therapies involved in adolescent DSH. Then an improved reduction in adolescent DSH, as maladaptive mechanism is probable, sequentially this should reduce the volume of adolescent suicide.

Research question What are the current common therapies aimed towards adolescent deliberate self-harm?

4.2 Research Method

A literature review enables for amassment and analyses of relevant and current documentation and presents it in a concise yet efficient form. Literature reviews also further research via recognizing vacant areas or discrepancies within current data, thus justifying additional research or inspiring advancements (Cronin, Ryan & Coughlan 2008, 38). Literature reviews allow for multiple researches to be collated and presented collectively. Comparing can contrasting multiple data can highlight diversity and frequency of research findings, within methodologies, samplings and populations. Literature reviews, whilst often containing similar topics and results, it is crucial they possess conflicting research. This creates dialogue and progressing further research with a wider understanding and objective baseline (ibid 2017, 79-80).

Nursing research is pivotal to the constant development of nursing care. Nursing research provides analysis of current nursing interventions or principles and can generate new concepts and technologies. This nursing concept is the core of evidence-based practice (EBP), frequently culminating in superior patient care and recovery (Smeltzer, Bare, Hinkle & Cheever 2010, 10). Analysing the source literature collated, answering intended questions and extracting conclusions from a vast spectrum of information, literature reviews

can result in effective conclusions and further advancements in research and practice (Aaron 2008, 185).

Due to a paucity of evidence-based medicine (EBM) pertaining to adolescent DSH interventions, the author elected the usage of numerous medical and psychological bibliographic databases, these were; Cochrane, CINAHL, EBSCO Academic Search Elite, PubMed, Elsevier Science Direct and PsycINFO. Key words used for article sourcing were; “adolescent” AND “parent” AND “family” AND “self harm” AND “intervention”, plus a second parallel search will include; “adolescent” AND “parent” AND “family” AND “self harm” AND “coping”.

Upon collection, the data will be subjected to several filtering levels prior to inclusion, in descending order these being, title filtering, during which the author will include titles containing keywords and whose relevance is obvious, whilst simultaneously disregarding those who fail in relevance. Those articles who comply with the criteria stated will form the basis for the literature review to be conducted. Typically, this research methodology is categorized as a systematic review. Where posed research questions are specific, and the common purpose is to collate and compare pre-existing research. Quantitative analysis is frequently employed to filter the reviewed source research, with the aim to inform new policy and/or practice (Snyder 2019, 334-335). The following table, Table 4 states the list of inclusion criteria required to be considered for additional filtration. Table 5 shows the volume of articles that meet the required criteria and the filtration process, from original keywords searches, title inclusion, abstract inclusion and finally the total volume of articles for literature review.

Table 4 Inclusion Criteria for Literature Review

Inclusion criteria
Self-harm source articles pertaining directly to adolescence and or youth populations
Articles written or published in the English language
Articles published with the previous ten years upon commencement of the thesis (2006-2016)
Full text available and or pdf download available to JAMK students
Source articles have been peer reviewed
Source articles are available from nursing databases

Table 5 Inclusion for articles to be reviewed

Table of articles

<i>Database</i>		<i>Keyword search</i>	<i>Title inclusion</i>	<i>Abstract inclu- sion</i>	<i>Articles in- cludes</i>
<i>Elsevier Science</i>	Intervention	199	11	3	3
<i>Direct</i>	Coping	112	10	3	3
<i>EBSCO Academic</i>	Intervention	0			
<i>Search Elite</i>	Coping	1	1	0	
<i>PubMed</i>	Intervention	8	4	2	2
	Coping	4	3	1	1
<i>Cochrane</i>	Intervention	8	0		
	Coping	5	0		
<i>CINAHL</i>	Intervention	0			
	Coping	1	1	0	
<i>PsycINFO</i>	Intervention	767	20	15	8
	Coping	366	34	8	6

5 Data Analysis

After the source studies were collated, they were each analyzed in order to comprehend the studies methodology, data, and results. Appendix 9.1 displays this information in table format. This analysis methodology is similar to meta-ethnography and meta-study (qualitative studies), but as the source

studies are a combination of quantitative and qualitative studies, meta-analysis, meta-ethnography and meta-study critique strategies would be problematic even considered as inappropriate (Aveyard 2007, 111), this is one the research's limitations.

Meta-summary was selected because, this critique analysis methodology allows for encompassing multiple research methodologies (for example quantitative and qualitative), into a single comprehensible review, (ibid, 111-112). Each was source study was analyzed following this methodology, and a brief description of each source study was created. This is displayed in table format in Appendix 9.1. Subsequently, they were critiqued to ascertain any thematic similarities and discrepancies. This was achieved via, each source study's main outcome being highlighted and coded accordingly. The codes were formed from therapies (and thus named accordingly) employed for adolescent DSH, and terms for parents and/or family inclusion. These codes were collated together to form categories of the various types of therapies employed, their frequency and effectiveness according to each source study. Finally, synthesizing the collated coded data together to form theoretical hypotheses and conclusions. Using this methodology, the author documented reoccurring therapies into a list of commonalities. With the most frequent forming the basis for the following chapters.

6 Results

6.1 Common Therapies

Table 6 Common Therapies for Adolescent DSH

<i>Therapy</i>	<i>Summary</i>	<i>Aimed for</i>	<i>Main results</i>
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<i>Cognitive Behavioral Therapy (CBT)</i>	CBT assists the adolescent to identify and evaluate how they response to, and process traumatic events.	DSH participant.	Reductions in alcohol and recreational drugs consumption, risky behaviours and suicidal rumination.
<i>Dialectic Behavioral Therapy (DBT)</i>	concentrates upon enabling the adolescent to regulate their emotional and interpersonal complications into adaptive outcomes, instead of DSH as a coping mechanism.	DSH participant.	Increase interpersonal effectiveness, for example; relationships with others, self-respect, prioritising needs, and creating balance.
<i>Family Based Therapy (FBT)</i>	Aims to improve family communication and relationships, especially the adolescent-parental relationship. Reducing family conflict and stresses, enhancing parental guidance and effective emergency strategies.	DSH participant, their family members and close friends.	An effective therapy in reducing adolescent DSH, it empowers the parents/family members to retake control of their family problems. Plus, FBT-parent-training frequently results in 100% commitment and attendance.
<i>Multisystemic therapy (MST)</i>	Home based FBT directed towards tackling adolescent DSH catalytic behaviours and adherence behaviours. Although the therapy is home based, it focuses on catalytic behaviours and causations external from the family, for example; education, peer and social concerns.	DSH participant, their family members and close friends.	Lengthy in duration compared to other therapies, but research suggests it can as highly effective in reducing adolescent DSH over a long term. Studies recommend that MST is inappropriate for acute adolescent DSH.
<i>No-Harm Contracts (NHC)</i>	Written contracts are agreed in which the patient commits to the reduce and/or cease all DSH behaviors.	DSH participant.	Depends upon the individual, some studies suggest that NHC can cause elevated anxiety upon the adolescent and even cause DSH relapses.

Cognitive behavioural therapy (CBT), is frequently used to combat adolescent DSH. CBT's basis comes from addressing the mechanisms pertaining to DSH behaviour directly. CBT assists the adolescent to identify and evaluate how they response to, and process traumatic events (potential DSH catalysts). CBT continues with challenging the adolescent to review their current maladaptive strategies (DSH) and accepting alternative problem-solving strategies (PST). Once these modifications are understood and accepted, practical behavioural modification is begun (Slee et al 2008, 202 & Glenn C., Franklin J., & Nock M. 2015, 6). CBT as an intervention therapy directly addresses DSH issues, such

as, circumstances surrounding the DSH participation, often based upon the recent episodes, motivations for the DSH participation, catalysts, emotions, cognitions and behaviours that occurred during and just prior to DSH activity (Slee et al 2008, 205). In conjunction, the professional conducting the therapeutic session and the patient will endeavour to investigate the roles that these factors play within the DSH participation. As CBT progresses so can the therapy's direction. Often therapeutic sessions occurred once weekly but are offered upon a crisis basis too. Frequently towards the final sessions, relapse prevention is addressed, as to is parental and family involvement. these two factors are intrinsically linked. As for prevention to be successfully adhered to, parental and family involvement is frequently required (Slee et al 2008, 205). Glenn et al. discusses the further dispersion of CBT. CBT is frequently combined with other forms of therapy for a more tailored intervention strategy. Pertaining to adolescent DSH, individual CBT (I-CBT) in combination with Family CBT (F-CBT) and parent training, produced the most significant results. Reductions in alcohol and recreational drugs consumption were reported, plus risky behaviours, suicidal rumination and suicide attempts (SA). Resulting in a classification of, probably efficacious for reducing SA and DSH in youth (level 2) (Glenn et al 2015, 6-8). Research suggests that CBT is more effective than TAU regarding adolescent DSH. In one RCT, CBT significantly decreased DSH, depression, and suicidal rumination, in comparison to TAU. Plus self-esteem was increased too (Slee et al. 2008, 206-207).

Dialect behavioural therapy (DBT), primarily focuses upon enabling the adolescent to regulate their emotional and interpersonal complications into adaptive outcomes, rather than using DSH as a coping mechanism. DBT normally entails intensive weekly individual therapeutic sessions, combined with weekly skills training. DBT frequently incorporates, telephone coaching,

permitting further therapeutic treatment in between scheduled sessions. DBT involves skills training, with the aims to increase distress tolerance and improve emotional regulation and rumination. Increase interpersonal effectiveness (our relationships to others, self-respect, prioritising needs, and creating balance). Mindfulness training is a key aspect of DBT, in which the individual adolescent learns focus upon, and understands their current situation, and learns how to process one demand one at a time (Glenn C., Franklin J., & Nock M. 2015, 9-10).

Of the data that Glenn et al. reviewed, DBT was effective against adolescent DSH, but in comparison to TAU, these results were not deemed significant. Glenn et al. raises the issue that the control trials were shorter versions of the one year, standardise DBT model, and this may have reduced DBT impact upon adolescent DSH. There was also a paucity of control groups for direct comparison (ibid 2015, 9-10).

Glenn et al. (2015, 10), defines family based therapy (FBT), as therapy's whose primary targets are the family or specific family members. FBT is commonly employed as a secondary intervention source in conjunction with other main therapies. FBT frequently prioritizes improved family communication and relationships, especially the adolescent-parental relationship. Reducing family conflict and stresses, enhancing parental guidance and effective emergency strategies (ibid. 10-12).

As per CBT, FBT is commonly divided into specific therapies tailored directly at causations or individuals. Parent training (FBT-parent training), is commonplace amongst these tailored therapies. FBT-parent training is brief parental psycho-education based therapy. FBT-parent training, aims to educate

parents directly about adolescent DSH, potential catalysts and maintenance behaviours, and how to effectively resolve family conflicts and stresses. Evidence suggests that FBT-parent training is an effective therapy in reducing adolescent DSH, as it empowers the parents to retake control of their family problems. FBT-parent-training frequently results in 100% commitment and attendance (ibid. 11).

Multisystemic therapy (MST), is a home based FBT directed towards tackling adolescent DSH catalytic behaviours and adherence behaviours. Although the therapy is home based, it also focuses on catalytic behaviours and causations external from the family, such as, education, peer and social issues, to help modify the adolescent's DSH behaviours and participation (ibid. 11). MST is more intensive and durational than other forms of adolescent DSH therapies. Brent et al. discusses that in one randomised control trial (RCT), MST was compared to inpatient care. Both groups reported similar ends results, with 4% of SA in both groups, but the MST group contained over twice as many repeat SA. Whilst this finding was concluded as significant, unfortunately during the trial 44% of the MST group were also hospitalised which may cloud any statistical significance (2013, 3). This high volume requiring inpatient care would suggest that MST is ineffective as an acute DSH intervention (Glenn et al. 2015, 12).

7 Discussions

7.1 Reliability and Limitations

From the source studies it is evident that self-harm is frequently referred to via various acronyms, such as; non-suicidal self injury (NSSI), self injurious behaviors (SIB) self-harm (SH), self-harming behaviors (SHB), parasuicide, and deliberate self-harm (DSH). But this variety of acronyms can create a confusing state for research purposes, as each are frequently used to describe the same emotional status. Research would benefit from health professionals opting for a common finite term, thus future research would have a conventional baseline, reducing the requirement for multiple searches and potentially creating a more pertinent collective from which new data could develop. As previously discussed, synthesis was evident, as the majority of studies concurred that both, more specific research directly into adolescent DSH is required and if applicable the inclusion of parents and families, even though the source studies involved a variety of therapeutic intervention strategies.

In order to increase the validity of this study, all the source studies reviewed were sourced from high-quality databased and all had been previously peer reviewed. Yet the source studies included multiple research methodologies, thus analyzing such a combination of data is problematic and can easily produce confusing results (Aveyard 2007, 108-109). As the author is a bachelor student and a novice in conducting such research, this must be accepted as possibly, potentially limiting the validity of the research. As the studies originated in a number of different countries, and thus different cultural ideologies, this aids the validity of this research's findings (Aveyard 2007, 9).

7.2 Discussion of the Results

The purpose for this study was to analyze therapeutic management for adolescent DSH, with consideration towards parents and family members. CBT

and DBT are frequently employed and effective in reducing adolescent DSH, as they result have be documented with weeks of therapeutic commencement, they can be intensive. FBT is primarily used in combination with either of these therapies. Whereas MST is less intensive, often conducted away from a clinical environment, and commonly longer in duration, frequently resulting in adolescent DSH participation during the therapeutic timeframe (Appendix 11.1).

Studies suggest that CBT and DBT are the most common forms of therapies employed to manage adolescent DSH. CBT aims to challenge the adolescent to review their current maladaptive strategies (in this case DSH), motivations and potential catalysts, plus accepting alternative forms of PST. Once these modifications are understood and accepted, positive behavioural modifications can begin (Slee et al 2008, 202 & Glenn C., Franklin J., & Nock M. 2015, 6).

Although the source studies discussed a variety of therapies, synthesis was evident with the requirement for further research specifically into adolescent DSH (Brent et al. 2013, 10; Hyldahl & Richardson 2009, 126; Glenn et al 2015 23-24; Gonzales & Bergstrom 2013, 129; Burešová, Vrbová & Černá 2015, 1125; Hasking et al. 2103 1554). Plus the inclusion, (when possible for), parents and families to be involved in the therapeutic process (Burešová et al. 2015, 1112; Bryne et al. 2008, 502-503; Glenn et al. 2015, 23-24; Das et al. 2016, 558; Rissanen, Kylma & Laukkanen 2008, 1720; Ferrey, Hughes, Simkin, Locock, Stewart, Kapur, Gunnell & Hawton 2015, 6).

Further research solely involving adolescent populations is required to develop effective therapies. There is a paucity of research and subsequent

intervention support for parents and families living with adolescent DSH, rather the focus of attention has been the adolescent themselves, (McDonald et al. 2007, 300). Research suggests that such information regarding adolescent DSH understanding, common therapeutic treatments and supportive information, have been requested by parents of adolescents who participate in DSH (McDonald et al. 2007, 307, Ferry et al. 2016, 6 & Oldshaw et al. 2008, 142).

7.3 Further Discussions

As the author is interested in the concept of creating a mHealth application based upon the study's results. Yet the inclusion of additional research might be prudent. In such a situation a semi-systematic research methodology might offer increased relevant data. Integrative review methodologies could also be employed, (with the inclusion of research into other neurological disorders intervention and therapeutic strategies). As an integrative review might provide a more effective result as a strict research question, is not so strongly required to but rather an aim (Snyder 2019, 334-335). Additionally, mHealth and eHealth applications as potential future interventions, are both, cost effective and once developed, easily accessed by mass populations. As family centered care (FCC) and family dynamics retain a core impact upon adolescent DSH behaviors and subsequent recovery (Rissanen, Kylmä, Laukkanen. 2009, 1712 & Bartošová, Černák & Nováka. 2015, 1107), any mHealth application should be predominately aimed towards parents and families. Acting as an empowerment tool, containing information, thus reducing stress and anxiety often felt by parents and family members (McDonald et al. 2007, 307).

A potential issue regarding the usage of a mHealth application, is that users might believe that the application alone provides sufficient assistance for self-care and self-monitoring that they feel a reduced requirement for professional assessment and treatment, (Adams S & Niezen M. 2016, 532). Evidence suggests that approximately only 1 in 8 adolescents who admit to DSH engagement never seek professional assistance (Hawton, Witt, Taylor Salisbury, Arensman, Gunnell, Townsend, van Heeringen, Hazell. 2016, 6). Yet evidence suggests that mobile health (mHealth) and electronic health (eHealth) are potentially an efficient stratagem for adolescent DSH intervention therapy delivery (Villani, Cipresso, Gaggioli & Riva 2016, 152-153).

Additionally, there is new technologically created and potentially negative risk. One where the user attempts to coerce an adolescent with DSH behaviors into adhering to the mHealth application's intervention protocols. Thus hypothetically elevating anxiety and increasing the risk of DSH participation. Adams and Niezen discuss one of the potential 3 fundamental risks involved with mHealth application technologies, governmentality perspective. The others being; the risk society perspective and the cultural/symbolic perspective. The basis of governmentality perspective, is one of collating personal data in order to assess and classify individuals into certain categories and/or subcultures, for example those of might pose a potential threat (to public wellbeing, to themselves or both), such as an undiagnosed DSH participant, (Adams & Niezen, 2016, 531-533).

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9 Appendices

9.1 List of Reviewed Source Articles

	<i>Year</i>	<i>Country</i>	<i>Design</i>	<i>Title</i>	<i>Main results</i>
		<i>of origin</i>			
<i>Brausch & Gutierrez</i>	2010	USA	Qualitative study	Differences in Non-Suicidal Self-Injury and Suicide Attempts in Adolescents.	Differences exist between adolescents who only DSH and those DSH and ITS. By targeting these differences (depression, anhedonia, negative self-evaluations & suicidal ideation), one might help reduce adolescent ITS.
<i>Brent, McMakin, Kennard, Goldstein, Mayes & Douaihy</i>	2013	USA	Literature review	Protecting Adolescents from Self-Harm: A Critical Review of Intervention Studies.	Early interventions post DSH and ITS are more likely to prove effective. Development of protective factors

					(parental support, positive sleep, strong family relationships) reduce adolescent DSH and ITS.
<i>Bureau, Martin, Freynet, Poirier, Lafontaine & Cloutier</i>	2009	Canada	Qualitative study	Perceived Dimensions of Parenting and Non-Suicidal Self-injury in Young Adults.	Parental strategies significantly effect adolescent DSH. Therapies concentrating on building interpersonal relations between parents and adolescents, parental support and advice on parental skills would help reduce DSH.
<i>Burešová, Bartošová & Čerňák</i>	2015	Czech Republic	Quantitative study	Connection between parenting styles and self-harm in adolescence	Associations can be made between parental styles (model of 9 varying styles) and adolescent DSH. Inconsistent, weak control and cold parental styles were most associated with DSH. 68% discussed their DSH with peers and 2% consulted professional advice.
<i>Burešová, Vrbová & Čerňák</i>	2015	Czech Republic	Quantitative study	Personality characteristic of adolescent self-harmers.	Psychoticism (impulsivity & aggressiveness) and neuroticism, and intense negativity (anxiety, anger or depression), are all common traits for the commencement and participation to adolescent DSH.
<i>Byrne, Morgan, Fitzpatrick, Boylan, Crowley, Gahan, Howley, Staunton & Guerin</i>	2008	Ireland	Qualitative study	Deliberate Self-harm in Children and Adolescents: A Qualitative Study Exploring the Needs of Parents and Carers.	Parents and families would benefit from support programs, psycho-educational, family communication, parenting adolescents, and information about mental health & DSH.
<i>Das, Salam, Lassi, Kahn, Mahmood, Petal & Bhutta</i>	2016	Australia Canada India Pakistan	Literature review	Interventions for Adolescent Mental Health.	CBT was proven to reduce depression & anxiety. DBT was effective in reducing short-term ITS. Exercise

		UK			therapies reduced depression and low self-esteem. Family interventions showed no impact on disordered eating. Internet based interventions required further research.
<i>Ferrey, Hughes, Simkin, Locock, Stewart, Kapur, Gunnell & Hawton</i>	2015	UK	Qualitative study	The impact of Self-Harm by Young People on Parents and Families.	Adolescent DSH has various repercussions throughout families. Families would benefit from additional support networks and DSH education.
<i>Glenn, Franklin & Nock</i>	2015	USA	Clinical review	Evidence-Based Psychosocial Treatments for Self-Injurious Thoughts and Behaviors in Youth.	Comprehensive review of treatments and therapies used to treat adolescent DSH. CBT, DBT, FBT and IPT proved the most effective in clinical trials for adolescent DSH. Recommendations for future treatments protocols.
<i>Gonzales & Bergstrom</i>	2013	USA	Literature review	Adolescent Non-Suicidal Self-Injury (NSSI) Interventions.	CBT, DBT and group developmental therapy shared similar results as TAU for adolescent DSH, Family counselling, and psych-education were also helpful, in conjunction with TAU.
<i>Hasking, Andrews & Martin</i>	2013	Australia	Longitudinal study	The Role of Exposure to Self-Injury Among Peers in Predicting Later Self-Injure.	Correlations coexist between adolescent DSH commencement, participation, and peer DSH.
<i>Hay & Meldrum</i>	2010	USA	Quantitative study	Bullying Victimization and Adolescent Self-Harm: Testing Hypotheses from General Strain Theory.	Stressful stimuli can create negative emotions which manifest as DSH. Often additional stimuli are occurring and these effect the onset of DSH. GST may help predict adolescent DSH.

<i>Hawton, Witt, Taylor Salisbury, Arensman, Gunnell, Hazel, Townsend, van Heeringen</i>	2015	Australia Belgium Ireland UK	Literature review	Pharmacological interventions for self-harm in adults.	No significant results reported regarding repeat DSH. Identify random clinical trials (pharmacological & nutritional) for DSH and compare the effects to placebo substances.
<i>Hyldahl & Richardson</i>	2009	USA	Literature review	Key Considerations for using No-Harm Contracts with Clients Who Self-Injure.	Additional research is required to ascertain if NHC are suitable as a DSH therapy.
<i>Jantzer, Haffner, Parzer, Resch & Kaess</i>	2015	Germany	Qualitative study	Does Parental Monitoring Moderate the Relationship between Bullying and Adolescent Non-Suicidal Self-Injury and Suicidal Behavior?	Parental guidance and school based interventions can significantly reduce adolescent DSH due to bullying.
<i>McDonald, O'Brien & Jackson</i>	2007	Australia	Qualitative study	Guilt and Shame: Experiences of Parents of Self-Harming Adolescents.	Parents experience stress due to adolescent DSH. Adolescent DSH is not attributable to poor family dynamics. Parents would benefit from DSH education and support.
<i>Oldershaw, Richards, Simic & Schmidt</i>	2008	UK	Qualitative study	Parents' Perspectives on Adolescent Self-Harm.	Parents are often aware of adolescent DSH sooner than previously believed. Parents would benefit from DSH education and professional guidance.
<i>Rissanen, Kylma & Laukkanen</i>	2008	Finland	Qualitative study	Helping adolescents who self-mutilate: parental descriptions.	Parental descriptions of an adolescent whom DSH, ways to help an adolescent whom DSH and parental requirements and expectations when coping with adolescent DSH.
<i>Slee, Garnefski, van der Leeden, Arensman & Spinhoven</i>	2008	UK	Randomized controlled trial	Cognitive-Behavioral Intervention for Self-Harm.	CBT used to support TAU is more effective at reducing repeated DSH than TAU alone

<i>Tanner, Hasking & Martin</i>	2014	Australia	Qualitative study	Non-suicidal Self-Injury and Firesetting: Shared and Unique Correlates Among School-Based Adolescents.	Adolescent characteristics can be associated with DSH. Internalized conflict has greater associations with adolescent DSH, than externalized conflict.
<i>Trepal</i>	2010	USA	Literature review	Exploring Self-Injury Through a Relational Cultural Lens.	RCT can help reduce disassociations, and when used with TAU can increase connections and relationships, thus reducing DSH and ITS.

Key abbreviations:

Cognitive Behavioral Therapy - CBT

Dialectic Behavioral Therapy - DBT

Deliberate Self-Harm – DSH

Family Based Therapy – FBT

General Strain Theory - GST

Interpersonal Psychotherapy - IPT

Intent To Suicide – ITS

No-Harm Contracts - NHC

Treatment As Usual – TAU

Relational Cultural Therapy – RCT

9.2 Glossary of terms

Aetiology - the cause and/or set of causes, and/or the manner of causation of a disease and/or condition.

Alexithymia – difficulty in expressing emotions and/or describing emotional distress.

Anhedonia - the inability to feel pleasure from normal pleasurable activities.

Docosahexaenoic acid (DHA) - an omega-3 fatty acid that is a primary structural component of the human brain, cerebral cortex, skin, and retina. DHA may improve vision and some cognitive functions in infants.

Eicosapentaenoic acid (EPA) - a principal omega-3 fatty acid. EPA is produced within the human body via alpha-linolenic acid (ALA).

eHealth – medical and/or health care delivered or enhanced via the internet and/or related technologies.

eMental health – psychiatric and/or mental health care delivered or enhanced via the internet and/or related technologies.

mHealth – the usage of medical and/or health care via mobile communication platforms, most commonly used to describe health and/or medical care smartphone applications.