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Welcome to the third issue for 2017.

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.

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Mark D Griffiths and Daria J Kuss

Adolescent social media addiction (revisited)

In 2011, we published two articles in 'Education and Health' looking at the new research area of adolescent social networking and whether excessive use of social media could lead to addiction (Griffiths and Kuss, 2011; Kuss and Griffiths, 2011a). At that time, only three studies examining social networking addiction had been published (Kuss and Griffiths, 2011b). Since then, there have been hundreds of studies examining many different aspects of adolescent social media use and their use of social networking sites (SNSs). Much of the earlier research tended to concentrate on use of one particular social networking site (i.e., *Facebook*), but social media use now has many platforms, and adolescents are far more likely to be using platforms such as *Snapchat* and *Instagram* than *Facebook*. In this article, we briefly overview some of the major issues surrounding adolescent social media use based on a review we recently published (Kuss and Griffiths, 2017). More specifically, we examine: (i) social networking as a way of being, (ii) excessive social networking as an addiction, (iii) fear of missing out (FOMO) and SNS addiction, (iv) smartphone addiction and SNS addiction, and (v) nomophobia and SNS addiction.

Social networking as a way of being

Teenagers are living increasingly mediated lives. Nowadays, social networking does not necessarily refer to what we do, but who we are. Social networking can arguably be considered a way of being. Children born since the late 1990s have grown up in a world that has been reliant on technology as integral part of their lives, making it impossible to imagine life without being connected. This has been referred to as an 'always on' lifestyle and being 'on' has become the *status quo* (Kuss and Griffiths, 2017). There also appears to be an inherent understanding or requirement in today's technology loving culture that teenagers need to engage in online social networking in order not to miss out, to stay up to date, and to connect (Kuss and Griffiths, 2015).

Teenagers particularly appear to have subscribed to the cultural norm of continual online networking. They create virtual spaces which serve their need to belong, as there appear to be increasingly limited options of analogous physical spaces due to parents' safety concerns (Boyd, 2014). Being online is viewed as safer than roaming the streets, and parents often assume using technology in the home is normal and healthy. Recent research has demonstrated that sharing information on social media increases life satisfaction and loneliness for emerging adults, whereas the opposite was true for older adults (Teo and Lee, 2016), suggesting that social media and social networking are used and perceived differently across generations. This has implications for social networking addiction because the context of excessive social networking is critical in defining someone as an addict, and habitual use by teenagers might be pathologized using current screening instruments, when in fact the activity – even when categorized as 'excessive' – does not result in significant detriment to the individual's life (Griffiths, 2010).

Social networking taps into very fundamental human needs by offering the possibilities of social support and self-expression (Riva, Wiederhold and Cipresso, 2016). This may offer an explanation for the popularity of and relatively high engagement with SNSs in today's society. However, the downside is that high engagement and being always 'on' or engaged with technology has been considered problematic and potentially addictive, but if being 'always on' can be considered the *status quo* and most individuals are 'on' most of the time, where does this leave

problematic use or addiction? The next section considers this question.

Excessive social networking as an addiction

There is a growing scientific evidence base to suggest excessive SNS use may lead to symptoms traditionally associated with substance-related addictions (Andreassen, 2015). As we have previously outlined (Kuss and Griffiths, 2017), for a small minority of individuals, their use of social networking sites may become the single most important activity that they engage in, leading to a preoccupation with SNS use (salience). The activities on these sites are then being used in order to induce mood alterations, pleasurable feelings or a numbing effect (mood modification). Increased amounts of time and energy are required to be put into engaging with SNS activities in order to achieve the same feelings and state of mind that occurred in the initial phases of usage (tolerance). When SNS use is discontinued, addicted individuals will experience negative psychological and sometimes physiological symptoms (withdrawal), often leading to a reinstatement of their SNS use (relapse). Problems arise as a consequence of the engagement in the problematic SNS use, leading to intrapsychic conflicts (within the individual often including a subjective loss of control) and interpersonal conflicts (i.e., problems with the immediate social environment, including relationship problems and work and/or education being compromised).

To date, only one study has examined SNS addiction among adolescents using a nationally representative sample. Bányai *et al.* (2017) reported that 4.5% of 5,961 Hungarian adolescents (mean age 16 years old) were categorized as 'at-risk' of social networking addiction. Cross-cultural research including 10,930 adolescents from six European countries (Greece, Spain, Poland, the Netherlands, Romania, and Iceland) showed that using SNSs for two or more hours a day was related to internalizing problems and decreased academic performance and activity (Tsitsika *et al.,* 2014). In addition, a study using a sample of 920 secondary school students in China indicated that the personality traits neuroticism and extraversion predicted SNS addiction, clearly differentiating individuals who experience problems as a consequence of their excessive SNS use from those individuals who used games or the Internet in general excessively (Wang *et al.,* 2015), further contributing to the contention that SNS addiction appears to be a behavioural problem separate from the more commonly researched gaming addiction.

Fear of missing out (FOMO) and SNS addiction

Recent research (Buglass, Binder, Betts, and Underwood, 2017; Oberst, Wegmann, Stodt, Brand, and Chamarro, 2017) has suggested that high engagement in social networking is partially due to what has been named the 'fear of missing out' (FOMO). FOMO is *"a pervasive apprehension that others might be having rewarding experiences from which one is absent"* (Przybylski, Murayama, DeHaan, and Gladwell, 2013, p. 1841). Higher levels of FOMO have been associated with greater engagement with *Facebook*, lower general mood, lower wellbeing, and lower life satisfaction (Przybylski *et al.,* 2013). In addition to this, research suggests that FOMO predicts problematic SNS use and is associated with social media addiction (Al-Menayes, 2016; Gil, Chamarro, and Oberst, 2016). In one study using 5,280 social media users from several Spanish-speaking Latin-American countries (Oberst *et al.,* 2017), it was found that FOMO predicts negative consequences of maladaptive SNS use. Other research using 506 UK *Facebook* users found that FOMO mediates the relationship between high SNS use and decreased self-esteem (Buglass *et al.,* 2017). Taken together, these findings suggest FOMO may be a significant predictor or possible component of potential SNS addiction.

Smartphone addiction and SNS addiction

Over the last decade, research assessing problematic and possibly addictive mobile phone use (including smartphones) has proliferated (Lopez-Fernandez, Kuss, Griffiths, and Billieux, 2015), suggesting some individuals may develop addiction-related problems as a consequence of their mobile phone use. Recent research has suggested problematic mobile phone use is a multi-faceted condition, with dependent use being one possible consequence (Billieux, Maurage, Lopez-Fernandez, Kuss, and Griffiths, 2015). An addictive pattern of mobile phone use is characterized by the use of specific applications, including calls, instant messaging, and the use of social networks. This suggests that rather than

being an addictive medium *per se*, mobile technologies including smartphones and tablets are simply media that enable the engagement in potentially addictive activities, including SNS use. Put another way, it could be argued that mobile phone addicts are no more addicted to their phones than alcoholics are addicted to bottles.

Similarly, it has been argued previously that individuals do not become addicted to the Internet *per se*, but to the activities they engage in on the Internet, such as SNS use (Kuss and Griffiths, 2011). With the advent and ubiquity of mobile technologies, this supposition is more pertinent than ever. Using social networking sites is a particularly popular activity on smartphones, with around 80% of social media used via mobile technologies (Marketing Land, 2017). For instance, approximately 75% of *Facebook* users access the SNS via their mobile phones (Statista, 2017). Therefore, it can be suggested that smartphone addiction may be part of SNS addiction. Previous research on a sample of over 23,000 Norwegians (Andreassen *et al.*, 2016) supported this supposition by specifically indicating that social networking is often engaged in via phones, which may contribute to its addictive potential.

Nomophobia and SNS addiction

Related to both FOMO and mobile phone addiction is the construct of nomophobia. Nomophobia is shorthand for "*no mobile phone phobia*", i.e., the fear of being without one's mobile phone (Bragazzi and Del Puente, 2014). The criteria for nomophobia include: regular and time-consuming use of mobile phones, feelings of anxiety when the phone is not available, "ringxiety" (i.e., repeatedly checking one's phone for messages, sometimes leading to phantom ring tones), constant availability, preference for mobile communication over face-to-face communication, and financial problems as a consequence of use (Bragazzi and Del Puente, 2014). Nomophobia is inherently related to a fear of not being able to engage in social connections, and a preference for online social interaction (which is the key usage motivation for SNS use [Kuss and Griffiths, 2011]), and has been linked to problematic Internet use and negative consequence of technology use (Caplan, 2003), further pointing to a strong association between nomophobia and SNS addiction symptoms.

Using mobile phones is understood as leading to alterations in everyday life habits and perceptions of reality, which can be associated with negative outcomes, such as impaired social interactions, social isolation, as well as both somatic and mental health problems, including anxiety, depression and stress (Bragazzi and Del Puente, 2014). Consequently, nomophobia can lead to using the mobile phone in an impulsive way (Bragazzi and Del Puente, 2014), and may thus be a contributing factor to SNS addiction as it can facilitate and enhance the repeated use of social networking sites, forming habits that may increase the general vulnerability for the experience of addiction-related symptoms as a consequence of problematic SNS use.

Conclusions

To date, research has shown that there is a fine line between frequent non-problematic habitual use and problematic and possibly addictive use of SNSs, suggesting that users who experience symptoms and consequences traditionally associated with substance-related addictions (i.e., salience, mood modification, tolerance, withdrawal, relapse, and conflict) may be addicted to using SNSs. Research has also indicated that a fear of missing out (FOMO) may contribute to SNS addiction, because individuals who worry about being unable to connect to their networks may develop impulsive checking habits that over time may develop into an addiction. The same thing appears to hold true for mobile phone use and a fear of being without one's mobile phone (i.e., nomophobia), which may be viewed as a medium that enables the engagement in SNSs (rather than being addictive *per se*). Given that engaging in social networking is a key activity engaged in using mobile technologies, FOMO, nomophobia, and mobile phone addiction appear to be associated with SNS addiction.

Research suggests younger generations may be more at risk for developing addictive symptoms as a consequence of their SNS use, whilst perceptions of SNS addiction appear to differ across generations. Younger individuals tend to view their SNS use as less problematic than their parents might, further contributing to the contention that SNS use has become a way of being and is contextual, which must be separated from the experience of actual psychopathological symptoms. The ultimate aim of research must be not to overpathologize everyday behaviours, but

to carry out better quality research as this will help facilitate treatment efforts in order to provide support for those who may need it.

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Move more, Learn more? Exercise and Cognitive Function in Adolescents

The beneficial effects of exercise on health are well documented, including in adolescents and specifically concern the development of cardio-metabolic risk factors, including high blood pressure, hyperglycaemia and low grade chronic inflammation (Cooper *et al.,* 2016b). However, this article will focus on one of the lesser-known benefits of exercise; the acute effects of a single bout of exercise on cognitive function.

Cognitive function is defined as a great variety of brain mediated functions and processes, which allow us to perceive, evaluate, store, manipulate and use information (Schmitt *et al.,* 2005). Due to the heterogeneous nature of cognitive function, it is commonly sub-divided into six domains; memory, attention, executive function, perception, psychomotor functions and language skills; which are sometimes sub-divided even further (e.g. verbal, spatial, visual and auditory memory). Given this definition, it is unsurprising, that cognitive function has serious implications for academic achievement and scholastic performance, particularly the domains of attention, memory and executive function. Academic achievement is not only given great priority by school policy makers but also students themselves, given grades can be a key determinant of future life opportunities. Therefore, factors such as exercise that may be able to enhance cognitive function are of great interest and here we will focus on the acute effects of a single bout of exercise on cognitive function in adolescents.

The Evidence

The literature suggests that a single bout of exercise has a small beneficial effect on subsequent cognitive function across the lifespan, including in children (Sibley and Etnier, 2003) and adults Chang *et al.,* 2012). However, generalisations to adolescents must be made cautiously given the rapid changes in growth and metabolism that occur during this time, where cognitive function and academic achievement are of upmost importance, with adolescents sitting various school examinations. Encouragingly, recently there has also been a review focussing on the exercise – cognition relationship in adolescents, also suggesting exercise has an acute beneficial effect on cognitive function and academic performance (Li *et al.,* 2017). However, they remain cautious in drawing firm conclusions due to the equivocal nature of the evidence, which they attribute to many differences between the studies; primarily differences in the intensity, duration and modality of exercise sessions employed.

The majority of the literature to date has examined the effects of continuous exercise models such as cycling (Hogan *et al.,* 2013; Stroth *et al.,* 2009), walking (Soga *et al.,* 2015) or running (Budde *et al.,* 2010; Cooper *et al.,* 2012a). One example from our own research group involved an exercise session consisting of 10 repetitions of stage 1 of the Multistage Fitness Test (Bleep test), with each one minute repetition interspersed with 30 seconds rest (Cooper *et al.,* 2012a). Various cognitive domains were assessed 60 minutes post-exercise and results showed favourable effects for perception and working memory (in charge of simultaneously storing and processing of information). Activities as diverse as (for example) reading comprehension (Daneman and Carpenter, 1980), reasoning (Kyllonen and Christal, 1990) and complex learning (Kyllonen and Stephens, 1990) are significantly associated with working memory, thus

it is unsurprising that working memory capacity is closely associated with academic achievement (Blankenship *et al.,* 2015). Therefore Cooper *et al.* (2012a) provide evidence that indicates benefits for cognitive function and academic performance after a short bout of exercise, which could easily be incorporated in a school morning.

However, the endurance-type exercises most commonly utilized in studies do not reflect the activity patterns typically observed in young people. It has been suggested that activity patterns in young people are high intensity and intermittent in nature (Armstrong and Welsman, 2006), with 95% of physical activity bouts in young people lasting less than 15 seconds (Bailey *et al.*, 1995). Consequently, it is important that the effects of this more ecologically valid mode of exercise on cognitive function be examined. In this regard, we recently investigated the impact of 10 x 10 second sprints, each followed by 50 seconds active recovery (walking), on cognitive function in adolescents. The sprint-based exercise enhanced the speed of executive function both immediately and 45 minutes post-exercise, but had no effect on general psychomotor speed or visuo-spatial working memory. This suggest that the effects of exercise may be specific to more complex cognitive domains such as executive function. However, the effects on executive function are of great interest given that executive function is crucial for decision making and more complex cognitive tasks, which have been shown to be essential for reading ability (Savage *et al.,* 2006) as well as academic performance (Duckworth and Seligman, 2005). Therefore, this work clearly demonstrates that exercise that replicates adolescent's everyday activity patterns has the potential to positively influence cognitive function.

A number of other studies have also examined types of exercises that reflect adolescents' activity patterns more closely. Pesce *et al.* (2009) contrasted aerobic circuit training, team games and a resting control trial and found that memory performance was enhanced following exercise, with a larger effect seen after engaging in team games, which require cognitive input (in the form of decision making) in addition to physical exertion. Budde *et al.* (2008) similarly reported coordinative exercise to have beneficial effects on attention when compared to normal PE Lessons. These effects suggest that the combination of physical activity and cognitive activation is particularly advantageous for subsequent cognitive function in adolescents. Therefore, games-based activity, incorporating both high intensity intermittent exercise and cognitive decision-making, might be especially beneficial for cognitive function and academic achievement; in addition to being a very attractive exercise model for young people.

The above benefits of exercise must be interpreted with respect to the alarmingly low physical activity levels seen in young people. Only 21% of boys and 16% of girls (aged 5 to 15 years) currently meet the recommended guidelines of 60 minutes of moderate to vigorous physical activity per day (British Heart Foundation, 2015). This is not only implicated in the high prevalence of obesity in young people (29% of people aged 2 – 15 in the UK are classified as obese) (Health and Social Care Information Centre, 2015), but might also mean that these young people are missing out on the potential cognitive benefits of exercise.

Conclusions and Recommendations

Having reviewed the evidence above, we believe that an acute bout of exercise has a beneficial effect on subsequent cognitive function in adolescents. Predominantly, the domains of executive function, working memory and attention are enhanced following exercise, hence the potential for exercise to improve academic achievement. Furthermore, high intensity intermittent exercise appears to be a particularly advantageous type of exercise, with emerging evidence that games-based activity (combining physical and cognitive exertion) could be an especially effective method to enhance cognition in adolescents. However, many aspects of the exercise-cognition relationship remain unclear, with various inconsistencies in the literature requiring further investigation. Future research should especially focus on: the optimal duration of exercise; the differential effects on various cognitive domains; and how long the benefits can be seen after exercise. It is also important to explore the interaction between exercise and nutrition for cognitive function, as we have shown that breakfast consumption (Cooper *et al.,* 2011) and breakfast composition (Cooper *et al.,* 2012b) affect cognition in adolescents, alongside potential synergistic effects of breakfast and exercise (Cooper *et al.,* 2015).

Nevertheless, despite the need for further research, the current evidence suggesting an acute

bout of exercise has beneficial effects on cognitive function paired with the well documented health (Cooper *et al.,* 2016b), social and emotional (Ramstetter *et al.,* 2010) benefits of exercise strongly supports incorporating more opportunities for physical activity into the school day for adolescents. Possible examples include: active travel to and from school; opportunities for physical activity during break times (e.g. games-based activities); active lessons combining physical and cognitive exertion; and ensuring the inclusion of regular physical education lessons in the curriculum.

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Teaching Media Literacy and Ad Deconstruction for Making Healthier Food Choices

Society is bombarded with advertisements and media messages. Per year, the average American child views at least 40,000 television commercials (Starsburger, 2001). Some experts say that media are our largest educator. The trend of media consumption is not likely to decrease in the next decade since it has steadily risen over the last 50 years. With children spending on average 7.5 hours per day using media (Henry Kaiser Family Foundation, 2010), it is important for children to learn about media messaging and acquire media literacy.

It is well documented that 17% of American children and adolescents are obese (Centers for Disease Control and Prevention, 2015). While there are several reasons why children have gained weight, such as having a sedentary lifestyle, other factors that may be less apparent, such as food advertisements, also play a role. As children age, it becomes important to learn healthy food choices and how to avoid media influence on less than optimal food choices.

Influence of Advertising on Human Behavior

Advertising is a billion-dollar industry and data indicate that advertisements influence human behavior. Just as watching actors smoking cigarettes in movies and television shows increases the likelihood for adolescents to try smoking, so does watching them drink alcohol. Food commercials are no different. As we watch fast food advertisements, we are more likely to eat when not hungry or more likely to eat unhealthy food. Adolescents are at a particularly vulnerable and malleable age, when critical thinking and analysis becomes essential for making healthy decisions. When youth make unhealthy decisions, the long-term effects are masked by the body being in peak physical condition. Thus, the negative health effects may not be noticed until older adulthood. The earlier children and adolescents learn healthy habits to maintain health, the more likely these healthy habits will continue into late adulthood. The top two chronic diseases that cause death for older adults are heart disease and cancer. Heart disease is largely influenced by lifestyle factors such as high fat consumption, leading to deposits in arterial walls and ultimately clogged arteries, while smoking and obesity are the most important lifestyle risk factors for cancer (The American Cancer Society). Learning about unhealthy influences at an early age may help improve long term health and wellness.

Educational Strategies for Media Literacy

Health educators need to create lesson plans on media literacy. For colleges teaching future registered dietitians and health teachers, it is necessary to share innovative teaching techniques on this subject. Technology such as mobile health applications and media streaming have become very exciting and alluring, suggesting that health educators must use innovative teaching methodologies to keep up with the media.

A gold standard in teaching media literacy analytical skills is teaching students advertising deconstruction. Exercises may include such activities as commercial journaling homework and in-class group advertisement analysis. Commercial journaling involves having students watch television for two hours with the ability to

use a pause button. It is important not to use streaming programs such as *Netflix* because they may not include commercials. Students record the time duration of each program and each commercial. Students then describe each commercial and how the advertiser tried to sell the product or service. The students write a reflection on the advertisements (ads) viewed and their reactions to the ads. Students must also indicate if food commercials were viewed, and how it made them feel (such as hungry or excited).

In class, students are broken up into groups of 3-4 people and select a food advertisement from a magazine. Students must analyze the ad for colors, text, and images as well as interpret how the advertiser is selling the product or service. The Media Education Foundation has a list of questions students can use to help deconstruct the ad (see page 8). The groups must indicate the long term and short term health benefits or detriments of the product and service. The class reunites and each groups discusses their findings.

Along with nutrition lectures and making healthy food choices, students may keep a food diary as part of the activity via Myplate.gov. It is useful for students to record their own daily dietary intake in order to become fully aware of ingredients, portion sizes and quantities. Students may also keep a daily record which indicates if any food choices were made because of a media influence or if mindless eating occurred.

The theme is to identify the influence of media on food consumption and nutritional choices. The challenge in watching media and eating is not only wanting to eat "finger foods" (foods eaten with fingers) but also mindless eating. People may snack when not hungry on calorie dense, nutritionally deficient foods such as chips or cookies. When students learn to be more analytical and more understanding of what impacts their food choices, they may be more inclined to make healthier choices and eat with hunger cues rather than from external cues such as boredom.

We as professors, health educators and instructors can all benefit by using the same behavior of mindful eating. As we know, role modeling can be the greatest educator of all.

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Vulnerable pupils and substance use : an analysis of SHEU survey data

At the Schools Health Education Unit [SHEU], we often look to see how groups of vulnerable young people are doing relative to their peers in our data sets.

We were recently prompted to look at young people who are young carers, who have special educational needs, who are attending Pupil Referral Units (PRUs), or who are in Special Schools. The numbers from PRUs and Special Schools who completed any of our questionnaires are small, and they may not have answered the same set of questions, so this analysis is rather patchy. We looked in particular at their use of substances: tobacco, alcohol and other drugs. The questions we asked of young people about these topics included:

23. Smoking: Which statement describes you best?

Answer	Value
I have never tried smoking	0
I have tried smoking once or twice	1
I used to smoke, but I don't know	2
I smoke occasionally (less than once a week)	3
I smoke regularly but would like to give it up	4
I smoke regularly and don't want to give it up	5

We looked at two criteria from this question: the '*ever tried*' group (1-5) and the '*regular smokers*' group (4-5).

35. Have you ever had an alcoholic drink (a whole drink, not just a sip)?

Answer	Value
Yes	1
No	0

Here we were interested in the 'Yes' group.

17. If you ever drink alcohol, do your parents/carers know?

Answer	Value
I never drink alcohol	0
My parents/carers always know	1
My parents/carers usually know	2
My parents/carers sometimes know	3
My parents/carers never know	4

From this question, we looked at anyone who gave any but the first response (1-4).

Lastly on alcohol:

13. Have you had an alcoholic drink (more than just a sip) in the last 7 days?

Answer	Value
No	0
Yes	1

And again we were interested in the 'Yes' response.

We asked two linked questions about drugs:

25. Have you taken any drugs to get high (not medicines, tobacco or alcohol)?

Answer	Value
No	0
Yes	1

Young people answering 'Yes' were asked for more detail:

26. This question is about your EXPERIENCE of these drugs (not prescribed to you by a doctor)
[A list of drugs is given here]

Answer	Value
I have never taken this drug	0
I have taken during the last month	1
I have taken during the last year	2
I took this drug more than one year ago	3

From these two questions, we found the most recent occasion that a young person had used drugs, if at all.

Results

The results we see in our 2016 data set (Table 1 next page). Overall, we can see a higher likelihood of substance experimentation or use if the young people are classified as being vulnerable in any of the ways we looked at. For example, young people who say they are young carers are more likely to be current or recent users of tobacco, alcohol and other drugs.

Table 1
Vulnerable pupils and substance use: Schools Health Education Unit's 2016 data

	All	Y8	Y10	From pupil questionnaires: Young carer			From pupil questionnaires: SEN			By type of institution: PRUS	By type of institution: SPECIAL SCHOOLS
				No	Not sure	Yes	No	Not sure	Yes		
Ever smoked	20%	10%	31%	22%	28%	35%	16%	23%	23%	57%	21%
Valid N	27,925	15,324	12,601	11,141	1,217	799	11,097	1,127	998	30	34
Regular smoker	3%	1%	5%	3%	6%	8%	2%	4%	5%	20%	9%
Valid N	27,925	15,324	12,601	11,141	1,217	799	11,097	1,127	998	30	34

	All	Y8	Y10	Young carer			SEN			PRUS	SPECIAL SCHOOLS
				No	Not sure	Yes	No	Not sure			
Ever alcohol	30%	21%	41%	28%	25%	28%	33%	38%		44%	.
Valid N	15,193	8,116	7,077	9,127	1,161	655	1,309	190		27	
Ever alcohol 2 (from parent supervision question)	20%	14%	27%	20%	21%	23%	16%	17%	17%	32%	10%
Valid N	42,734	23,840	18,894	22,279	2,798	1,621	14,260	1,568	1,268	65	66
Alcohol last week	13%	7%	22%	15%	13%	18%	11%	13%	17%	17%	5%
Valid N	27,791	15,570	12,221	14,935	2,219	1,206	5,513	413	466	48	21

	All	Y8	Y10	Young carer			SEN			PRUS	SPECIAL SCHOOLS
				No	Not sure	Yes	No	Not sure	Yes		
Never taken	94%	98%	88%	94%	93%	91%	94%	91%	92%	80%	85%
During the last month	3%	1%	6%	3%	4%	5%	3%	5%	4%	10%	9%
During the last year (not in the last month)	2%	1%	3%	2%	2%	2%	2%	3%	3%	4%	
More than one year ago (not in the last year)	1%	0%	1%	1%	1%	1%	1%	1%	1%	2%	6%
[Incomplete]	0%	0%	0%	0%	0%	0%	0%			4%	
[Taken drugs to get high, no detail provided]	0%	0%	0%	0%	0%	1%	0%		0%		
Valid N	35,634	19,977	15,657	19,350	2,480	1,428	9,577	867	919	50	34

But the picture is not absolutely flat: for alcohol, we that some criteria show a difference but not others. Also, some of the differences are small, and achieve statistical significance (not shown) only because of the large sample numbers involved (all the differences for the Young Carers and SEN Pupils groups are statistically significant at $p<0.001$).

Lastly, we haven't tried to take account of confounding variables like poverty; it may be the poverty is associated with a greater likelihood of being a smoker and of being a young carer, and that's what is causing the apparent association.

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Research on school-based interventions needs more input from teachers

Helping our young people develop skills that enable them to negotiate their way through life's challenges, successfully and safely, may be the most valuable gift that parents, carers and educators can give. Learning how make the most of opportunities, cope with difficulties, and manage risk in healthy ways, can have a substantial impact on wellbeing in the short and long-term. Schools are one environment where young people learn about how to care for themselves and others. Personal, Social, Health and Economic (PSHE) education plays a key role in this, as part of a broader curriculum of formal and informal learning,

As psychologists who aim to develop effective alcohol education measures, any programme of research has to begin with engaging our target population and relevant stakeholders. There are number of studies reporting on adolescents' views about such topics as alcohol and drugs. For example we have conducted studies to find out what young people want to know about alcohol, highlighting peer influences in unplanned drinking occasions (Davies, Martin, and Foxcroft, 2013).

However, despite teachers and other educators being major stakeholders in the delivery of PSHE, there is a lack of academic research exploring their views on the subject. Consequently, many new programmes are developed for use in schools without input from teachers, and may not take into account what they consider appropriate for the young people that they teach. For psychologists who want to support the effective delivery of PSHE in schools, the critical role of teachers cannot be emphasised enough, and those who educate our young people have to be a first port of call for anyone conducting research in this area.

Unfortunately, the non-statutory status of PSHE can mean there is often wide variation in how and what young people learn about key topics such as alcohol use and misuse. Indeed a recent Ofsted report concluded that PSHE is 'not yet good enough' in 40% of schools (Ofsted, 2013), and systematic reviews conclude that there is a lack of effectiveness and cost-effectiveness for current measures (Foxcroft and Tsertsvadze, 2011; Mason-Jones *et al.*, 2016). It is therefore essential that any new PSHE initiatives are evidenced based, and include insight from those who are striving to deliver programmes to large numbers of young people in the most efficient and effective way possible.

Teachers' views

Given the important role of teachers, it is somewhat surprising that there are only a small number of published studies exploring their views on PSHE topics, or about the development and acceptability of new interventions. In one study conducted by the PSHE Association and Mentor-ADEPIS (Boddington, McWhirter, and Stonehouse, 2013), views on drug and alcohol education were explored with 288 teachers. The results revealed that constraints in terms of time, resource and expertise were felt to have an influence on the quality and effectiveness of delivery of PSHE education. Furthermore, it highlighted that teachers are reliant on a range of resources, such as the 'Talk to Frank' website, for which there is no evidence of effectiveness in reducing risky drinking or drug taking among young people (Boddington *et al.*, 2013). Clearly, there is a need for a more substantial body of evidence in the development and evaluation of resources made available to those delivering PSHE education.

A start has been made in addressing the imbalance in research evidence supporting the development of new initiatives. In 2015, nine PSHE teachers were interviewed as part of a qualitative study concerning views on alcohol education. Analysis of interview transcripts identified three main themes regarding teachers' views on 'the importance of PSHE'; 'drinking responsibly'; and 'young people under pressure' (Davies, 2016).

Themes

The theme 'the importance of PSHE' reflected a feeling, among teachers participating in this study, that PSHE has a critical role in education. Three sub-themes related to this were 'preparing adolescents for the real world; 'challenges in delivering PSHE' and 'PSHE facilitation'. The teachers were sensitive to the need for high quality PSHE education as part of a fully rounded education, which would adequately prepare their students not only for the world of work, but also for challenges found in all aspects of modern life. Despite the passion exhibited by these teachers, there was also evidence of some frustration with the way in which the topic was delivered. Time pressures were felt to play a part but also this may reflect a lack of priority within the curriculum. Opinions were mixed about using outside speakers or groups to deliver PSHE topics, with both benefits and limitations recognised by teachers.

The theme 'drinking responsibly' encapsulated the teachers' apparent acceptance of drinking during adolescence, and their subsequent hope to impart a sensible approach to alcohol consumption to their students. There appeared to be two aspects to responsible drinking reflected in two sub themes; 'units and quantity' and 'making decisions'. The first was related to knowledge about units of alcohol and what would be an appropriate quantity to consume. The second aspect concerned how to encourage adolescents to make 'good' decisions about alcohol.

The final theme, 'young people under pressure', described teachers' concerns about the myriad of difficulties facing the young people. Within this, several sub themes were identified, including 'social groups and pressure' and 'drinking and culture'. These findings highlighted the ways that teachers tried to understand the broader social pressure their students faced, as well as the challenges of navigating giving good advice about alcohol given its huge influence within wider society.

New survey

Building on this novel insight into teachers' views of alcohol education, we set out to explore key themes, for alcohol use and other PSHE topics, with a larger sample of teachers. A new online survey was launched in spring 2017, with the purpose of widening the exploration of teachers' views on the current provision of PSHE education. This research aims to gather information on what teachers think about the education of adolescents concerning not only alcohol and drug use, but also covering topics such as sex and relationships, and mental health and wellbeing. Furthermore, the study aims to gauge the acceptability and feasibility of using digital tools within the classroom environment when teaching young people about these topics.

The benefits of the previous small-scale qualitative study are the exceptionally rich and detailed findings, insights from which have informed the development of the online questionnaire. Results from the new survey will be able to reflect views from a much wider and diverse sample though, and will allow researchers to analyse data that better represents teachers' views from across the UK. Additionally, the use of online research provides an ideal platform to explore a broader scope of topics such as sex and relationships, mental health and wellbeing, and modes of delivery, as well as alcohol and drug use.

If our society is to address the many and varied issues facing young people today, health initiatives need to be informed by more and better research. This cannot be done without the input of major stakeholders in education, such as teachers, who are invited to contribute their views via our current study. This short online survey is open to any teachers, in any school, with responsibility for, or an interest in, PSHE education. The questionnaire takes around 20 minutes to complete and, as a thank you for taking part, individual participants will have the opportunity to enter a prize draw to win one of three £100 shopping vouchers. Winners of the prize draw will take notified by end October 2017.

Detailed information about the survey and how

to participate can be found at:
https://tinyurl.com/PSHE-Teachers

Updates and a summary of our findings will be also published on our website, during and at the end of the study:

http://psych.brookes.ac.uk/research/pshe.php

If you have any questions about participation, or you would like to be involved with future collaborations on this important topic please email Dr Emma Davies (edavies@brookes.ac.uk) or call 01865 484056.

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SMSC, wellbeing and school improvement – the links and opportunities

This article makes the case for the contribution of wellbeing to learning and attainment; argues for curriculum change; laments some of the wasted opportunities in England and describes some hope for the future for children and young people, schools and their staff.

For the purposes of this article, SMSC is the umbrella term that involves every curriculum area and every aspect of the school experience and ethos. Personal, Social, Health and Economic (PSHE) education is *"… a planned programme of learning through which children and young people acquire the knowledge, understanding and skills they need to manage their lives, now and in the future."* (PSHE Association, 2017) – a definition which includes teaching based on values clarification, skill development and knowledge about risk and resilience through topics which include substance use, healthy heating, emotional wellbeing and mental health and sex and relationships education (SRE).

Curriculum change? SMSC and soft but vital outcomes

It's a sad indictment of education in the UK, especially England, that we have narrowed the success indicators for organisations and individuals to a few things that we (think we) can measure.

Of course, English and Maths are important. Basic numeracy is essential to manage daily life and forms the basis of so many careers in technology and engineering. Illiterate children cannot access the curriculum and are denied the pleasures of reading (although many will take issue with Mr Gove's assertion that the joys of reading Dryden will avert teenage pregnancies) but if we teach only those things that we can measure, are we in danger of valuing only that which we can assess?

Skills such as problem-solving skills, an ability to work with others, and empathy to manage the needs of others, are all things that many schools do not find easy to teach, and fewer still find easy to measure. Such attributes are deemed essential by organisations such as the Confederation of British Industry, but when employers lament that young people are not 'work ready', it should come as no surprise, especially when employability and enterprise education are no longer part of an increasingly narrow national curriculum. We know from medicine that the clinician's 'bedside manner', that is their inter-personal skills, can make a significant impact on prognosis for the patient, but there is seldom time to teach these so-called 'soft skills', which many people seem to find so hard. This may be partly because of external pressures from Government, the expectations of a knowledge-based, academic curriculum and Ofsted inspections, all of which have produced an obsession with quantifying learning and simplistic judgement, so that there is little or no time for young people to learn, develop and embed the skills, that will help them in the customer-facing roles with which they will almost all have to engage throughout their lives and careers.

Many children, currently in primary schools, are likely to live into the 22nd century. What we know of their future is … that we know very little. It seems likely that they will have to manage climate change, migration and increasing automation, but they will probably also have to manage challenges that we have not yet imagined.

Given the exponential changes in the ease of personal and global communication, and the associated increases in knowledge, there is a strong argument that a knowledge based

curriculum is unlikely to meet the future (or perhaps even current) needs of our school-age children. If I forget the capital of Alaska or a specific method of calculus, I can check it out on a personal communication device in a matter of moments. This should challenge schools who seek to ban the use of mobile phones. The vast majority of children, over the age of ten, will have immediate access to a communication device that can put them in touch with almost any knowledge that ever been … and they are not allowed to use it for learning? Misuse of mobile technology is surely a matter of behaviour management, not a reason to ban?

In a world where Google satisfies any need for knowledge, it is surely values and a moral compass based on Spiritual, Moral, Social and Cultural (SMSC) development, addressed throughout the school, supported by specific health teaching in Personal, Social Health and Economic (PSHE) education, that will help to guide pupils through turbulent times.

The contribution of SMSC to learning and attainment

It has long been recognized that the SMSC development underpins learning. There is strong evidence that demonstrates the link between pupils' health and wellbeing and attainment (NAHT / PHE, 2014).

The 1944 Education Act gave local education authorities the duty to contribute towards *'the spiritual, moral, mental, and physical development of the community'* and schools in England have a statutory obligation to promote pupils' wellbeing (Children Act 2004), and to prepare children and young people for the challenges, opportunities and responsibilities of adult life (Education Act 1996).

All state-funded schools must meet the expectations of the National Curriculum (DfE, 2013) to:

'… make provision for personal, social, health and economic education (PSHE), drawing on good practice' and that: *'Every state-funded school must offer a curriculum which is balanced and broadly based and which:*

- *promotes the spiritual, moral, cultural, mental and physical development of pupils at the school and of society*
- *prepares pupils at the school for the opportunities, responsibilities and experiences of later life.'*

Schools also have a clear duty under the Equality Act 2010 to ensure that teaching is accessible to all, including those who are lesbian, gay, bisexual and transgender (LGBT+). High quality SMSC, through PSHE, can help to foster good relations between pupils, tackle prejudice – including trans and homophobia – and promote understanding and respect, to enable all members of the school community to flourish.

SMSC across the curriculum plays an important part in fulfilling these statutory duties. Although schools do not have to teach specific lessons on SMSC development, good practice and high-quality teaching, within a broad and balanced curriculum, should ensure that pupils' SMSC development is included across the curriculum; in extra-curricular provision and life throughout and beyond the school. Clearly such awareness needs to be supported by Continued Professional Development (CPD) for all staff.

Successive Ofsted frameworks have noted the importance of pupils' SMSC development, and Ofsted currently expects inspectors to evaluate pupils' SMSC development before making a final judgement on the school's overall effectiveness. Indeed, a school may be judged to have serious weaknesses if the provision for pupils' SMSC development is not at least good.

High quality PSHE can help schools fulfil their duties to protect, safeguard and promote wellbeing and it is difficult to see how safeguarding can be 'good' if PSHE is poor; and the judgements about the schools' overall effectiveness are bound to affected if pupils are unaware of how to protect themselves.

It's not a question of either academic or SMSC development; a purposeful curriculum should enable each to reinforce the other. Development in both areas is essential to raising standards of attainment for all pupils. Schools seeking support to improve their SMSC provision can contact the Citizenship Foundation for further guidance.

There is strong evidence that promoting SMSC development can contribute to raising academic standards and improving pupils' life chances (Banerjee, 2013; Gutman and Vorhaus, 2012) and the relationships developed between pupils and with their teachers, fostered through SMSC, are an essential component to enhance learning. Schools should focus on relationships to ensure that all students have a sense of belonging. *"If you want to increase student academic achievement, give each*

student a friend." (Hattie, 2011) – and it wouldn't be too great a leap of faith to assume this also to be true for staff.

Research currently being conducted by the Relational Schools Project is making some fascinating contributions to improve our understanding of this relationship.

Government and PSHE: wasted opportunities

Not so very long ago, the outcomes of 'Every Child Matters' were being promoted across the country, supported by Public Health teams, and scrutinised by Ofsted; the National Healthy Schools programme, provided a network of local expertise and was producing increasingly strong evidence of the links between pupils' wellbeing and their academic attainment. The national PSHE CPD programme, was training teachers, health professionals, police officers and Youth workers to successfully support each to improve both health and education.

In 2008, the then Labour government announced that PSHE was to become statutory, but a general election was called and statutory PSHE was lost in the 'wash up'; Government funding for the National Healthy Schools and national PSHE CPD programmes was cut.

Five years later, 'Not yet good enough' (Ofsted, 2013), reported that even in 'good' and 'outstanding' schools, the quality of PSHE education 'required improvement' or was inadequate in 40% of schools in England. Where PSHE was weaker, homophobic and disablist language was commonplace; pupils' personal and social skills, were poorer and pupils had gaps in their knowledge and skills, in aspects of safeguarding, especially is issues of personal safety, mental health and alcohol misuse. The same report lamented that failing to provide high quality, age-appropriate SRE could leave young people vulnerable to exploitation and lacking the skills to be able to make safe, healthy decisions.

Research suggests that as much as 8% of the variation in pupils' attainment could be attributed to teacher wellbeing (Briner and Dewberry, 2007) However, the Department for Education (DfE) (DfE, 2016) suggest that record numbers of teachers are leaving the profession and clearly staff wellbeing is an important contribution to the health, learning and achievement of children and young people.

By the end of 2016, five different cross-party Commons select committees, PSHE experts, teachers and their Unions and parents' groups, had all separately recommended that PSHE, including SRE, should be statutory.

The wellbeing of children and young people is influenced by a range of factors, including the social, physical and psychological aspects of their lives (Bowling, 2011). Schools are therefore an essential setting for promoting health, especially as their emotional wellbeing contributes to pupils' ability to achieve their academic potential (Gutman and Vorhaus, 2012).

The Chief Medical Officer's annual report 2012 noted that: "*… promoting physical and mental health in schools creates a virtuous circle reinforcing children's attainment and achievement that in turn improves their wellbeing, enabling children to thrive and achieve their full potential.*" (Brooks, 2013)

The reciprocal benefits of improving leaning and wellbeing are clear as academic achievement has a strong positive impact on the subjective sense of life satisfaction that children perceive and is linked to improved wellbeing in adulthood (Chanfreau *et al.*, 2013). The corollary is this is that pupils' overall wellbeing impacts on their behaviour and engagement in school and their academic achievement (Buck *et al.*, 2008, Murray *et al.*, 2007).

Despite this strong evidence, PSHE is not statutory in maintained schools or academies, and children in primary schools are at the whim of governors as to whether they even have a policy on teaching any aspects around puberty, menstruation or relationships education.

It is unforgivable that children who might be subjected to sexual exploitation are not taught the vocabulary to condemn their abusers, or that young women start their periods without an adequate understanding of what is happening to them.

The future: some hope

On 1st March 2017, The Secretary of State for Education announced plans for two new statutory subjects for all state-funded schools in England: 'relationships education' for primary schools and 'relationships and sex education' in secondary schools. The 'statutory guidance' for schools about teaching 'Relationship (just the one?) and sex education' (DfEE, 2000) was written in the last century, which is clearly outdated, not least because online pornography, sexting and on-line

safety were not even thought of. Just as there is little point in having a trigonometry syllabus without a mathematics curriculum, amendments to the Children & Social Work Bill will also allow the government to make PSHE education statutory in all state-funded schools in England - primary and secondary, maintained and academy – as from September 2019.

Detailed prescription of content is unlikely, but evidence-based, theory driven programmes must be encouraged to meet the current and future needs of children and young people. Educators, parents and pupils must engage with other stakeholders, including Public Health, academics and politicians to ensure that the interests, wellbeing and attainment of children and young people are at the fore, to ensure that they can keep themselves safe, promote wellbeing and enable them to flourish in every aspect of their lives.

Whole-school, developmental curricula are needed to help children and young people learn essential building blocks for physical health and emotional wellbeing. For example, it would be wholly inappropriate to talk to young children about sexually transmitted infections, but understanding why we wash our hands after going to the toilet helps even the youngest children to learn that infection can be passed between people that we each have responsibility for own health, and that of others.

As they mature, we must also teach young people how to deal with pornography, consent and contraception, in ways that promote diversity and inclusion and create more emotionally literate, resilient communities and society.

Effective 'relationships education' is not confined to intimate relationships. A significant majority of young people will go to into 'customer-facing' employment and relationships education must teach them how to collaborate and work successfully in groups; to develop positive long-lasting relationships with people who look, love or worship in ways that are different to them.

Increasingly, relationships will happen on-line and we must ensure that enabling children and young people to stay safe on-line, is not a deficit model, but promotes digital citizenship, based on values and skills that promote safe but effective communication.

Hard-pressed schools must be supported to fund adequate staff training and enabled to find time in an already busy curriculum to recognise the importance of PSHE, within wider reform of the curriculum and assessment.

Children and young people deserve, and have a right to values-based education that promotes their SMSC development and their emotional wellbeing and helps them to stay safe and use digital communication effectively. Children and young people need all adults concerned with their health, wellbeing and achievements to actively contribute to the forthcoming consultations and curriculum opportunities. They deserve nothing less.

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