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## When I grow up I want to be a comedian! Assessing the impact of comedy and laughter training on the emotional and social wellbeing of schoolchildren

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### Abstract

This study assessed the impact of a comedy and laughter training programme on the social confidence and well-being of 145 UK-based primary school students. Scores in self-efficacy, shyness and happiness were taken once before and twice following (immediately after and eight weeks later) the programme for both students on the programme and a control group. The statistical analyses found no significant difference on any of the three variables between the two conditions, across the three occasions; nor was there any interaction between the variables. These results appear to show that participating in comedy and laughter training did not result in improvements in the students' confidence or well-being. While the training did not produce the benefits expected, the findings do offer insights into the challenges facing any attempt by educators or researchers to employ or enhance humour in an educational setting. Consequently, in the discussion I will explore these findings in relation to issues such as the definition of a 'sense of humour' and potential areas of future research such as comparing positive and negative humour are discussed.

**Keywords:** humour, comedy, training, education, students, self-efficacy, happiness, shyness

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## Introduction

In many schools in the UK there is an increasing interest in the mental and emotional health of their students. Indeed, some commentators would argue that equipping students with the skills needed to maintain such health is now recognised as an equally important aim for educators alongside more traditional aims such a preparation for the workplace (Claxton, 2008). This may be one of the reasons for the growth of a sizable industry of programmes being offered to schools which promise to enhance the wellness of students through promoting resilience (Howard and Johnson, 2001), emotional literacy (Coskun and Oksuz, 2019) or mindfulness (Burke, 2010). Although they can take very different approaches, what these programmes have in common is the promise to promote concentration, stress management and self-esteem among students. And yet it may be that another method to achieve all of those things can be found in one of the most basic things that makes us feel better, laughter. Studies have found that humour training programmes reduce levels of stress and anxiety as well as increasing positive affect in clinical and general populations (Crawford and Caltabiano, 2011; Tagalidou, Loderer, Distlberger and Laireiter, 2018). This suggests that an effective but relatively unconsidered route to promoting a student's mental and emotional health would be to promote the development of their sense of humour. There have been very few empirical studies evaluating the effectiveness of humour training in student populations. The few studies that have been published suggest that humour training can promote optimism and adaptive humour (Lee, Kim, Lee, 2018) as well as enhancing the use of humour to strengthen social connections (Wu, Liu, Kuo, Chen and Chang, 2016).

For the purposes of the current study I will first explore the research which can help us to better understand the potential benefits that might come from a student's sense of humour. Following that I will consider the potential for enhancing a student's sense of humour by evaluating the results of a comedy and laughter training programme whose purpose was to promote the development of a student's sense of humour.

### ***Humour in education***

When most people think of the role of humour in education, their first thought is likely to be use of humour as teaching tool. Indeed, the use of humour by teachers has been found to generate a more relaxed class atmosphere (Rosenberg, 1989) and enhanced

perceived levels of staff support among students (Wrench and Punyanunt, 2008). Other benefits include improved teamwork (Chauvet, and Hofmeyer, 2006), comprehension (Ruggieri 1999) and as a stimulant for creativity (Jewell, 2005; Martin and Lefcourt, 1983). That being said, a teacher's ability to use humour effectively may not be the only factor to consider here. It won't matter how technically brilliant the teacher was in delivering the punchline if the students don't get the joke. As such, it is worth considering if a student's sense of humour might also have benefits in education which are quite separate from the benefits from their teacher's use of humour.

A 'sense of humour' describes an individual's appreciation of humour and the ability to find things funny or see the humour in a situation (Ruch and Hehl, 1998). A number of studies show students benefitting from their sense of humour. Research has found that among students a sense of humour was related to reduced stress, improved cognitive processes such as attention and retention (Ulloth, 2002) as well as greater levels of mental flexibility (Kuiper and Borowicz-Sibenik, 2005; Lefcourt and Martin, 1986). Other studies found that students who used their sense of humour as a coping mechanism reported higher levels of wellbeing (Boyle and Joss-Reid, 2004), got on better with their fellow students (Yip and Martin, 2006) and adopted a more positive outlook on life and its challenges (Kuiper, Martin, and Olinger, 1993).

While there is a wide variety of benefits associated with a sense of humour, from my scoping review of the literature it appeared that the social benefits that were the ones most consistently associated with an individual's sense of humour. As such, I decided to explore the relationship between humour and three concepts which were widely mentioned in my scoping review and are all related to social functioning: self-efficacy, shyness and happiness. As well their prevalence in the literature, these concepts were chosen as they echo the claimed benefits of the humour training which is the focus of this study, namely that it would have a beneficial effect on the students' confidence, happiness and sociability. I will now consider the existing research linking each of these concepts to a sense of humour in more detail.

## Literature review

### ***Humour, self-esteem and self-efficacy***

Self-esteem has been defined as an individual's overall (global) evaluation of his or her own worth (Baumeister, Campbell, Krueger and Vohs, 2003). Research has suggested that educational success is affected by self-esteem, as students with higher self-esteem demonstrate higher levels of classroom engagement (Daugherty, Hoffner and Light, 2020), possess good communication skills (Burnett, 1998) and are more likely to persist in achieving goals, including overcoming setbacks and feelings of self-doubt (Baumeister, Campbell, Kreuger and Vohs, 2003). With regard to the link between self-esteem and humour, a number of studies show a relationship between an individual's humour and their self-concept (Lillemyr, Sobstad, Marder and Flowerday, 2010, Kuiper and Martin, 1993; Kuiper and Borowicz-Sibenik, 2005). Individuals who report higher levels of humour and laughter tend to exhibit a more positive view of themselves and lower levels of self-criticism (Ho, 2016, Kuiper, McKenzie, and Belanger, 1995; Deaner and McConatha, 1993).

The mechanism by which a sense of humour could influence increased self-esteem is debated. Some believe there is a physiological effect, where laughter is associated with biological measures of wellbeing such as increased endorphin levels (Berk, 2001; Hyrkas, 2005). Others favour a social effect, suggesting that humour could build confidence and facilitate learning by acting as a social lubricant between members of the learning network (Reilly, 2006; Wu *et al.*, 2016).

However, Crocker and Wolfe (2000) have suggested that the links between self-esteem and behaviour are clearer when self-esteem is measured in a domain-specific way. As such, in place of a global measure like self-esteem, it would be preferable to focus on a student's belief in their own ability to learn. This type of belief is known as a self-efficacy belief (Bandura, 1994), specifically their learning self-efficacy; the student's belief in their own ability to learn. Thus if I was able to promote the development of an individual's sense of humour I might see a corresponding increase in their learning self-efficacy. As such, for the purposes of this study I will be focusing on the relationship between humour and self-efficacy, rather than self-esteem.

## ***Humour and shyness***

Shyness is a trait that describes those who are unwilling or unable to engage in the kind of social interactions that are part of our everyday lives (Kagan, Resnick and Snidman, 1988). Individuals who suffer from shyness as children often face challenges with developmental tasks as adults. Kerr, Lambert and Bem (1996) have suggested that shyness in male children is associated with unsettled career and relationship progress in adulthood, while shyness in young females has been associated with lower levels of academic success. With regard to education, teachers may not notice shy students and it can result in less social interaction with peers, both of which can have a detrimental effect on the educational success of that student (Phillipset *et al.*, 2001).

People who are shy can lack the social skills that would be necessary to overcome that shyness. Consequently, one approach to helping people who are shy would be to help them to develop those social skills. A good sense of humour is considered to be a social asset (Cann and Calhoun, 2001) and a sense of humour has been found to be associated with other personality traits such as extraversion, a trait that is also linked to social competency (Plessen *et al.* 2020). Individuals with a good sense of humour have been found to be better at avoiding or defusing conflicts with other people, which would result in more successful relationships with others (Svebak *et al.*, 2004). It may be that the social benefits of humour go some of the way to explaining its stress-relieving effects as well. Kuiper and Olinger (1998) and Martin (2004) have both suggested that humour may help promote and/or maintain social networks which can act as support in times of stress. Thus, if I was able to promote the development of an individual's sense of humour I might see a corresponding increase in social competence and a decrease in their level of shyness.

## ***Humour and happiness***

Happiness, in philosophical terms, is every individual's ultimate endeavour. Most of us consider our level of happiness to be an important component of our quality-of-life. As well as affecting our mood, it has been suggested that our level of happiness can affect our productivity. This occurs because unhappy individuals have been found to approach activities in a more negative and less productive manner than happy individuals (Lyubomirsky and Tucker, 1998). While it is a term that enjoys very

widespread use, happiness can be rather difficult to define psychologically. Argyle (2001) suggested that happiness might be described as the combination of three factors: level of satisfaction over a period of time, the frequency and level of our positive feelings, and the comparative lack of negative feelings.

A good sense of humour is an essential tool which helps us regulate the impact of negative events in life and thus decrease psychological distress (Kugler and Kuhbandner, 2015, Moran and Hughes, 2006). Research by Abel (2002) explained this effect by suggesting that individuals with a higher level of coping humour interpreted stressful events in a less threatening manner. Consequently, individuals with a good sense of humour generally have fewer negative feelings (Lefcourt and Martin, 1986) and are able to maintain a more positive outlook (Kuiper *et al.*, 1992; Lee *et al.*, 2018).

All of this would suggest that individuals with a good sense of humour possess a vital skill which enables them to come to terms with negative life events and thereby remain happy (Kuiper *et al.*, 1995). Consequently, if I was able to promote the development of an individual's sense of humour I might see a corresponding increase in their level of happiness.

## Aims

The results of my literature review make the case for a relationship between an individual's sense of humour and their self-efficacy, shyness and happiness. However, it's worth noting that the majority of previous studies show a correlation between sense of humour and the other variables. The extent that these other variables are affected by someone's sense of humour are not discussed here and are beyond the scope of this study. Evidence of such a causal relationship would need to first cause a change in one variable to see if it produces a change in the other, namely, promoting the development of their sense of humour to determine if it promotes a corresponding change in the other characteristics.

This raises the question as to whether it is possible to promote the development of an individual's sense of humour. While many people would consider their sense of humour as innate, there is evidence that the development of a sense of humour is linked to other kinds of development such as cognitive development (Guo *et al.*, 2011)

of theory of mind (Mayes *et al.*, 1994). This would suggest that like any other form of learning there is the potential for educators to seek to promote the development of a sense of humour through directed learning (Pagliano *et al.*, 2007). In this vein, McGhee (1999) created an eight-step programme which seeks to enhance someone's sense of humour through the teaching of humour-related skills including finding humour in yourself, everyday life and stressful situations. Some studies have put these theories about enhancing an individual's sense of humour into practice. There is a number of studies (See Crawford and Caltabiano, 2011; Ruch, Hofmann, Rusch and Stolz, 2018; Tagalidou *et al.* Laireiter, 2018) who found a significant change in the sense of humour of participants in humour-training programmes used in non-educational contexts. One of the only studies based within educational context looked at the impact of humour training on female teachers (Nevo *et al.*, 1998). They found improvements immediately after the course, but no follow-up checks were done to see how long the effect lasted, and no students were included in that study.

Consequently, the aim of this study is to evaluate the impact of a school-based comedy and laughter training programme designed to improve a student's sense of humour to answer the research question, 'Will the students participating in the programme show corresponding changes in their levels self-efficacy, shyness and happiness?'

## **Method**

### ***Design***

The comedy and laughter training programme was delivered by a professional comedienne and a laughter therapist. The laughter therapist was an individual with training in the use of techniques such as laughter yoga and other exercises aimed at producing laughter for the purposes of enhancing wellbeing. The comedienne had experience of working as a stand-up comic and comic writer. The programme itself was developed by a local voluntary organisation which specialises in the use of art and comedy to promote humour and health and wellbeing. It was being delivered in three schools on a trial basis as a method of boosting the general health and wellbeing of the students, comparable to mindfulness training and other similar programmes.

The sessions took place in classrooms with a teacher present alongside the comedienne and laughter therapist. It was not possible for the researcher to be present to observe as this would have required the consent of all students present for ethical purposes. It was the view of the school that it would discourage students from participating if such permission was a prerequisite.

The programme comprised six one-hour sessions, during school time and delivered at weekly intervals. The content of the sessions was designed to be flexible to allow for the students to engage in self-directed learning, but an overview of the session aims and key elements can be found below.

Session 1 – Introduction to humour, icebreakers and group activities.

Session 2 – Coming up with ideas storytelling.

Session 3 – Punchlines, what makes something funny?

Session 4 – Making presentations, public performance, worries and concerns.

Session 5 – Performing. What makes you laugh?

Session 6 – Reflections, interactive evaluations.

The sessions were comprised of a combination of humorous activities, laughter training and humour appreciation training. One example of an activity was asking each student to bring along an example of one funny thing they saw or heard during the week and locate one other person in the class who also finds it funny. An example of a discussion topic was asking the students what is and what isn't ok to laugh at? All students were encouraged to participate in each session. Although the students were encouraged in some cases to make certain preparations for a session (e.g. locating something funny to bring to the session) there was no formal homework or assessment linked to these sessions.

The purpose of this programme was to enhance the student's sense of humour by stimulating their appreciation of humour and encouraging them to develop a greater level of humour awareness in their daily life. It was hoped that this would in turn have a beneficial effect on the student's confidence, happiness and sociability.



The research design chosen was a baseline intervention design. There were three dependent variables: self-efficacy, shyness, and happiness. Measurements of variables were taken from the participants on three separate occasions: just before the start of the programme, immediately after the completion of the programme and eight weeks after the completion of the programme. Measuring on three occasions in this way is common among studies evaluating the impact of training programmes such as this (Burke, 2010). The pre and post measurements allow for a before and after comparison, while the third measurement evaluates the durability of any effect.

The research questionnaire which combined these three areas of investigation is shown in Appendix One, Research Questionnaire.

### **Participants**

A total of 147 students participated in this study, drawn from three UK-based secondary schools. The students were divided into six groups with two groups in each of the three participating schools. In each school there was an experimental group comprised of those students in that school that were participating on the programme, and a control group comprised of students participating in a religious education programme provided by their school.

The participants were all students in their second year of secondary education. In each school the two groups were a relatively close match for age, gender ratio and number of students. These scores are presented in Table 1.

School	Condition	Number of Students	Ratio of Males: Females	Age Range	Mean Age
School A	Experimental	24	0 : 24	12-13	12.43
School A	Control	24	0 : 24	12-13	12.38
School B	Experimental	22	6 : 16	12-13	12.39
School B	Control	29	10 : 19	12-13	12.51
School C	Experimental	24	13 : 11	12-13	12.31
School C	Control	24	16 : 8	12-13	12.47

*Table 1: Participant demographics including age and gender distributions per group*

## **Materials – Data Collection**

The option of measuring humour directly was considered. Unidimensional measures like the Sense of Humor Questionnaire (SHQ – Svebak, 1996) were rejected owing to concerns about validity (Martin, 2001) and social desirability bias (Overholser, 1992). Instead, multidimensional measures such as the Humor Styles Questionnaire (HSQ - Martin, Puhlik-Doris, Larsen, Gray, and Weir, 2003) or the use peer-reports were proposed to the schools. These options were rejected by the schools for being too time consuming and thus causing too much disruption to the school timetable. Consequently, it was decided not to directly measure sense of humour. Instead the programme's impact would be determined by measuring the changes in the three measures of well-being (self-efficacy, shyness and happiness). All three measures were chosen, in part, because they were short-form measures which could be used multiple times within the limitations imposed by the schools, while still offering good reliability and validity.

The Self-efficacy measure was an adapted version the General Self-Efficacy Scale (GSE) (Schwarzer and Jerusalem, 1995). This is a widely used measure which shows consistently good reliability and validity across a broad variety of studies (.Scholz, Gutiérrez-Doña, Sud and Schwarzer 2002) The measure comprised of ten statements relating to an individual's self-efficacy in relation to learning. Each statement allowed responses a five point Likert scale from strongly agree to strongly disagree. A high score indicated confidence in their ability it learn. An example of a statement from this measure would be 'I can always manage to learn a new skill if I try hard enough'.

The Shyness measure was the Revised Cheek and Buss Shyness Scale (Cheek and Briggs, 1990). This was chosen as it is a widely used measure of Shyness. with a number of studies reporting alpha scores for this measure in a range between 0.79 and 0.94 (Crozier, 2005) It was comprised of thirteen statements relating to the way they typically feel in social situations. Responses were measured using a five point Likert scale from strongly agree to strongly disagree. A high score indicated a high level of social skills and therefore low levels of shyness. An example of an item from this measure would be 'I do not find it hard to talk to strangers.'

The Happiness measure was the Oxford Happiness Questionnaire (short form) (Hill and Argyle, 2002). This was chosen as it offers a more compact version of the well

respected Oxford Happiness inventory, and had been found to have both good construct validity and high internal reliability (Hill and Argyle, 2002). It was comprised of eight statements relating to the sense of personal happiness. Responses were measured using a six point Likert scale ranging from agree a lot to disagree a lot. A high score indicated they were happy. An example of an item from this measure would be 'I feel that life is very rewarding '. The questionnaire is shown in Appendix One: Research Questionnaire.

### ***Ethical Considerations***

This research was conducted under the regulations for researching with children at Liverpool Hope University and followed the ethical guidelines for such research as laid out in the University Ethical Guidance Regulations.

### ***Procedure***

All groups participated a series of six classes. Each class lasted one hour and occurred once a week for a period of six weeks. In each school the control group was given a class in religious and social education, learning about different religions around the world, which was delivered by a teacher. In the experimental groups this same period was taken up by the comedy programme, which was delivered by two comedy professionals with the teacher present to help facilitate. The rest of their week the students in both conditions continued to attend their other classes as usual.

On the three occasions on which the data was gathered the students were approached as a group in class at school by one of the researchers. The researcher explained that the purpose of the study and the students were invited to ask questions. On each occasion it was made clear that participation was voluntary, informed consent was recorded via a specific section at the start of the survey, and the students were able to return the survey without completing it. A student's responses on different occasions were linked while maintaining anonymity by using ID numbers protected by a double-blind system. On the final occasion for all groups, after the data had been collected, the students were given a small surprise reward in the form of a box of chocolates as thanks for their patience and participation.

## Results

The data collected was compiled so as to produce three scores for each student on each occasion: one for each of the three variables, self-efficacy, shyness and happiness. The means for each group across the occasions can be seen in Table 2.

Variable	Condition	Before		Immediately After		8 weeks later	
		Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Self-Efficacy	Experimental	35.55	5.030	35.85	5.641	35.15	5.526
	Control	35.42	5.318	36.50	4.591	36.50	5.760
Shyness	Experimental	40.30	4.713	40.60	5.755	40.77	4.876
	Control	40.15	4.752	40.58	4.816	42.45	4.460
Happiness	Experimental	28.31	5.676	28.05	4.191	29.32	3.954
	Control	29.28	4.662	28.89	4.204	29.49	4.081

*Table 2: Mean scores for both experimental and control groups for all three dependent variables across the three occasions*

A Cronbach's reliability analysis for each of the three measures was conducted which found the following alpha scores: Self-efficacy measure ( $\alpha = 0.737$ ), Shyness measure ( $\alpha = 0.751$ ) and Happiness measure ( $\alpha = 0.593$ ). All three scores were considered acceptable with the relatively lower alpha for the Happiness measure being comparable to other similar measures in previous research.

The first round of analyses focused on the experimental group, looking at levels of change in the three dependent variables within that group across the three occasions.

The first ANOVA looked at self-efficacy. The results showed no significant change in this variable across the three occasions ( $F = 0.521$ ,  $df = 2$ ,  $p = 0.595$ ). The second ANOVA looked at shyness. The results showed no significant change in this variable across the three occasions ( $F = 0.209$ ,  $df = 2$ ,  $p = 0.812$ ). The third ANOVA looked at happiness. The results showed no significant change in this variable across the three occasions ( $F = 1.666$ ,  $df = 2$ ,  $p = 0.193$ ).

Therefore, there is no significant change in the levels of shyness, self-efficacy or happiness of the students in the experimental group, either after the comedy programme or eight weeks later.

Following this, the second round of analyses compared the experimental and control groups regarding the level of change in the three dependent variables within each group. Three separate repeated measures ANOVAs were conducted, one for each of the three variables. In each ANOVA the independent variables were the occasion, with three levels (before, immediately after, 8 weeks later) and the conditions, with two levels (comedy, control).

The first ANOVA looked at self-efficacy. The results showed no significant interaction between the conditions and the occasions ( $F = 1.205$ ,  $df = 2$ ,  $p = 0.301$ ). The second ANOVA looked at shyness. The results showed no significant interaction between the conditions and the occasions ( $F = 2,104$ ,  $df = 2$ ,  $p = 0.124$ ). The third ANOVA looked at happiness. The results showed no significant interaction between the conditions and the occasions ( $F = 0.445$ ,  $df = 1.847$ ,  $p = 0.626$ ).

Therefore, there is no significant difference between the experimental and control groups with regard to the level of change in the shyness, self-efficacy or happiness of the students either after the comedy programme or eight weeks later.

## Discussion

Based on these results I would argue that participation in the comedy programme did not have a significant effect on the self-efficacy, shyness or happiness of those students who took part. There was no significant change in the levels of self-efficacy, shyness or happiness in the group of students who participated in the programme, either directly after or eight weeks later. Furthermore, there was no real difference between the experimental and control groups in terms of their self-efficacy, shyness or happiness either beforehand, directly after the programme was over, or eight weeks later. As such I was unable to support the findings of previous studies (Crawford and Caltabiano, 2011; Ruch *et al.*, 2018; Tagalidou *et al.*, 2018) who found that participation in a humour training programme resulted in improvements in the mental health and wellbeing. However, a number of issues must be considered when attempting to interpret the results of this research.

One issue to consider is that none of the previous studies were looking at the effects of humour training on school-age children in an educational context, which may contain factors that affect the outcome. For example, although participation in this study was voluntary and the effect of power relations was minimised, the school ran the comedy training programme as part of their curriculum and so students were expected to participate. This contrasts quite strongly with many other studies where participants volunteered to take part in the humour training. Indeed, Ruch *et al.* (2018) speculate that the use of volunteers in their study and others may attract a higher proportion of people who are more trait serious and thus more receptive to humour training. In a similar vein Boyle and Joss-Reid (2004) found that the relationship between humour and wellness works very differently for people with a medical condition where the humour is often used to remove or manage a negative, compared to those without. Thus, in many of those previous studies which found benefits from humour training, the humour training took place in a clinical or sub-clinical contexts where the benefits could be characterised in terms of removing negative affect (reducing stress or depression). By contrast, the current study was seeking to increase positive affect among students whose levels of happiness and self-efficacy were more representative of the population average. This distinction, between reducing negative affect and increasing positive affect, and the relationship that humour training has with both is worthy of future study.

The need to consider positive and negative reflections of the same concept may well apply to humour as much as affect. Martin *et al.* (2003) found that certain types of humour such as teasing and sarcasm, which they dub 'negative humour', can have a detrimental impact on social relationships. Even what might be seen as a positive attempt at humour can have a negative effect if it doesn't take into account the social mores and taboos of others (Ford and Ferguson, 2004). As such, it may be that the current study, like many others, employed too simplistic a model in supposing that encouraging an individual's sense of humour to develop will inevitably lead to a positive result for them socially. Furthermore, it is also possible that the absence of negative humour, as much as its presence, might itself be an important factor that was not considered. Yip and Martin (2006) suggest that, while positive humour is more important in initiating relationships, a lack of negative humour could be more important when it comes to maintaining relationships. Thus, any future research that intends to

explore the relationship between humour and happiness or socialisation would do well to consider both positive and negative humour.

There were several issues arising from the fact that the current research was evaluating a humour training programme that was being delivered as part of a school curriculum and designed to meet the requirements of that curriculum. The school's requirements set limits both on the programme itself, such as the number of sessions the programme could run for, but also on the way in which the study could evaluate that programme, such as the data collection methods that were permitted. Focusing on the impact on the study first, these constraints led to us not collecting a measure of sense of humour. It must be acknowledged that such constraints are very common in research 'in the field' and furthermore are common for studies on humour programmes to focus on the benefits and not always measure changes in sense of humour directly (See Crawford and Caltabiano, 2011). That being said, the absence of a measure of humour makes it impossible to determine whether the programme failed to show benefits because it failed to change their sense of humour, or for some other reason. While this might appear to imply that future research should employ a direct measure of sense of humour, caution would need to be exercised that any such measure would need to overcome some of the methodological issues presented by Overholser (1992) and others.

The constraints of the school on the humour-training programme raise some issues which extend beyond this study. For example, it raises the question whether a six-week programme is long enough to have an impact. Previous studies have varied in the duration of the programmes used and there is no clear indicator of a 'minimum duration' required to have an impact. In addition, the choice of the specific humour-training programme, designed and implemented by a professional comedienne and a laughter therapist, was driven by budgetary limits and availability during the timeframe the school required. The school did consider prior effectiveness of the programme, which was determined based on the testimonials of several satisfied previous clients provided by the programme organisers. However, it's hard to know how representative these testimonials will have been and, as Moran (2007) points out, such anecdotal evidence is not enough to establish such interventions work. Furthermore Ruch *et al.* (2018) found that exposure to humour alone would not produce consistent long-term benefits if that exposure lacked structure and was 'a-theoretical'. Humour-training

methods which have some conceptual and statistical validation do exist, such as McGhee's (1999) eight-step programme which has been successfully used in several of the studies discussed previously which have found a successful impact of humour training. And yet schools are often ill-equipped to evaluate the training programmes being offered to the school sector, whether they offer training in humour, mindfulness or emotional literacy. As Farb (2014) points out, in a largely unregulated market where anyone can set themselves up as a 'wellness' provider there are likely to be serious doubts about the misappropriation and misapplication of concepts like mindfulness or humour training. Farb argues for a role that science can play in distinguishing between substantiated and unsubstantiated claims in fields like mindfulness and humour training. That being said, it is only when the findings of such research are made accessible to practitioners and administrators in schools that we're likely to see the findings of that research inform key decisions about the selection and employment of such programmes.

If there is a need to establish the effectiveness of humour training then establishing the causal effects of such training through experimental designs would offer the clearest and most unequivocal method for doing that. And yet a key limitation of much of the previous research linking sense of humour with aspects of wellbeing such as self-efficacy or happiness is that research designs were correlational. As such it's impossible to establish the direction of causality (being happier may help you find the humour in things) or rule out the possibility that it is a third factor causing both. The research design of the current study employed a number of features that previous researchers have advocated for use in research on humour, namely control groups (Tagalidou *et al.*, 2018), follow-up measurements (Crawford and Caltabiano, 2011) and a more representative sample (Thorson and Powell, 1996). I would therefore agree with these other commentators that research in this area would benefit from a wider use of experimental research to establish and better understand the effectiveness of humour training,

One other design factor that may have influenced the results of the current study and so may need to be reconsidered in future research is a reliance on self-report measures, particularly in relation to concepts like self-efficacy, shyness and happiness. Baumeister, Campbell, Krueger and Vohs (2003) pointed out that social desirability can cause people to inflate their self-reported self-efficacy scores.



Baumeister also points out that individuals high in self-efficacy have been found to overestimate their scores on other measures especially self-report scores. A number of researchers (Furnham and Cheng, 2000; Shackelford, 2001) found high correlations between self-reported self-efficacy and self-reported popularity and happiness. Interestingly Buhrmester, *et al.* (1988) found that, although self-efficacy was highly correlated with self-reported popularity, it wasn't correlated with peer-reported popularity. As an alternative to self-report Baumeister *et al.* (2003) suggest measuring self-efficacy using implicit measures (e.g. Greenwald and Farnham, 2000). Consequently, future research in this area would benefit from exploring the difference that peer-reported or implicit measures might make to their findings.

In conclusion, the findings of this research were unable to identify any immediate or long-term benefits from humour training on the students who participated. While this does not rule out the possibility of potential benefits from other similar programmes, it demonstrates the need for further empirical research to establish the efficacy of such programmes and the factors that might affect it. This might include studies to establish which aspects of humour training actually produce benefits, or if there is a minimum programme duration needed for the training to have an effect. With our schools facing limited resources and crowded timetables, ensuring that they are getting what they are paying for from these programmes is no joke.

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## Appendix One: Research Questionnaire

### Happiness

1 – Disagree a lot / 2 – Disagree / 3 – Disagree a little / 4 – Agree a little / 5 – Agree / 6 – Agree a lot

	1	2	3	4	5	6
1. I find beauty in some things						
2. I can fit in everything I want to						
3. I feel fully mentally alert						
4. I do not have particularly happy memories of the past						
5. I don't feel particularly pleased with the way I am						
6. I feel that life is very rewarding						
7. I am well satisfied about everything in my life						
8. I don't think I look attractive						

## Self-efficacy

1 – Strongly Disagree / 2 – Disagree / 3 – Neither Agree or Disagree / 4 – Agree / 5 – Strongly Agree

	1	2	3	4	5
1. I can learn new skills if I put in the necessary effort.					
2. I can remain calm when learning new skills because I can rely on my coping abilities.					
3. When I want learn a new skill I can usually think of several ways to do it.					
4. If I am having a problem learning part of a new skill, I can usually think of a way to get around that problem.					
5. I can usually handle whatever comes my way while learning a new skill.					
6. I can always manage to learn a new skill if I try hard enough.					
7. Even if someone tried to stop me learning something new, I could still find a way to learn what I want.					
8. It is easy for me to stick to my aims and accomplish my goals.					
9. I am confident that I could deal efficiently with unexpected events that occurred while I was learning a new skill.					
10. Thanks to my resourcefulness, I know how to handle unexpected situations that might happen when I try to learn new skills.					

## Shyness

1 – Strongly Disagree / 2 – Disagree / 3 – Neither Agree or Disagree / 4 – Agree / 5 – Strongly Agree

	1	2	3	4	5
1. It is hard for me to act natural when I am meeting new people.					
2. I feel nervous when speaking to someone in charge.					
3. I have no doubts about my social skills					
4. I have trouble looking someone right in the eye.					
5. I don't feel like doing much in social situations.					
6. I do not find it hard to talk to strangers.					
7. I am more shy with members of the opposite sex.					
8. I feel tense when I'm with people I don't know well.					
9. I am somewhat awkward in social situations.					
10. I do not find it difficult to ask other people for information.					
11. I am often uncomfortable at parties and other social functions.					
12. When in a group of people, I have trouble thinking of the right things to talk about.					
13. It does not take me long to overcome my shyness in new situations.					