Carrying on in 2019: A follow-up report about a generation of young people and their personal safety
Jim Podbery, Angela Balding and David Regis

Mindfulness for Addressing Key Public Health Concerns in Young People: Preventative Applications and Safety Concerns
William Van Gordon, Supakyada Sapthiang, Edo Shonin, and Mark D. Griffiths

Recent additions to the free research resource that supports those concerned with the health and wellbeing of children and young people
SHEU

The Alcohol Education Trust - ‘talk about alcohol’ programme for 11-18 year olds, parents and teachers
Helena Conibear

Crossing the threshold: when transition becomes troublesome for A-level students
Matthew James Dunn
Welcome to the first issue for 2019.

We receive articles from many parts of the world and some do not make it into the journal. This is mainly due to our focus on young people and, although we do not specify an age range, most published articles are about those between the ages of 5-20 years old. There are exceptions and the Editor welcomes your contribution.

This issue continues with the proud tradition of independent publishing and offers an eclectic mix. The journal, published since 1983, is aimed at those involved with education and health who are concerned with the health and wellbeing of young people. Readers, in the UK, come from a broad background and include: primary, secondary and further education teachers, university staff, and health-care professionals working in education and health settings. Readers outside of the UK share similar backgrounds. The journal is also read by those who commission and carry out health education programmes in school and college.

Articles focus on recent health education initiatives, relevant research findings, materials and strategies for education and health-related behaviour data.

Contributors (see a recent list)

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I look forward to your company in the next issue.

SHEU publications

‘Education and Health’ is published by SHEU, an independent organisation, providing research, survey and publishing services to those concerned with the health and social development of young people. SHEU incorporates the Schools Health Education Unit, founded in 1977 by John Balding. The address for all correspondence is: SHEU, Unit 9 Yeo Business Park, Clyst St Mary, Exeter, EX5 1DP.

Many publications can be viewed online http://sheu.org.uk or purchased from SHEU e-mail: sheu@sheu.org.uk

SHEUbytes: nuggets of information about children and young people health and wellbeing

A series of short reports showing SHEU data with some Internet links to relevant websites. Topics so far include: Water - Enjoy lessons - Birth control services - Sleep - Smoking - Teachers' expectations - Fitness - Visiting the Doctor - Fruit Veg 5-a-day - Beer and Lager - Good News about Young People - Self-esteem.

The Young People series
http://sheu.org.uk/content/page/young-people-free-reports

Large numbers of young people, between the ages of 10 and 15 years, respond to over 100 questions about their health-related behaviour.

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Programme Manager - Young People

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TO SUPPORT YOUR WORK WITH YOUNG PEOPLE TRY SHEU’S FREE RESOURCES
Jim Podbery, Angela Balding and David Regis

Carrying on in 2019: A follow-up report about a generation of young people and their personal safety

Our new report summarises recent findings from large opportunity samples of secondary-aged young people surveyed in schools from local authorities across England between 2000 and 2018.

In 1996, we produced a report (Balding et al., 1996) explaining what we knew about young people and carrying weapons, in the wake of the murders by stabbing of Stephen Lawrence in 1993 and of Philip Lawrence in 1995. In 2018, stabbings of and by young people are again in the news, and we have revisited the issue with the current generation of young people for this report.

The 1996 findings are largely duplicated in this 2019 report, but we have been able to extend our analysis in a number of ways.

The Schools Health Education Unit

SHEU provides a range of services to those involved in the planning, providing and commissioning of health and education programmes. The Schools Health Education Unit is part of SHEU.

Most of the work we do concerns the collection of robust baseline data about young people’s health-related behaviour through surveys in schools using the Health-Related Behaviour Questionnaire (HRBQ), which has been evolving and developing since 1977.

The Questionnaire

The primary and secondary versions of the HRBQ have been used in 14,894 separate school surveys, some schools repeating surveys of their pupils on many occasions, so that approaching two million pupils (1,788,369) between the ages of 9 and 16+ have taken part in the surveys from across the UK.

Pupils complete an anonymous questionnaire with teacher supervision and support, mostly online but also sometimes using paper booklets. Schools receive a report comparing their results with the overall local findings. Local authorities usually commission the surveys, and the Council will receive a report of the aggregate findings and other analysis.

The resulting baseline data identify and confirm priorities for health needs assessment, intervention programmes, and health education planning.

The SHEU databanks

This continuous survey activity builds up large data sets going back many years. These are unique in being very large, deep and long-lasting. We have asked about carrying weapons for protection through the last two decades, but some local commissioners have sought to improve their understanding of the issue by asking slightly different questions, and some surveys omit the issue completely. This adds some variability, which is unhelpful when trying to generalise about trends or patterns in the figures, but it is not prohibitive. We also have confidence that our data sets can reflect the levels and trends in behaviours going on nationally. The detailed evidence for this conclusion is presented in our annual reports, the most recent of which is Young People into 2018 (Balding & Regis, 2018).
Sample

The source of the findings in this report is the archive of aggregate survey data from our work for local authorities over the last few years. Only the secondary-phase samples are used in this report. The composition of the 2017 sample was as below:

<table>
<thead>
<tr>
<th>Overall numbers in the 2017 sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample / Yr.</td>
</tr>
<tr>
<td>Schools</td>
</tr>
<tr>
<td>Primary pupils</td>
</tr>
<tr>
<td>Secondary pupils</td>
</tr>
<tr>
<td>All pupils</td>
</tr>
<tr>
<td>Secondary only:</td>
</tr>
<tr>
<td>M 12-13 y*</td>
</tr>
<tr>
<td>F 12-13 y*</td>
</tr>
<tr>
<td>M 14-15 y*</td>
</tr>
<tr>
<td>F 14-15 y*</td>
</tr>
</tbody>
</table>

In many cases in the analysis below, we reach back into the previous decade of reports. All the sample sizes are appended and the full descriptions of each sample is to be found in the respective annual reports.

The ‘opportunity’ nature of the samples, and the local variability of wording and context, make them less easy to work with than is ideal, but they are a rich resource for research.

Method and preliminary analysis

There are two questions of main interest to us: one about carrying weapons, and one about being the victim of crime. The weapons question is used in two main forms:

General question

1. Do you or your friends carry weapons or other things for protection when going out?
   Please choose the nearest answer
   No ........................................... 0
   Not sure .................................... 1
   Fairly sure .................................. 2
   Certain ..................................... 3

   If so, what weapons or other things are they?
   Please write

Personal question

2. Do you carry weapons or other things for protection when going out?
   Please choose the nearest answer
   Never ........................................... 0
   Sometimes .................................... 1
   Usually ...................................... 2
   Always ....................................... 3

   If so, what weapons or other things are they?
   Please write

Figure 1. Two main versions of the question

6% of pupils aged 12-15y in 2018 were ‘fairly sure’ or ‘certain’ that they or their friends carry weapons or other items for protection.

In the related question, asked in different parts of the country, 8% of pupils aged 12-15y in 2018 said they at least ‘sometimes’ carry weapons or other items for protection.

The pictures we gain from responses from these questions are not, in fact, hugely different.

The chart below shows levels of positive responses for each question over the last decade:

![Figure 2](image)

Figure 2. Carrying seen in the two main versions of the question from a selection of districts across England, ages 12-13 and 14-15yo, 2008-2018 (N=113,055).

These figures are rather lower than we saw in 1996, when about 1/3 of Year 10 males reported that they carried something for protection – possibly a defensive spray, but 20% said they carried a weapon.

What are they carrying? [pupils who carry a weapon only]

As seen above, the open text boxes ask what they carry. The most common response when
the prompt offers ‘weapons or other things’ is a mobile phone. When we restrict the responses to weapons, there are five main classes of weapons that we see. The figures in the table below are percentages of those giving a positive response, that is, of those saying that they do carry weapons.

<table>
<thead>
<tr>
<th>Weapon with blade/screwdriver etc.</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseba1 bat or equivalent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guns (incl. air or BB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knuckle dusters, keys, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3 Top five items carried by pupils who carry weapons or other things for protection (2012-2018, N=3,419).

Knives and other stabbing or cutting tools are overwhelmingly the most common class of weapon mentioned, reported by 64% of those carrying a weapon. This would be about 10% of all Year 10 males; in 1996, about 20% of Year 10 males reported ever carrying a weapon a blade.

Guns are reported by 7% of those carrying a weapon, that is, about 1% of the whole sample. We do know that some young people carry guns on occasion, but we are also challenged to wonder if their answers are sincere – is this just bravado, even in the context of an anonymous questionnaire, privately completed?

**Region**

We see is a notable discrepancy in the personal question for one region in England.

7% of pupils across the whole sample (last column) said they at least sometimes carry something for protection. Students in London surveys using the personal version of the question showed slightly higher levels of carrying protection than students from other regions: 12%.

**Age and sex**

We also explored differences by age and sex:

These are rather consistent. Year 10 males were most likely to report carrying weapons or other things for protection (or knowing someone who does); Year 8 girls were least likely to do so.

**Victims of violence or aggression**

8% of pupils in 2018 said that they were the victim of violence or aggression in the last 12 months.

The proportion of pupils in Year 8 and Year 10 who report being the victim of violence or aggression in the last 12 months has been
declining between 2004 and 2014, but seems to have levelled off at a new lower level since then.

There is always the suspicion, given the origins of the data, that trends like these represent not a change among English pupils but a change in the nature of the SHEU samples. However, we have direct evidence that this is not the case here.

We carry out a yearly survey with one area of East England who ask a slightly different question ‘Have you been the victim of crime in the last 12 months?’, which is shown below. The proportion of pupils in Years 7-11 who report being victims of crime in this area has declined to a new low level, and shows very much the same pattern as in the previous chart.

![Figure 7. Percentage of pupils who were victims of crime in the last 12 months in one area in SE England (Years 7-11) 2007-2017 (N=40,928).](image)

### Links

Are there associations between the responses on one safety question and another? It is the characteristic of social science that ‘everything is correlated’, but how and to what extent is always interesting and can be important.

We were first interested in exploring the link between carrying and being the victim of crime. The chart below shows the incidence of being a victim by reports of carrying protection.

![Figure 8. Percentage of pupils who have been the victim of violence or aggression in the last 12 months by whether they/their friends carry weapons or other things for protection (N= 107,091).](image)

27% of pupils who at least sometimes carry weapons or other things for protection said that they have been the victim of violence or aggression within the last 12 months, compared with 6% of pupils who never carry weapons or other things for protection. Similarly, 36% of pupils who are fairly sure/certain that they/their friends carry weapons/other things for protection said that they were the victim of violence/aggression in the last 12 months, compared with 8% of pupils who said they/their friends never carry anything for protection.

### Links between safety questions and other topics: Emotional wellbeing

![Figure 9. Percentage of pupils who carry a weapon or something else for protection at least sometimes by sex and by self-esteem score (2002-2016, N=72,287).](image)

There seems to be a relationship between self-esteem and reporting of carrying weapons/other
things for protection (see Figure 9); 23% of boys in the lower half of the self-esteem scale said that they carry a weapon or something else for protection at least sometimes, compared with 13% of boys in the upper half of the scale.

Pupils with lower resilience (not shown) and lower self-esteem (Figure 10) were more likely to report being the victim of violence or aggression within the last 12 months; 19% of boys at the lower half of the esteem scale said they were victims compared with 11% of boys in the upper half.

Bullying

23% of pupils who are 'very often' afraid of going to school because of bullying reported being the victim of violence or aggression in the last 12 months; this compares with 9% of the pupils who are never afraid.

The complete list of associations found for the safety questions were:

- Carrying something for protection by self and/or friends is associated with:
  - Having no adults they can trust
  - Higher frequency of fear of going to school because of bullying
  - Lower self-esteem
  - Poorer perceptions of school
  - Dissatisfaction with life

- Being the victim of violence or aggression in the area where they live is associated with:
  - Having no adults they can trust
  - Higher frequency of fear of going to school because of bullying
  - Lower resilience scores
  - Lower self-esteem
  - Lower wellbeing scores
Perceptions of school

Figure 13 shows the results of comparing pupils who at least sometimes carry weapons/other things for protection against a pupil perception score. This score is derived from their levels of agreement to each of a list of positive statements relating to their experience of school (e.g. 'The school cares whether I am happy or not'; 'The school prepares me for when I leave this school' etc.).

![Figure 13](image)

There is a marked excess of carrying weapons among those students who have poorer perceptions of school.

Replication of 1996 findings

We can confirm some of the associations first found in 1996, although the question about income that gave the report its title has been dropped by nearly all our clients since then. We have retained a related question about having a paid job during term-time, and that does show a link with ‘carrying’.

We haven’t reported all the 2017 replication analysis in the current report, as it doesn’t really advance our understanding, but we have given it on our website:

http://www.sheu.org.uk/content/page/carrying-2019

The full report can also be downloaded from that page.

Conclusion

The evidence from these figures is that carrying weapons, including knives, is overall less prevalent now than 20 years ago, but many of the same patterns and connections are present, suggesting that the same drivers and processes are still operating.

The multiple connections also suggest that the factors and processes that produce knife crime are complex, and any policy responses may need to be equally complex.

References


Education and Health

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Contributors (see a recent list) - Do you have up to 3000 words about a relevant issue that you would like to see published? Please contact the Editor
Mental illness, obesity, and problematic leisure activities such as gambling, video gaming, and social media use arguably reflect some of the most pressing global public health concerns currently affecting children and adolescents. For example, between 10-20% of children and adolescents worldwide experience a mental health problem during any given one-year period (Kieling et al., 2011), and 50% of all mental illnesses first occur in individuals aged under 14 years (World Health Organization [WHO], n.d.). Approximately 340 million children and adolescents aged 5-19 years, and 41 million children under the age of five years, are overweight or obese (WHO, 2018). In fact, while 4% of young people aged 5-19 years in 1975 were overweight or obese, 18% of young people in the same age group were obese or overweight in 2016 (the corresponding increase for children aged under five years was from 1% to 7% between 1975 and 2016) (WHO, 2018). Furthermore, up to 12% of youth internationally exhibit problem gambling behaviour (Calado, Alexandre, Griffiths, 2017; Dowling et al., 2017), and adolescents engage in gambling at a higher rate than adults (Calado et al., 2017).

Mental health problems in children and adolescents are associated with (amongst other things) academic underachievement, criminal behaviour, reduced employment prospects, risk-taking behaviour, and psychiatric issues during adulthood (Dray et al., 2017; Granero et al., 2014; Grant et al., 2010; Sapthiang, Van Gordon, & Shonin, 2018). Being overweight or obese is correlated with a range of non-communicable diseases (e.g., diabetes mellitus and mental illness) and also with lower educational attainment, increased risk of disability, premature death, and obesity in adulthood (Leme et al., 2018; The GDB 2015 Obesity Collaborators, 2017). Similarly, problematic youth gambling leads to negative consequences including (for example) mental and somatic health problems, intra-personal conflict, educational impairment, impaired employment prospects, legal and financial problems, and delinquency (Derevensky & Gupta, 2004; Dowling et al., 2017; Griffiths, 2011). Gambling in youth also incurs a greater risk of developing gambling disorder (Granero et al., 2014; Griffiths, 2011) as well as other forms of addiction and impaired psychosocial functioning later in life (Grant et al., 2010; Griffiths, 2010).

While the aforementioned global public health concerns affect children and adolescents in different ways, they appear to share some common features in terms of their underlying aetiology. In this article, we discuss some of these mutual aetiological factors and then critically appraise both the utility and risks associated with using mindfulness for preventing and treating some of the major public health concerns effecting young people today.

Mutual aetiological factors

Child and adolescent public health concerns such as mental illness, obesity, and problematic leisure activities (e.g., gambling) each have
multifactorial aetiologies that, in line with the socio-ecological model, typically involve the interplay of factors operating at the level of the individual (e.g., psychological, genetic and lifestyle factors), micro-environment (e.g., schools, family, peers, parents and social factors) and macro-environment (e.g., religion, policy, culture, environmental and commercial factors) (Eruyar, Maltby, & Vostanis, 2018; Sapthiang et al., 2018). However, although these public health concerns have very different symptoms and are experienced by young people in different ways, there appears to be some commonality in terms of the causal factors that operate at the individual, micro- and macro-environmental levels. For example, mutually applicable determinants for each of the three aforementioned public health concerns in children and adolescents include (but are not limited to) low socio-economic status, social isolation, and lack of peer or family support (Dowling et al., 2017; Griffiths, 2011; WHO, 2012). Similarly, research indicates that the risk of developing mental illness, obesity and/or problematic gambling in young people is reduced by “transdiagnostic” protective factors such as family and community cohesion, healthy lifestyle behaviours, pro-social behaviour and social connectedness, support from schools and mental health services, and access to social capital more generally (Dray et al., 2017; Sapthiang et al., 2018; WHO, 2012).

According to problem behaviour theory (Donovan, Jessor, & Costa, 1991), ontological addiction theory (Van Gordon et al., 2018), and the need-state and dispositional model relating to gambling disorder (Griffiths & Delfabbro 2001), health concerns and problematic behaviours in children and adolescents are often manifestations of more systemic unmet needs. We have described some of these unmet needs as being psycho-spiritual unrest as well as ontological addiction, which involves young people forming implausible beliefs relating to who they think they are and how they think they exist (Van Gordon et al., 2018). These systemic unmet needs can lead to maladaptive cognitive or behavioural strategies such as thought rumination, self-blame and aggression, which reflect flawed attempts by young people to cope with difficult feelings or situations (Canale et al., 2016). This is particularly relevant for children and adolescents in whom emotions are often experienced with greater frequency and intensity due to cognitive and biological maturation, as well as having to contend with pressures relating to peer acceptance (Agarwal & Dixit, 2017; Sapthiang et al., 2018).

The aforementioned ontological addiction theory (OAT) asserts that various mental health and behavioural problems derive from insecurity because of a child’s or adolescent’s faulty beliefs concerning their self-construct (Van Gordon et al., 2018). Intervention studies based on OAT show that by addressing these maladaptive underlying ontological beliefs, improvements can be elicited across a broad range of somatic, psychological and psychospiritual outcomes (Van Gordon et al., 2018). OAT asserts that these improvements are a result of undermining attachment to faulty self-constructs, which occurs when an individual starts to understand that they do not exist separately from all other life forms and phenomena (Shonin, Van Gordon, & Griffiths, 2016). Furthermore, OAT posits that by reducing the locus (i.e., a highly self-orientated self-construct) upon which emotional and conceptual ‘baggage’ can amass, the underlying causes of maladaptive cognitive and behavioural processes are undermined (Shonin et al., 2016).

**Mindfulness as a treatment and resilience-building approach**

Mindfulness is a meditative technique that derives from Buddhist practice. We have described it as the “process of engaging a full, direct, and active awareness of experienced phenomena that is: (i) psycho-spiritual in aspect, and (ii) maintained from one moment to the next” (Van Gordon, Shonin, & Griffiths, 2015a, p.592). In the context of treating mental illness, findings show that mindfulness can foster improvements in young people’s levels of (i) depression and anxiety (Zoogman et al., 2014), (ii) rumination, hostility, negative coping, intrusive thoughts, and emotional arousal (Sibinga et al., 2011; 2013), (iii) co-occurring post-traumatic stress and substance use disorder (Fortuna, Porche & Padilla, 2018), and (iv) diabetes (Shomaker et al., 2017). Furthermore, controlled studies have shown that mindfulness can lead to reductions in body mass index in adolescents (Razavi, Ahadi, & Forooshani, 2015) as well as in slightly older student groups studying undergraduate
university courses (Mantzios & Giannou, 2014; Mantzios & Wilson, 2013). In adult populations, mindfulness has also been shown to be an effective treatment for individuals who have shown resilience to other obesity interventions (Lillis et al., 2009; Tapper et al., 2009). Furthermore, while research specifically investigating the utility of mindfulness for treating problem gambling in young people is less developed, studies involving adults demonstrate that mindfulness can be an effective means of treating the disorder (Griffiths, Shonin, & Van Gordon, 2016; Shonin, Van Gordon, & Griffiths, 2014a) as well as other forms of behavioural addiction (Van Gordon, Shonin, & Griffiths, 2016; Van Gordon et al., 2017).

In preventative contexts, research findings also show that mindfulness can build resilience in children and adolescents via improvements in (i) emotional wellbeing (Galla, 2016), (ii) optimism and social competent behaviours (Schonert-Reichl & Lawlor, 2010), (iii) self-compassion, perceived stress, and life satisfaction (Bluth, Roberson, & Gaylord, 2015), (iv) working memory capacity (Quach, Jastrowski Mano, & Alexander, 2016), and (v) healthy lifestyle behaviours such as physical exercise (Salmoirago-Blotcher et al., 2018). Furthermore, mindfulness is associated with adaptive behaviours relating to eating habits where, for example, one study demonstrated that mindfulness is negatively correlated with visits to ‘all you can eat’ food buffets (Ali et al., 2017).

**Preventative processes**

Various mindfulness interventions have been formulated which are intended to adapt or modify the technique for use in a given setting or population. However, our view is that there exists only one type of mindfulness that can be applied in numerous life situations and treatment contexts (Van Gordon et al., 2015b). Indeed, irrespective of which particular mindfulness intervention is delivered to young people, a key mechanism of action appears to be cultivating ‘mental breathing space’ that enables young people to better observe their thoughts and feelings, as well as learn to remain ‘unattached’ to them by regarding them as ‘passing phenomena’ (Sapthiang et al., 2018). In turn, this greater awareness and perceptual distance from thoughts, feelings and sensory processes fosters a greater capacity to regulate emotions during the developmentally demanding periods of childhood and adolescence (Kristeller, Wolever, & Sheets, 2014; Sapthiang et al., 2018; Van Gordon et al., 2014). (For recommendations previously published in Education and Health on how to teach mindfulness to children and adolescents, see Shonin, Van Gordon, & Griffiths, 2014b).

Other mechanisms of action by which mindfulness is likely to target the mutual aetiological factors underlying mental illness, obesity and/or problematic leisure time activities in children and adolescents include: (i) substituting the need for emotional or hedonic reward (e.g., from gambling-related highs or consuming energy dense foods) with the tranquil states associated with mindfulness, (ii) improved psycho-spiritual awareness that broadens life perspective, (iii) “urge surfing” that improves the regulation of habitual compulsive responses, (iv) greater self-compassion that helps to ameliorate self-disparaging schemas that typically occur with mental illness, obesity, and problematic leisure time activities, and (v) conscious breathing that fosters calm due to reductions in autonomic and psychological arousal (Sapthiang et al., 2018; Shonin, Van Gordon, & Griffiths, 2012; Van Gordon, Shonin, & Griffiths, 2015c).

**Challenges and risks**

In traditional meditation practice settings, an individual would typically be required to undergo many years of daily mindfulness practice prior to being deemed to have even a basic level of competence in the technique (Shonin, Van Gordon, & Griffiths, 2015a). Furthermore, this competency would ordinarily need to be developed and refined for a period extending beyond a decade before the individual was accepted as an authentic mindfulness teacher. This contrasts with the situation of today, where the task of teaching mindfulness in clinical and educational contexts is increasingly being appended onto the day job of a school teacher or healthcare professional who, in some cases, may have attended as little as eight weeks of mindfulness training (typically involving just a few hours of formal teaching each week) (Shonin et al., 2015a). In fact, even some prominent mindfulness teachers reportedly lack the necessary level of contemplative awareness in order to be able to impart more than a superficial
understanding of the practice (Shonin et al., 2015b). Furthermore, some widely propagated mindfulness approaches such as Kabat-Zinn’s Mindfulness-Based Stress Reduction have been criticized as constituting a form of ‘McMindfulness’ that bears limited resemblance to genuine mindfulness practice (see Van Gordon, Shonin, Garcia-Campayo, 2017). There has been insufficient research explicitly seeking to determine whether there are risks associated with incorrectly taught mindfulness, or whether there could be other explanations for some of the positive outcomes that are typically reported in mindfulness intervention studies. Nevertheless, emerging empirical reports and expert recommendations have started to suggest that some contemporary models of contextualising and teaching mindfulness can lead to negative outcomes such as personal-identity challenges, intrapsychic problems, exacerbation of mental health issues, executive memory impairments (including false memory susceptibility), dissociative episodes, asociality, panic attacks, psychotic episodes, spiritual problems, and impaired reality testing (Dobkin, Irving, & Amar, 2012; Farias & Wikholm, 2016; Lomas et al., 2015; Lustyk et al., 2009; Van Gordon, Shonin, & Griffiths, 2017). Some participants of mindfulness interventions such as MBSR have also been left confused as to whether such interventions are supposed to constitute a psychological technique or a form of Buddhist and/or spiritual training (Shonin et al., 2015a).

In recent years, there has been emphasis on the need for mindfulness intervention studies to improve their overall methodological quality in order to rule out the influence of confounding factors. However, while the methodological rigour of randomised controlled trials (and corresponding meta-analyses) has gradually started to improve (Shonin, Van Gordon, & Griffiths, 2015b), very few studies have managed to effectively control for a ‘hype effect’ whereby somehow, enthusiasm stemming from the popularity or “political ideology” of mindfulness (Purser, 2015, pp. 8-9) appears to work its way into and thus bias the study implementation.

Conclusions

Mental illness, obesity, and problematic leisure time activities such as gambling are examples of key public health concerns affecting young people globally. Some established and recent theories of health and human functioning assert that many mental health and behavioural issues (e.g., problematic eating, sedentary lifestyle, problematic gambling, problematic social media use) are symptomatic of more systemic unmet needs. Furthermore, health concerns in young people such as mental illness, obesity, and problem gambling appear to share some of the same determinants. Consequently, there exists a strong rationale for a public health response to these global health issues that utilises broad-based “transdiagnostic” preventative interventions. Mindfulness appears to be a promising preventative approach in this respect because learning to practice mindfulness effectively during childhood and adolescence appears to foster beneficial psychosomatic health outcomes in the short-term, as well as engender resilience and coping skills that continue to have utility during adulthood (Sapthiang et al., 2018). However, although mindfulness has been shown to be a cost-effective approach that can also be administered in an online context, a key challenge has been identified as a shortage of mindfulness teachers with the requisite experience and knowledge to train young people effectively and safely in how to embody the art of mindful living (Sapthiang et al., 2018). There is also a need for more methodologically robust research that controls for the hype or popularity effect concerning mindfulness, as well as more research that specifically seeks to determine whether there are circumstances in which mindfulness may be contraindicated for young people.

References


Van Gordon, W., Shonin, E., Griffiths, M. D. & Singh, N. N. (2015b). There is only one mindfulness: Why science and Buddhism need to work together. Mindfulness, 6, 49-56.


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The specialist provider of reliable local survey data for schools and colleges and recognised nationally since 1977

“The (SHEU survey) helped us to prioritise where we needed to be in terms of PSHE education. We delivered assemblies based on the evidence as well as curriculum development, and dealt with whole school issues – particularly in regard to pastoral care. The answers received to the question on the survey Who are you most likely to approach if you needed help worried staff as teacher was not a popular answer. Subsequently the staff asked themselves why this had happened and what needed to be done to address the issue. There was more emphasis on wider aspects of PSHE education delivery, which needed more attention. To summarise, the (SHEU survey) allows the PSHE department to assess the impact of teaching and learning and modify future lessons accordingly. It allows our school to look at whole school issues such as the extent to which the pastoral care system is meeting the needs of our pupils. It helps us to do need analysis of our pupils. It helps to provide important evidence for SEF / the extent to which we are meeting wellbeing indicators / National Healthy School standards.” Secondary School Head

For more details please visit [http://sheu.org.uk](http://sheu.org.uk)
In January 2006, The Schools Health Education Unit [SHEU] began sending out a monthly email with links to research. The links were to information, chosen from the SHEU’s databanks and the Internet, about the health and behaviour of young people aged 16+. The links were mainly to research papers and, where possible, to the complete paper or at least an abstract.

The development of the resource grew out of the SHEU’s research work with schools and colleges across the country. It was clear that those working with children and young people did not have much time to search for relevant research that could support their work.

To join colleagues who work with children and young people and who receive this free resource please contact David McGeorge

To find more research please click on the following link.

The resource is regularly updated and recent additions include:

**Effects of school environments on student risk-behaviours: evidence from a longitudinal study of secondary schools in England**

“... schools with rigid ‘boundaries’ (weaker relationships), for example, between staff and students, or learning and broader development, engender weaker student school commitment and sense of belonging, particularly among disadvantaged students, leading to greater involvement in risk-behaviours.”... “Our results provide direct support for the theory of human functioning and school organisation and suggest a sense of belonging in school might be particularly protective factor among secondary school students.”

**Association Between the Activity Space Exposure to Parks in Childhood and Adolescence and Cognitive Aging in Later Life**

“Factors such as road traffic accidents seem to be important in determining the size of an adolescent’s activity space and their propensity to spend time in natural environments, which may ultimately promote or inhibit their successful cognitive aging later in life.”

**The role of school-based health education in adolescent spiritual moral, social and cultural development**

“Overall, the majority of young people who reported receiving PSHE education were positive about the benefits of this school-based health education. Positive perceptions of PSHE education were significantly associated with increased spirituality among young people, reduced engagement in both fighting and bullying perpetration and increased general self-efficacy.”

**Influences on diet and physical activity choices of 11-13-year-olds in a school setting**

“A qualitative approach explored the factors that influence diet and physical activity choices of 11-13-year-olds, from secondary schools in Devon, with a particular focus on the impact of the school environment.”...“Participants demonstrated good knowledge of what constitutes a healthy lifestyle and its importance for future health, although it was not necessarily seen as a priority at this stage of life. Key influences on their choices were their peers and family, although participants also identified that the school environment influences the food choices they make while there.”
When we first wrote about The Alcohol Education Trust’s highly evaluated programme ‘talk about alcohol’ in 2015 (https://sheu.org.uk/sheux/EH/eh331hc.pdf), the landscape was quite different for PSHE and alcohol education. We now know that PSHE will be a must teach by September 2020 with alcohol education becoming a formal part of Health Education. This guidance will be further reinforced by new NICE guidelines on alcohol education in schools (currently out for consultation) providing a recommended framework of a whole school universal approach, incorporating social norms and avoiding scare tactics or highlighting extremes of behaviour. This is to be welcomed and we look forward to supporting schools who may not be as well prepared with our free training and resources.

Our vision here at the Alcohol Education Trust remains that young people should enter adulthood having a responsible understanding of alcohol. We seek this by equipping young people with the knowledge and skills they need to make sensible and informed choices around alcohol.

Our goals are to raise the age of onset for youth drinking from the current age of first whole alcoholic drink at age 13, to reduce drinking to drunkenness and its associated harms, and thereby, to reduce the amount of alcohol related illnesses and harm in adulthood.

The mission of the Alcohol Education Trust (AET) is to ensure that teachers, parents/carers and young people up to the age of 18 are supported directly via schools and in alternative settings such as Pupil Referral Units, youth and sports clubs with evaluated highly engaging alcohol education resources.

Our interactive programme ‘talk about alcohol’ has tailored approaches for different age groups, abilities, experience and learning needs as well as by topic in print, online via www.alcoholeducationtrust.org with a dedicated website www.talkaboutalcohol.com full of games and activities, including a virtual nightclub for young people to find out about alcohol and the law, units and guidelines and to explore information via quizzes, short films and games.

Many preventative approaches focus on negative behaviour and scare tactics, are top-down and do not assess knowledge, perceptions or attitudes before teaching. In ‘talk about alcohol’, group participation, games and role play as well as self-guided exploration of our learning zone www.talkaboutalcohol.com encourage young people to share their experiences, worries and attitudes to alcohol, resulting in mature dialogue. A social norms approach also highlights that, among young people, trends and behaviours are improving for all risk-taking, including alcohol consumption.

By intervening at the tipping point before alcohol consumption begins (age 13.5 is the average age of first whole drink in England and Scotland), students are equipped with resilience skills, can develop strategies to avoid and manage risky situations and develop behaviour that encourages positive decisions and choices, for them and their community through its three pillars of:

- Training and equipping teachers effectively in alcohol education;
- Ensuring parents are engaged via schools to be good role models and to set boundaries
- Engaging young people with role play, film clips, information and interactive resources,
and so equipping them with the resilience and skills to make informed safer choices.

The AET looks to the wider community and work with schools, local authorities, youth groups, foster agencies, police and fire school support officers and parents to provide holistic support to young people throughout society, bringing people together across different communities and settings.

The importance of an evidence-based approach

The AET ensures it remains at the forefront of effectiveness through the continued development of resources, digital approaches and training as well as research and advocacy. We place evidence and research at the heart of our activities both by embracing the 11 principles of effective PSHE and by ensuring our resources are independently evaluated.

Hence the 6 lessons of the ‘talk about alcohol’ programme, 4 being delivered in Year 8 with 2 top up lessons in Year 9, were evaluated by the National Foundation for Education Research (NFER) among 4,000 pupils in 30 schools across England over 3 years (2011 -13). You can see the outcomes here.

The outcomes showed a statistical improvement in knowledge in the intervention schools versus the comparison [control] schools and a significant rise in engagement with PSHE lessons as a source of useful information; the onset of drinking was significantly delayed among the young people.

Due to the success of this initial evaluation by NFER, we obtained additional funding for a follow up among 2000 pupils in 18 of those schools in 2015, to see if ‘talk about alcohol’ still had an effect when the teenagers were age 15/16 (Appendix Table 1).

Remarkably, although knowledge about alcohol had evened out between the control group of young people (who hadn’t been given 4 ‘talk about alcohol’ lessons in Year 8 with 2 top up lessons in Year 9) and the intervention group, who had benefitted from ‘talk about alcohol, 15%
less of the young people, (64% versus 79%) who had experienced ‘talk about alcohol’ had started to drink whole drinks versus those who had not and 11% less students in the intervention group were drinking to get drunk or were binge drinking (33% versus 44%).

The statistically lower take up of drinking among the teenagers who’d experienced ‘talk about alcohol’ got statistically stronger over time, a very unexpected and pleasing result (Appendix Charts 1 and 2).

**Age of first whole drink and ethnicity**

The evaluation was also, due to the large number of pupils participating in the trial, able to separate out the effect of the ‘talk about alcohol’ programme according to ethnicity. The effect of 6 lessons over 2 years was statistically significantly stronger among non-white students (Appendix Chart 3).

In 2016, Dr Leslie Gutman, of The Institute of Education at UCL, conducted a one-year trial looking at the effect of ‘talk about alcohol’ in areas where alcohol related harm was very high in England in local alcohol action areas (LAAA’s). The trial assessed the effect of 4 lessons on Year 8 students in 11 schools on The Isle of Wight, East Tyneside and in Burnley. The behaviour indicators from this study suggested the programme was still effective (Appendix Chart 4).

Due to these evaluations, ‘talk about alcohol’ has received valuable third party ‘Impact assessments’, in particular from Mentor Adepis, where the intervention was ranked 3/3 for impact and 5/6 quality of evaluation by DfE commissioned centre for analysis for youth transitions3.

In 2015 and again in 2018, ‘talk about alcohol’ was selected by The Early Intervention Foundation as one of the 70 best early intervention programmes worldwide [http://guidebook.eif.org.uk/](http://guidebook.eif.org.uk/)

Very pleasingly, The European Platform for Investment in Children (Epic) has selected Talk About Alcohol as ‘Promising Practice’.

The programme has been Quality Assured by the PSHE Association.

**Developments**

How has the work of The Alcohol Education Trust, charity evolved over the last four years and how has our offer changed for schools and other organisations in that time?

First of all, it is very encouraging to see that underage drinking continues to decline among under 15 year olds across Britain, in fact just 38% of under 15 year olds say they drink alcohol, yet the average age of first whole drink in Britain remains age 13. We no longer lead Europe as a nation of underage binge drinkers either, but some worrying trends persist. In Britain more girls under the age of 18 get drunk than boys and they present at hospital more due to alcohol too. Of teenagers who do drink, they are drinking more problematically, especially in the North East of England.

In 2016/17, for example, there were a record number of exclusions by state schools (9075 children) due to alcohol and drugs. Research shows that the earlier that children (under 15) start drinking regularly, the less likely they are to do well at school. If they drink weekly, their GCSE grade predictions drop by 20 points. School attendance also falls. Underage drinkers, who consume alcohol regularly, are also more likely to smoke and engage in other risky behaviours such as drug taking and unprotected sex. They are more likely to suffer unintentional injuries, accidents, assault and theft after drinking. So there is every incentive to delay the onset of drinking among our young people.

**Improved and additional resources**

Since 2015, The Alcohol Education Trust has completely redesigned the student learning zone [www.talkaboutalcohol.com](http://www.talkaboutalcohol.com) It has retained key elements such as the interactive body, but added interactive quizzes and games, reflecting how children spend their time and attention. Having been piloted extensively among the target age group, it is now widely enjoyed by pupils in schools to increase their knowledge and independent learning.

**Teacher workbook updated every year**

In order to reflect new statistics and guidelines, the 100-page teacher workbook is reviewed and updated each year. Available in both print form and on-line, and completely free for schools, it is indexed by topic and by year group as well as by ability and experience. The latest edition is a


**New edition for Scotland**

Scotland has a separate system for Health Education, with a Curriculum for Excellence and differing guidance, so, in 2018, we launched an edition specifically for Scottish schools and organisations. Again, it is freely available which you can view and download here5.

There is a stand-alone website for teachers [www.alcoholeducationtrust.org/teacher-area/](http://www.alcoholeducationtrust.org/teacher-area/) which details resources by subject and year group, such as alcohol and its effects (social and physical) and staying safe. The site has short film clips as ‘conversation starters’, facts and figures, worksheets and games. Teachers are also supported with bi-termly newsletters, email and phone support and, if requested, in house training.

**Targeted resources for the most vulnerable children**

The AET has developed a suite of resources for children at higher risk of alcohol related harm, who often require differing approaches, in smaller groups, one to one or using pictures and stories. Designed to be used in a variety of settings, the resource both complements the activities and lessons in ‘talk about alcohol’, but also functions as a stand-alone resource. We have excellent funding to provide these resources for schools with a demonstrable need free of charge with training. For more details please email kate@alcoholeducationtrust.org.

**Strengthening our outreach to parents and carers**

The evidence base shows parents need to be engaged, if alcohol education is to be effective. Hence parents are encouraged to be good role models regarding alcohol, to set boundaries and engage their children in a knowledgeable way. The AET maintains a dedicated parent website - [www.alcoholeducationtrust.org/parent-area/](http://www.alcoholeducationtrust.org/parent-area/) produces a bi-termly newsletter and supports direct presentations in schools to parents across England and Scotland.

Contact: kate@alcoholeducationtrust.org for details.

**Partnerships and Testimonials**

The ‘talk about alcohol’ programme is used by over 1,500 schools and a further 700 organisations across Britain. Teacher feedback and repeated use assures us that the programme is liked by pupils and teachers, is easy to implement and adapt to differing time frame, settings, abilities, facilities and cultures.

Delivery partners include, local authorities, PSHE leads, groups of academies, Public Health Directorates, Health and Wellbeing boards, commissioned service providers, Healthy School partnerships, youth groups, charities, police forces, community interest companies and school nurses. You can read some of the endorsements of our programme here6.

**What else we need to achieve?**

We have three immediate goals:

The AET has dedicated schools and youth coordinators able to deliver training and support sessions across Scotland, The North of England, London and most of The Home Counties, The Midlands and The South and West of England. We would love to adapt our programme for Wales and eventually for Northern Ireland where alcohol-related harms are particularly high. Our resources are free to all schools across Britain, but our ambition is to have our highly trained coordinators in every region.

Reaching parents and carers remains the hardest of our goals to achieve, especially in secondary schools. Our on-line parent advice received over 100,000 unique visitors last year, mainly looking for information about alcohol and the law and about hosting teenage parties, so we know the interest is there. We encourage all schools to engage parents and carers as they are fundamental in setting boundaries and being good role models, we have lots of ideas and resources to help!

Our third goal is to develop work with more vulnerable groups. Britain is one of three countries internationally where girls get drunk and go to A and E more due to alcohol than boys hence we would like to develop a stream of work targeting girls. We would also like to prepare 6th formers better for the challenges of leaving school, as we know that transition to sixth form is
a time when vulnerability to risk taking and mental health is increased.

Otherwise, we have the huge task of ensuring that every school educating 11-18 year olds across the UK has free access to our resources, training and support, on our very limited resources. We are a charity and so have to raise the funds needed to support our vital work each year.

If you would like to learn more, get involved with the Trust and its work or, as a school, receive our workbook free of charge, book a teacher training or parent workshop, - then please email kate@alcoholeducationtrust.org or phone 01300 320869. Do follow us on twitter via @talkalcohol or Facebook via https://www.facebook.com/talkaboutalcohol
Appendix

Table 1: Numbers of respondents

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
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<th>Comparison</th>
<th></th>
<th>Timing</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>N of schools</td>
<td>N of students</td>
<td>N of schools</td>
<td>N of students</td>
<td>(Year 8)</td>
</tr>
<tr>
<td>Baseline (age 12-13)</td>
<td>16</td>
<td>2142</td>
<td>17</td>
<td>2268</td>
<td>November 2011-January 2012</td>
</tr>
<tr>
<td>Second survey (age 12-13)</td>
<td>16</td>
<td>2203</td>
<td>17</td>
<td>2095</td>
<td>May 2012-June 2012</td>
</tr>
<tr>
<td>Third survey (age 13-14)</td>
<td>15</td>
<td>2015</td>
<td>15</td>
<td>1904</td>
<td>May 2013-July 2013</td>
</tr>
<tr>
<td>Fourth survey (age 15-16)</td>
<td>8</td>
<td>900</td>
<td>10</td>
<td>1146</td>
<td>(Year 11)</td>
</tr>
</tbody>
</table>

Chart 1: Ever had an alcoholic drink?

- Knowledge levelled over time
- Statistically significant difference between groups
- Impact on delaying first alcoholic drink or stronger over time
Chart 2: Frequency of drinking

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Never had a drink</td>
<td>57</td>
<td>55</td>
<td>53</td>
<td>45</td>
<td>49</td>
<td>41</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Only a few times a year/ special occasions</td>
<td>29</td>
<td>32</td>
<td>31</td>
<td>37</td>
<td>29</td>
<td>41</td>
<td>35</td>
<td>30</td>
</tr>
<tr>
<td>Once a month more</td>
<td>11</td>
<td>4</td>
<td>4</td>
<td>13</td>
<td>14</td>
<td>18</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>I never drink alcohol now</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Significantly stronger impact of intervention on non-white students

Chart 3: Ever had an alcoholic drink and ethnicity

Significantly stronger impact of intervention on non-white students
Chart 4: Students’ knowledge about alcohol and its effects at pre-and post-intervention (n=215)
Undertaking A-level study is a notoriously troubling time for many pupils. Reasons for the difficulty students experience at this transition point are complex but include an increase in workload and the need for more developed analytical skills (Scott, 2012), whilst external sources of stress are prevalent, as reported previously in this journal (Harris, 2001). Significant increases in the difficulty of concepts also contribute to making A-levels a considerable step up from GCSEs, with the most recent iteration of examinations reportedly causing significant emotional and mental distress for many students (Simnaz & Riley, 2018).

The purpose of this paper is to present an original approach to considering some of the challenges of acclimatising to A-level study from the perspective of students, through the theoretical lens of the Threshold Concept Framework (Meyer & Land, 2003). I argue that focusing on threshold concepts in A-level specifications provides unique insight into some of the causes of students’ cognitive and affective emotional difficulties. Furthermore, this approach provides a structure through which teachers can explore ways of designing effective pedagogical approaches to supporting students through this troublesome journey whilst maximising their academic progress.

Drawing on doctoral research employing an original use of Interpretative Phenomenological Analysis (IPA) within a longitudinal design frame, the empirical study on which this paper is based explored the lived experiences of six secondary school students throughout their first eighteen months of A-level study. This detailed and personal exploration into students’ journeys uncovered tensions between their expectations and the reality of A-level study, along with insights into how they coped with this major life experience. Findings suggest that students’ encounters with threshold concepts further exacerbated the strain of transition, presenting a heightened level of cognitive and affective challenge. This article presents a small selection of findings from the larger study.

Threshold Concepts

The notion of threshold concepts (TCs) emerged from a national research project involving academics from universities across the UK and has now developed into a substantial international body of literature in TCs across a range of disciplines in higher education (Flanagan, 2019). A relatively small number of studies have migrated into secondary education around the world, in the USA (Wolf and Akkaraju, 2014), Brunei (Haji Bungsu, 2014), Hong Kong (Pang and Meyer, 2010), Ireland (Sheehan, 2010) and the UK (Renshaw and Meyer, 2011; Ashwin, 2008; Chandler-Grevatt, 2015). However, whilst these latter studies are situated in the comparable context of the UK education system, there is a noticeable gap in literature exploring students’ transitions from GCSE to A level study.

A subject discipline is commonly presented as comprising of units of knowledge, often referred to as ‘core concepts’, or ‘key concepts’ (Davies and Mangan, 2007, p.713). Meyer and Land (2003) presented Threshold Concepts (TCs) from a qualitatively different perspective, suggesting that mastery of a TC acts as a metaphorical portal, where passing through opens up a ‘previously occluded and integrated’ (Meyer, 2016, p.463), view of the subject landscape.
Subsequently, the epistemological shift that the learner experiences means that they are likely to undergo transformation in their disciplinary perspective, and potentially their identity through their journey to becoming part of a disciplinary community of practice (Wenger, 1999), for example through becoming a scientist. In their first paper, Meyer and Land (Meyer & Land, 2003, p.374) defined a TC as being:

- **transformat**ive – bringing about a ‘...significant shift in the perception of a subject...’ which ‘...may lead to a transformation of personal identity...’ and is ‘...likely to involve...a shift in values, feeling or attitude’;
- **probably irreversible** - such that the subsequent change of view is ‘...unlikely to be forgotten, or unlearned only through considerable effort’;
- **integrative** - with respect that it ‘exposes the previously hidden interrelatedness of something’;
- ‘possibly often (though not necessarily always) bounded’, in that each concept has boundaries which border other areas of conceptual space; and
- ‘potentially (and possibly inherently) troublesome’

In a subsequent paper this definition was extended to suggest that TCs are discursive, such that ‘as students acquire threshold concepts, and extend their use of language in relation to these concepts, there occurs also a shift in the learner’s subjectivity, a repositioning of the self’ (Meyer & Land, 2005, p.374); and reconstitutive, a characteristic which highlights ‘the interrelatedness of the learner’s identity with thinking and language’.

It has been argued that emotional capital plays a key role in the learning journey that students undertake (Cousin, 2006). Despite compelling suggestions of the existence of a strong affective dimension, much of the research into TCs has focused on the cognitive aspects of students’ experiences and the pedagogical or curriculum influences impacting on their understanding. Several authors have identified the value of further research into the affective dimension (Shopkow, 2010; Rattray, 2016; Macintosh Edwards, 2013; Land, 2014; Felten, 2016), although none have explored this in the comparable context of secondary advanced level education. The research presented in this article contributes to this perceived gap in the literature, presenting evidence of the affective impact of A-level learning through the lens of the TCF, thus illuminating the following research questions:

- How do students make sense of the transition from GCSE to A-level study?
- How is the affective dimension of TCs represented in students’ experiences?

**Research design and methods**

The design frame for this research drew from Interpretative Phenomenological Analysis (IPA), a qualitative research approach originating in the field of healthcare psychology. IPA demonstrates a commitment to exploring in detail how people make sense of their personal and social world, particularly where something significant has taken place in their lives. Located predominantly in health psychology, the largest body of literature employing IPA explores an understanding of illness as a major life experience (Smith, 2011), but IPA researchers also commonly look at major transitions in people’s lives, such as having a child or leaving home (Smith, et al., 2009, p.3). Whilst moving from GCSE to A-level study may not be considered a major life transition in the same manner as those exemplified above, when coupled with encounters with TCs, I argue that this transition has the potential to be a significant life experience.

The study took place in an 11-18 secondary comprehensive school in the East Midlands. Students were selected purposively and all six students within the biology teaching group were offered, and took, the opportunity to engage with the project. Informed consent was obtained from all participants and the right to withdraw without consequence was clearly explained from the outset. In-depth, semi-structured interviews with individuals are commonly used in IPA (Smith, 2004), due to the need for a medium that allows for a two-way idiographic dialogue. This involves an open-ended interview maintaining a careful balance between guiding and being led (Hefferon & Gil-Rodriguez, 2011, p.757). Interviews were conducted with students in the first term, and then throughout the year, triggered by issues noted in reflective diaries which were issued to students with structured prompts to encourage reflection on aspects of the
TCF. The diaries were completed after each week’s learning. Data from interviews were analysed using IPA techniques, before emergent themes were identified and refined through subsequent recursive analysis against the TCF characteristics.

Findings

Throughout the study, the intensity of feelings which surfaced as a result of the increased workload and pressure caused students to feel out of their depth, offering further evidence to support the existence of a strong affective dimension. What is apparent from the accounts of these six students is that the transition from GCSE to A-level raised both cognitive and emotional issues, resulting in high levels of stress and anxiety, as Anna highlights in her recollection of the impact that stress had on her self-efficacy.

When I get stressed I get really stressed and…that’s why I have to keep on top of my work, because when I stress I don’t do, like, any work because I am so stressed with thinking about all of the things I have got to do I don’t actually get anything done […] To be honest I get more stressed about being stressed [laughs]…than anything else. (Anna, 3rd interview)

Self-critique was a common affective feature of students’ reflections on their journey, and all reported questioning their ability or suitability for A-level study at some point. Grappling with TCs and troublesome knowledge also caused issues for students throughout the year, resulting in frustration and significant emotional impact.

I was getting frustrated with myself because [at GCSE] I would always understand it, or if I didn’t understand it I would be able to go home and understand it and do it that way, whereas now […] I am trying my best and I am trying to understand it and it just doesn’t go in….which…really frustrates me…it really stresses me out. (Anna, 1st interview)

All of the students were affected by the transition to A-level study in one way or another, as illustrated by the range of affective terms used by students shown in Table 1 (see Appendix). However, none were affected so significantly as Erin. Towards the end of the first year of A-level study, she reflected on the difference between her GCSE years compared with her recent experiences of the previous 10 months as being ‘insane, absolutely insane…it’s…it’s a ridiculous jump…it’s an absolutely ridiculous jump’. (Erin, interview 3). As Erin was talking there was a sense of urgency and amazement as she described her journey. Erin described her transition as a major life experience that affected her both physically and mentally, to such an extent that she sought medical intervention:

After my exams I got diagnosed with anxiety and depression […] and that is mainly due to the stress of my A-levels. Not all of it, but the jump from GCSE to A-level, I have experienced first-hand how that can be a really bad thing. (Erin, interview 2)

Erin attributes much of her resulting illness to her troublesome transitional experience, which exacerbated personal issues she was having at around the same time. She goes on to describe the point in time when she realised the effect that the struggle with her studies was having on her, and that she could not carry on without changing something:

I went… I went to the doctors the day after my 17th birthday, because…basically I woke up one day and sobbed…broken…said I can’t do it…can’t do it anymore. I actually, physically can’t do this anymore; I have to stop. (Erin, interview 2)

One of the consistent themes to emerge was students’ realisation that their previous learning at GCSE level was presented as a simplified version upon which they now had to expand in terms of specifics at a granular level, particularly when learning TCs, such as cell structures, which was identified as a TC from the analysis of findings:

At GCSE it was just like, there’s a xylem and a phloem in the stem…but there is vascular tissue and all sorts of other stuff as well which I found hard. GCSE is very simplified compared to A-level. (Liam, 1st interview)

Cell structures emerged as troublesome and strongly integrative for all students and was one of a number of TCs identified by students (see Table 2 Appendix) either through the specification analysis, or through analysis of interview responses. Scale was another TC to emerge from the study that appeared to have a big impact on students, not just from the perspective of finding it troublesome to master, but due to the strong feelings that it evoked in some. Although scale is not taught as an explicit topic, it is so embedded within the biology curriculum that students encountered issues involving scale through a number of different concepts and areas of study. Throughout the interviews, students highlighted scale-related
issues, but for many this related to increased levels of complexity at A-level compared to GCSE study which is presented in a more simplified way, as Yasmin explained when recounting her experience of learning about cell cycles:

I found the cell cycles quite hard to understand...what goes on inside cells, like respiration and...again we were just told like, we were just given an equation and that was it [at GCSE]. But now it's like a massively complicated process that goes on inside a mitochondria and in a cell, it’s quite...I find it hard to believe how this stuff happens and it’s just complicated. (Yasmin, 1st interview)

Yasmin came across as feeling very uncomfortable with accepting something on such a small scale that she has been told is happening. Scale caused issues for students in respect of both micro- and macro-spatial extremes, but also with respect of temporal extremes of scale, for example through concepts such as evolution and biodiversity (macro-temporal) and the cardiac cycle (micro-temporal). Interplay between the two extremes of scale caused further issues for students, as Erin’s account demonstrates here:

The different scales link together so, like, we studied transmission of disease and how you prevent that, we had to learn about how they were transmitted and cured which was sort of microscopic level, but then there was the huge side of it which was like epidemiology, as in how these things spread around the world. So really it was a bit of both ends of it combined which made it really...yeah...really hard. (Erin, 2nd interview).

Discussion

The emotional and personal dimension of participants’ learning experiences were evident throughout the research process. The research design based on IPA philosophies and practices elicited a range of affective phrases, summarised in Table 1. These provide evidence of the strong feelings generated throughout the transitional process and through encounters with TCs, building on previous work in HE which surfaced the use of emotive terms by student participants (Felten, 2016; MacIntosh Edwards, 2013), although in these studies this aspect emerged as part of the research findings rather than being sought by design.

The interplay between the increased workload and stress of transition and encounters with TCs caused major issues for some of the students, resulting in medical advice and treatment being sought in one case. These difficulties ultimately led to half of the group of participants deciding to change programs of study and restart the year, and one of these also changed schools. Whilst there are inevitably other factors involved, these findings suggest that the increase in workload, the difficulty of work and encounters with TCs were the major contributing factors to these decisions. Letting go of prior knowledge and dealing with misconceptions also led to considerable emotional difficulty for students, in such that students persevered with existing misconceptions or previous knowledge from GCSE to reduce the uncomfortable feeling of uncertainty they were experiencing. This perseverance emerged as a coping strategy on the surface, but also illuminated one of the causal factors inherent in reconstitutive nature of TCs, that of oscillation between old and new understandings (Cousin, 2006, p.4).

Felten (2016, p.6) referred to what he called ‘troublesome affect’, noting that students described their experiences of engaging with TCs, often emotively, rather than focusing on characteristics of the knowledge that made them difficult. Commentary on engagement with TCs was evident in my study, and students were also able to pinpoint specific concepts and the aspects of these that made them troublesome and integrative. I argue that this was enabled by the longitudinal approach to data collection, where students were interviewed throughout the year, and shortly after their troublesome learning experience, rather than at the end of the course. This meant that students were closer to the event and more attuned to recall key features of encounters with TCs, demonstrating a worthy development to methodological approaches previously taken and thus a valuable contribution to knowledge about ways of exploring the affective dimension of TCs. These findings also support my argument that difficulties with transition are exacerbated by encounters with TCs.

Whilst this small selection of findings may have presented a negatively biased picture of students’ experiences, the full findings also surfaced evidence of positive emotional impact, from experiencing success and increased confidence, to feelings of awe and wonder at scientific awakening. Whilst the singular term ‘affective dimension’ is used throughout the TC literature, there is certainly some indication that there are multiple dimensions to the affective
nature of TCs, which teachers and academics should be encouraged by and which are worthy of further investigation.

Conclusion

This article has highlighted the potential of the TCF as a theoretical framework through which to explore the difficulties and transformations that students experience in their transition from GCSE to A-level. I have argued that focusing on students' encounters with TCs provides valuable insight into the cognitive and affective dimensions of these difficulties, whilst also providing a pedagogically productive structure for educators to identify areas of the curriculum which act as barriers (or enablers) to student learning and progress. Further projects are currently underway involving teams of secondary science teachers and also trainee science teachers, aimed at producing approaches to teaching the latest A-level specifications through a focus on threshold concepts.

References


## Appendix

Table 1 - The affective dimension of participants' lived experiences.

<table>
<thead>
<tr>
<th>Yasmin</th>
<th>Yasmin (cont.)</th>
<th>Anna</th>
<th>Erin</th>
<th>Gemma</th>
<th>Liam</th>
<th>Ivy</th>
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</thead>
<tbody>
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<td>amazed</td>
<td>shock</td>
<td>angry</td>
<td>I am horrible</td>
<td>annoyed</td>
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<td>annoyed</td>
<td>went mental</td>
<td>disappointed</td>
<td>shock</td>
<td>can’t do it</td>
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<td>aspiration</td>
<td>excitement</td>
<td>enjoyment</td>
<td>struggle</td>
<td>heart not in it</td>
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<td>stunning</td>
<td>bombarded</td>
<td>amazement</td>
<td>frustration</td>
<td>overwhelming</td>
<td>Intimidated</td>
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<td>surprise</td>
<td>confidence</td>
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<td>pressure</td>
<td>confusion</td>
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<td>confused</td>
<td>feeling cheated</td>
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<td>confidence</td>
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<td>coping</td>
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Table 2 - Potential threshold concepts identified by students

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