Teachers' Humour Use in the Classroom: A Scoping Review

Author Information

Hannah Robinson[a], Dr Sarah E. Rose[a], Dr Jade M. Elliott[b], Dr Romina A. Vivaldi[a]

[a]Department of Psychology, Staffordshire University, Stoke-On-Trent, UK

[b]School of Psychology, Liverpool John Moores University, Liverpool, UK

Corresponding author e-mail: hannah.robinson@staffs.ac.uk

Keywords

Teacher humour, Scoping literature review, Education, Classroom, Adolescents

Statement and Declarations

All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript. The authors did not receive financial support from any organisation for the submitted work.

Abstract

Teachers frequently use humour, but it is unclear how this affects the academic experiences and psychosocial development of students. There is sparsity in the literature regarding the impact of teachers' humour on adolescent students. Teachers and the use of humour in the classroom have the potential to foster healthy development of social and academic skills during this key formative stage of maturation, but equally may be detrimental. This scoping review aimed to determine how and why teachers used humour in the classrooms of students aged 11-18, and the effect humour may have on students' educational experiences. The Joanna Briggs methodological framework and PRISMA extension for Scoping Reviews checklist were used.

The narrative synthesis generated six themes from 43 empirical papers. Many studies have considered humour as a single construct, reporting improved classroom management and students' learning processes. However, other reports have suggested that humour use could lead to a loss of class control and for important information to be lost. Studies considering specific humour styles have identified affiliative humour as increasing engagement in deeper thinking. However, aggressive and course-related humour have reported mixed effects on educational experiences. This review identifies the humour styles and sub-styles reported in the sparse literature. It also highlights the lack of a comprehensive humour styles measure that adequately captures humour use and perceptions in teachers of adolescents and, importantly, how teachers' humour is perceived by this population. Such a tool is vital to enable understanding of how teaching humour styles may directly affect adolescents' educational experiences.

Introduction

Humour has been described as a creative activity that has many positive properties, including helping facilitate cooperation between people (McDonald, 2013). However, it has not always been viewed positively; Freud (1928) has previously described it as a product of narcissism. Recent studies have suggested possible benefits to individuals' physical and mental wellbeing (Levinson, 2010), such as reducing stress (Mauriello & McConatha, 2007) and anxiety (Salavera et al., 2018). An individual's humour style is associated with a wide range of factors such as wellbeing (Martin et al., 2003), childhood attachment (Luevano et al., 2021), age (Fox et al., 2016; McGhee, 1971; Nilsen et al., 2011), culture (Jiang et al., 2011; Lu et al., 2019), and levels of empathy (Wu et al., 2016). As such, humour is a key factor related to children's social and emotional development.

Humour Development in Children

Children use different humour styles than adults (Fox et al., 2016). A child's humour may be labelled as unfunny or inappropriate (Shayan, 2022). This labelling and application of social norms will influence how humour develops in a child. Humour style, understanding, and preference develop with age. McGhee (1971) suggests that age is a significant factor in humour comprehension; for example, older children have a better understanding of irony (Nilsen et al., 2011). Fox et al. (2013) reported different humour style preferences with age, with students aged 13 to 16 using more aggressive humour than students aged 9 to 12, whereas students aged 11 to 12 used more self-enhancing humour.

Further factors influencing children's comprehension include increased intelligence (Wierzbicki & Young, 1978) and brain functioning (Vrticka et al., 2013) between the ages of seven and 11 years (Jackson et al., 2021). It is therefore important when looking at the effects of humour use to not generalise findings across early years, adolescence, and higher education.

Teachers' Use of Humour (Unspecified)

Despite the identification of different humour styles, some literature on teachers' humour does not specify how humour was used or a style of humour used. For clarity these instances will be referred to as 'humour (unspecified)' throughout this review. In these studies teachers' use of humour (unspecified) has been identified as desirable by students (Benjelloun, 2009; Shah, 2019). However, avoidance of specific topics could be seen by teachers to prevent complaints and negative consequences (Alexie & Chacon, 2013), which could impact the extent or styles of humour being used. Teachers who show performance avoidance goals may be concerned that humour could lead to them being viewed negatively by students (Daumiller et al., 2020).

Kavandi and Kavandi (2016) reported that teachers' humour may also lead to teachers being labelled as buffoons by their students.

Teachers' humour (unspecified) can be a useful tool to grab students' attention (Minchew & Hopper, 2008), deal with situations (Gerouki, 2011), increase retention and recall (Garner, 2006), and enhance learning (McGhee, 2019) by creating a reflective learning space (Stengel, 2014). Furthermore, early years research supports humour (unspecified) as a pedagogical tool that can develop divergent thinking (Borgia & Owles, 2008). In higher education, teachers' humour (unspecified) has been reported as beneficial to students' writing (Freeman, 2013), creating a positive atmosphere, maintaining focus (Skinner, 2010), and it is linked to higher resilience in students (Li et al., 2022). However, not all reported outcomes in the literature are positive. Humour can be viewed negatively by students (Jiang et al., 2011), leading to a loss of control (Kavandi & Kavandi, 2016), disruptions (Seidman & Brown, 2013), and negative impacts to students' wellbeing (Wardman, 2021). Additionally, Wardman (2021) suggests humour use may be misused by some male teachers with the intention of staying the 'top dog' in class. These contrasting findings highlight how different styles of teaching humour may differentially affect students' educational experiences.

Teachers' Humour Styles

The reported effects of teachers' humour (unspecified) on students' educational experiences are mixed, possibly due to teachers' use of different humour styles. Martin et al.'s (2003) humour styles questionnaire (HSQ) identified four humour styles: affiliative, self-enhancing, aggressive, and self-defeating. Andarab and Mutlu (2019) reported these humour styles being used by teachers in the classroom. More recently, additional classroom-specific humour styles have been identified. Wanzer et al. (2006) identified four appropriate teacher humour categories (course-

related, course-unrelated, self-disparaging, unplanned) and four inappropriate humour categories (offensive humour, disparaging humour student target, disparaging humour "other" target, and self-disparaging humour). These were redefined by Frymier et al. (2008), using an exploratory factor analysis, as five styles used in the classroom: course-related, course-unrelated, offensive, self-disparaging, and other-disparaging. There are substantive differences between Martin et al.'s (2003) and Frymier et al.'s (2008) scale. These different humour styles could be due to the humour scales not being comprehensive of all teacher humour styles, or whether other factors influence the humour styles being reported, such as culture or teacher individual differences. Additionally, the humour styles outlined (Andarab & Mutlu, 2019; Frymier et al., 2008; Wanzer et al., 2006) focused on higher education classrooms; therefore, it is not known if these humour styles are also used in adolescent classrooms.

The Present Study

Educational experiences during adolescence are important because they have the potential to impact students' wellbeing (Sakyi et al., 2015) and achievement in higher education (Veldman et al., 2014). Yet, despite suggestions that humour could impact students' educational experiences (Garner, 2006; Wardman, 2021), there is still a lack of understanding of how humour could impact students aged 11-18. Although some research has focused on teachers' use of humour in adolescent classrooms (Bieg et al., 2017; Minchew & Hopper, 2008; St-Amand et al., 2024; Stengel, 2014; Tsukawaki et al., 2020), there is minimal empirical research of this age range compared with higher education and early years environments. This potentially undermines the validity and reliability of the suggested outcomes of teachers' humour. Therefore, a better understanding of empirical research on teachers' humour use and its effects on adolescent students' experiences is needed. Additionally, at this age, children have a better understanding of

different humour styles (McGhee, 1971) and different humour preferences (Fox et al., 2013); therefore, it cannot be assumed that findings from early years or higher education research can be generalised to students aged 11-18. Therefore, the current scoping review focuses on teachers' humour use in classrooms of students aged 11-18.

Previous literature reviews have been conducted to better understand teachers' humour (Banas et al., 2011; Low et al., 2019). Banas et al. (2011) summarised research on humour in the classroom. While this review included literature on humour use in adolescent classrooms, higher education and early years were also included. This makes it unclear how humour may be used in the classrooms of students aged 11 to 18 and its effects on their educational experiences. Furthermore, the review was not systematic and is over 10 years old; therefore, it is unlikely to be comprehensive in its inclusion of other relevant literature. Low et al. (2019) conducted an empirical scoping review but examined humour and resilience in university nursing students, which cannot necessarily be generalised to the experiences of adolescent students. A scoping review focusing specifically on the adolescent period is required.

This scoping review was conducted with the aim of determining how and why teachers used humour in the classrooms of students aged 11-18, and the effect humour may have on students' educational experiences. This will develop a better understanding of how the humour styles identified in the literature by Frymier et al. (2008), Martin et al. (2003), and Wanzer et al. (2006) are being used in adolescent classrooms and whether there are any additional humour styles identified as being used by teachers. Additionally, it will enable educators to understand the possible implications of teacher humour and how best to implement it in a way that avoids possible negative effects on students' experiences.

Method

This scoping review was conducted using the Joanna Briggs (JBI) methodological framework created by Arksey and O'Malley (2005) and updated by Peters et al. (2020). Additionally, it followed the PRISMA extension for Scoping Reviews checklist (Tricco et al., 2016). The scoping review protocol was registered on the Open Science Framework before data collection began, and searches were conducted on the included databases in July 2022.

Literature Search

Four databases were searched for relevant studies. Education Resources Information Center (ERIC) and Education Research Complete (EBSCO) were selected as they index a comprehensive range of educational journals. PsychInfo was included because of its large range of psychology journals. This allowed for a wider scope of articles to be included in the study selection, as relevant papers in the psychology discipline may not have been included in the previous two education-focused databases. Finally, Scopus was included, as it covers a large selection of journal articles over a range of disciplines, potentially allowing for articles that could have been missed in the previous three databases. Additionally, a grey literature search on Open Grey was conducted to reduce peer-review bias and include unpublished articles.

Three key concepts were identified from the research aim: humour use, classroom setting, and a student age range of 11-to-18 years old. A comprehensive list of search terms was created by identifying the possible synonyms and related terms. These lists were then narrowed by testing each term in one of the databases. Terms were eliminated from the list if they either did not have any or had very limited results, or if a majority of the results were irrelevant, suggesting that the term was too broad. A final list of search terms was created, as shown in Table 1, and a Boolean search combining these three components was conducted for each of the four databases.

Table 1

Boolean search terms for literature search.

Humour	humour OR humor OR wit OR banter OR clown OR funniness OR joke* OR laugh OR meme* OR sarcasm OR funny
Classroom setting	class* OR education OR learn* OR lessons OR pedagogy OR school OR student* OR teach* OR college OR high school OR middle school OR school aged OR secondary school
Student age	college OR adolescent OR child* OR high school OR middle school OR school aged OR secondary school OR grade 6 OR grade 7 OR grade 8 OR grade 9 OR grade 10 OR grade 11 OR grade 12 OR year 7 OR year 8 OR year 9 OR year 10 OR year 11 OR year 12 OR year 13

Inclusion Criteria

Inclusion criteria for selected articles were: (a) publication date from 1997 to the present; (b) any geographical location; (c) most students, or mean age, were between 11 and 18 with a focus on secondary education, or the reported results discussed students aged 11 to 18 separately from other age ranges; (d) participants were current teachers or pupils in full-time school-based education settings; (e) published in either English or Spanish; (f) empirical research, including empirical secondary review sources; and (g) included qualitative or quantitative data on teachers' humour, either relating to students' opinions of teacher humour or the application of teacher humour in the classroom. A publication date from 1997 onwards was selected because of the generational shift from millennial to generation z. The beginning of Internet culture has been suggested to have led to the rise of new humour types (Shifman et al., 2007). English and Spanish articles were selected because they were spoken by at least one co-author. This was to include a wider range of articles while avoiding language barriers when reading or translating articles outside these languages.

Exclusion Criteria

Exclusion criteria for selected articles were: (a) publication date prior to 1997; (b) articles focused on sex education classes; (c) the majority, or the mean age, of students were under 11

years or over 18 years; (d) participants were not current teachers or pupils in full-time school-based education settings, for example holiday camps and after-school clubs; (e) articles that focused on students' humour or did not focus on teachers' humour use; (f) articles were not published in English or Spanish; (g) articles were non-empirical papers or opinion pieces. Sex education classes were excluded during the review process because of the possible sensitive or taboo content of the curriculum topic. This difference in course content could lead to teachers and students approaching humour differently in this class than in other subjects. Only empirical research was included to increase the reliability of any conclusions. Therefore, articles based on authors' opinions or personal experiences, such as blogs, were not included.

Procedure

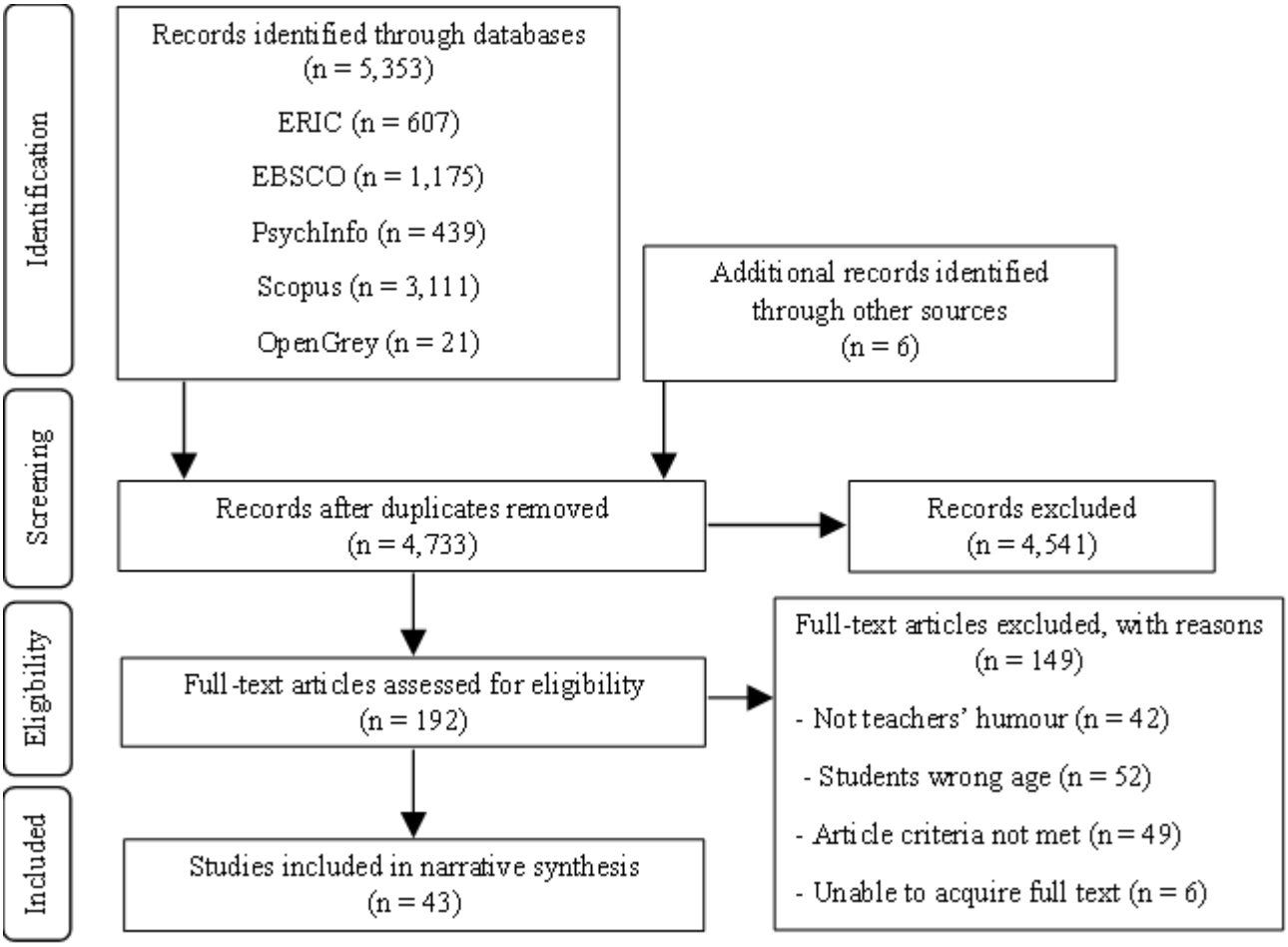
Articles identified in the four databases were exported to Zotero and checked for duplicates, Figure 1 charts the study selection process. The remaining studies were imported to Rayyan, where an initial check of the titles and abstracts was conducted by the first author. Excluded articles were identified in Rayyan with an exclusion label so that justification could be later checked if necessary. Publications that did not meet any exclusion criteria were given an inclusion verdict in Rayyan. For publications in which it was unclear whether the inclusion criteria were met, it was decided to include them at this stage so that the full text could be checked for eligibility. To check for reliability and consistency, the second author independently reviewed 15% (n=801) of the articles. The level of agreement between the first and second authors was 98.6%. As the agreement level was high, it was decided that the first author's decisions would be used in all cases to ensure consistency throughout the review process.

Next, the studies included at this stage were copied into a second Zotero folder, and the full text was imported for each publication. After each full text was reviewed, the first author

used an Excel workbook to record either the reason for exclusion or to extract key information from articles to be included in the final narrative synthesis (Online Resource 1). This included the study aims, design, statistical methods, outcomes, and conclusions made by the author. After the full text was assessed for eligibility, 15% (n=28) of the articles were independently reviewed by the second author. There was 100% agreement. The reference lists of the included studies (n=38) were checked for additional sources that met the criteria, resulting in an additional six studies being included.

Fig. 1

PRISMA flow diagram



n= number of records

Results

This scoping review included 43 articles from five continents: Europe (n=11), Asia (n=13), North America (n=14), Australia (n=4), and Africa (n=3). Two of the included articles had a cross-cultural design, and one Spanish language article was included (Palomino Martín et al., 2017). The most common student age included in the papers was 14-17 years old. Eighteen quantitative articles were included, with a median[1] of 500 student and 252.5 teacher participants. Three of these articles used an experimental design, whereas the remaining articles used either

[1] Median was used instead of mean due to the large variation in participant numbers, which were not normally distributed

teachers (n=4) or students (n=11) reported humour surveys. There were 23 qualitative articles included, with a median of 37 student and 5.5 teacher participants. These included classroom observations (n= 17), interviews (n= 14), and surveys (n= 5). Finally, two studies had a mixed methods design with a median of 277.5 student and 20 teacher participants, which measured teachers' and students' opinions on humour using surveys. A narrative synthesis was conducted on the identified articles. Six themes were generated from the final list of studies, using the predetermined research aim of determining how and why teachers used humour in the classrooms of students aged 11-18, and the effect humour may have on students' educational experiences.

Theme one (n=22), How Humour is Used in the Classroom, discusses how teachers use humour, including different styles, in the classroom based on students and teachers' reports, and classroom observations. The second (n=15) and third (n=11) themes addressed why teachers used humour in the classroom by reporting data from interviews and surveys. Theme two, Attitudes Towards Humour use in the Classroom, discusses whether teachers report positive or negative attitudes towards humour use in the classroom. The third theme, Teachers' Opinions of Humour Effectiveness, discusses the perceived benefits of using humour reported by teachers. The final three themes identified the effects of humour on students' educational experiences. Theme four (n=21), Students' Opinions of the Effectiveness of Teachers' Humour Use, discusses students' self-reported opinions on the effectiveness of teachers' humour, including the perceived effects on wellbeing, achievement, and the classroom environment. Theme five (n=13), Observed Effect of Humour (Unspecified) on Students' Experience, discusses the observed effects of humour without the identification of humour styles on students' educational experiences. Theme six (n=9), Observed Effect of Humour Styles on Students' Experiences,

discusses the observed effect of different humour styles on students' educational experiences. The distribution of articles answering these three elements of the research question can be seen in Online Resource 2.

Theme One: How Humour is Used in the Classroom

Theme one discusses how teachers use humour in the classroom according to teachers' perceptions, students' perceptions, and reported classroom observations. How humour is used in the classroom includes the reported frequency of classroom humour (unspecified) and the perceived use of different humour styles. These findings were reported using teacher and student self-report surveys, interviews, and classroom observations. This theme addresses the question of how teachers use humour in their classrooms.

Humour Styles

The included literature references seven styles and three sub-categories of humour used by teachers in the classroom. However, each study often refers only to one or a few of these styles and sub-styles. Firstly, course-related humour is referenced in the literature as humour used to explain or display information related to the class (Bieg et al., 2017). In contrast, course-unrelated humour is defined as humour with no connection to the topics and themes being taught in the class (Bieg et al., 2017). These two styles focus solely on the included topics and do not specify *how* the humour relates to the course. Therefore, humour used in a course-related or course-unrelated way could be either positive or negative in nature, suggesting all forms of teachers' humour would fall into one of these two categories in conjunction with other humour styles.

The third humour style, affiliative humour, is reported as a humour style used to create a positive learning environment, including good-natured practical jokes (Romero & Cruthirds,

2006, as cited in Şahin, 2021), and witty banter (Martin, 2007, as cited in Şahin, 2021). Humour scale items related to affiliative humour often include using humour to communicate positively ("Making people laugh is my natural way of communicating with people") or make others laugh ("I usually can think of witty things to say when I'm with other people") (Makewa et al., 2011). Due to affiliative humour referring generally to positive socially acceptable humour all positive humour interactions will be categorised this way, even if the interaction is also self-enhancing or self-deprecating. Şahin (2021) also reported this style as having three sub-categories: (1) shy-affiliative humour refers to the person being hesitant to use affiliative humour in case it will not be appreciated, (2) passive affiliative humour refers to people who are triggered to use affiliative humour by those around them, and (3) partial affiliative humour refers to people who do not often use humour but use the affiliative style when they do. Although these categories are not referenced in other studies, classroom observations identify students as the most common trigger for teachers' humour (Fovet, 2009; Miura & Jones, 2005). These triggers support Şahin's (2021) inclusion of passive affiliative humour which states that teachers react to others when using humour. In contrast, aggressive humour has been defined as an inappropriate style that violates social and classroom rules (Bieg et al., 2019). This style includes humorous actions such as banter, sarcasm, and hostile teasing (Tsukawaki et al., 2020). Items on humour scales for aggressive humour include items relating to criticising students and putting them down ("I often ridicule and tease those people whose abilities and social status are inferior to me") (Makewa et al., 2011). Therefore, negative humorous interactions in the classroom could be categorised as aggressive humour, rather than the previously mentioned affiliative humour.

The fifth humour style, self-enhancing humour, refers to humour used by teachers' with the intention of increasing their own wellbeing ("If I am feeling upset or unhappy, I usually try to

think of something funny about the situation to make myself feel better"; "My sense of humour keeps me from getting overly upset or depressed about things") (Makewa et al., 2011). As this style may primarily be used positively, interactions could also be categorised as affiliative unless the humorous interactions are used in a non-socially acceptable way that negatively impacts the class environment. Self-enhancing humour used negatively by teachers, such as to improve their own wellbeing at the expense of students, may instead also be categorised as aggressive humour.

Self-defeating humour, also commonly referred to as self-deprecating (Şahin, 2021) or self-disparaging (Bieg et al., 2017, 2019; Bieg & Dresel, 2018) humour, is defined as a potentially unhealthy humour style (Şahin, 2021). This style includes humorous statements made by the teacher where they are the centre or target of the joke (Bieg & Dresel, 2018). This differs from the previously discussed styles of self-enhancing humour and affiliative humour, as the topic of humour specifically refers to humour that includes the person ridiculing or disparaging themselves (Martin et al., 2007, as cited in Şahin, 2021) and is negatively related to wellbeing (Martin, 2003, as cited in Şahin, 2021). This is reflected in the humour scale items associated with this style ("I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults") (Makewa et al., 2011). As with self-enhancing humour, self-defeating jokes in the classroom can be considered affiliative humour if used positively to enhance relationships. However, if used negatively, making them socially unacceptable or detrimental to the classroom environment, they do not qualify as affiliative humour.

The final humour style referenced in the literature is festive humour, defined as a style of humour used by teachers either on or related to special occasions, such as Christmas or April Fool's Day (Šeďová, 2015). This humour style refers specifically to the topic of a humorous

interaction, rather than how it is displayed by teachers. Therefore, depending on the nature of the humorous interaction festive humour may also be categorised as self-enhancing, self-deprecating, aggressive, or affiliative humour.

Teachers' Perceptions of Humour Use

In surveys and interviews, most teachers perceived themselves as using some form of humour (unspecified) (Kilic, 2016), particularly in classes with higher-achieving students (Haynie & Kellogg, 2008). In studies where specific humour styles were focused on, teachers discussed the use of course-related (DiCamillo, 2010), affiliative (DiCamillo, 2010; Şahin, 2021), aggressive (Larson et al., 2019; Pace, 2003), and self-enhancing (Larson et al., 2019; Pace, 2003) humour, whereas self-deprecating, course-unrelated, and festive humour were not discussed by teachers. However, this could be due to teachers not accurately identifying the styles of humour used in interviews (Şahin, 2021) rather than a lack of their use.

Affiliative humour was commonly reported in interviews, as teachers preferred humour style, particularly in the form of banter, facial expressions, jokes, gags, and puns (Şahin, 2021). Affiliative humour was also reported in interviews to be used with other styles, such as course-related humour (DiCamillo, 2010). This was also observed when a teacher used skits and vocal oddities to teach content about World War Two (DiCamillo, 2010). Şahin's (2021) interviews found teachers reported using aggressive humour the least often. When used by teachers, it was in the form of irony, satire, and teasing. However, teachers discussed using sarcasm in interviews as a coping mechanism to deal with the toll of teaching (Larson et al., 2019) or to deal with prejudice without becoming upset (Pace, 2003). This suggests that teachers use aggressive humour in the form of sarcasm simultaneously with self-enhancing humour. Although self-enhancing humour was not mentioned in this study, the use of humour to improve wellbeing

suggests that it could be categorised in this way from humour scale items in the literature (Makewa et al., 2011).

Students' Perceptions of Teachers' Humour Use

Student surveys reported that the perceived use of teachers' humour (unspecified) differed based on students' age (Unsal et al., 2018) and class ability level (Miura & Jones, 2005). A higher frequency of humour (unspecified) was discussed in interviews with students in upper secondary compared to lower and primary levels, and a lower frequency was reported for additional language classes (Blackmore, 2011), possibly due to teachers being concerned about offending students in their non-native language.

Student surveys reported perceiving course-related humour most frequently (Bieg et al., 2017, 2019; Bieg & Dresel, 2018). However, Makewa et al.'s (2011) student surveys identified affiliative humour as being reported most frequently. These contradicting reports from students are likely due to student surveys not being inclusive of all seven identified humour styles; for example, Makewa et al. (2011) did not include course-related or course-unrelated humour in their survey. These findings also suggest that the humour styles used by teachers are not distinct and may overlap when used in the classroom. The student-reported overlap of humour styles also mirrors the findings of teacher-reported and observed use of affiliative and course-related humour that was previously discussed (DiCamillo, 2010).

Self-enhancing humour was reported by students as the second most common style used by teachers (Makewa et al., 2011). Despite self-enhancing humour being frequently reported, there were only limited possible inclusions in teacher interviews (Larson et al., 2019; Pace, 2003). This could be partly due to self-enhancing humour relating to the teacher's wellbeing and therefore not directly observable or easily identifiable by students. Surveys identified that

students reported self-defeating humour as the second least common style used by teachers (Makewa et al., 2011), followed by aggressive humour (Bieg et al., 2017, 2019; Makewa et al., 2011), supporting Şahin's (2021) teacher reports. Students also reported aggressive humour as being used by teachers in conjunction with course-related humour, further supporting the occurrence of humour styles coinciding (Šeďová, 2015).

Finally, Šeďová's (2015) analysis of students' written texts identified festive humour in the form of teachers playing pranks on students during April Fool's Day by pretending to assign a surprise test. Festive humour was described as having a reciprocity that was not discussed with other humour styles, where counter-pranks are acceptable by teachers and students, and teachers showed a more relaxed attitude in class. However, these reports were taken from students' written texts reflecting on previous teachers, in some cases, years after the event. This could, therefore, lead to misremembered accounts that are not accurate about how humour was actually used.

How Teachers Were Observed Using Humour

Abbott and Jones's (2003) classroom observations reported frequent humour use, including the use of course-related, course-unrelated, self-defeating, affiliative, and aggressive humour styles. The frequency of humour (unspecified) use has also been observed to differ based on class size (Harfitt, 2013). Similar to student reported frequency (Blackmore, 2011), observations also reported a higher frequency of humour (unspecified) in upper secondary than primary level classes (Palomino Martín et al., 2017). However, this study did not include further details on how humour was used, or the styles of humour identified.

In contrast to student reports that course-related humour was used most frequently (Bieg et al., 2017, 2019; Bieg & Dresel, 2018), Abbott and Jones's (2003) study reported that 73% of

teacher humour comprised of course-unrelated humour. This could be due to a lack of reliability with student reports; if there is overlap and jokes incorporate elements from multiple humour styles, it could be challenging for all humour styles to be accurately identified. Affiliative humour was also observed to be used by teachers in the form of jokes, puns (Jung & Choi, 2016; Ryoo, 2019), funny stories, gags, and anecdotes (Abbott & Jones, 2003; Pace, 2003; Ryoo, 2019), supporting frequent teacher and student reported uses (Makewa et al., 2011; Şahin, 2021). However, in contrast to the findings by Şahin (2021), humorous vocal changes are uncommon (Abbott & Jones, 2003). On the other hand, self-defeating humour was only observed by Ryoo (2019) in the form of jokes related to teachers' personalities; for example, a native Spanish teacher joked about having terrible Spanish.

Finally, the observed use of aggressive humour found similar outcomes to teachers' reports, with frequent use of teasing (DiCamillo, 2010; Larson et al., 2019) and satire (Tobin et al., 2013). However, unlike teacher reports, observations have also found that teachers commonly use aggressive humour in the form of sarcasm (Abbott & Jones, 2003; Fovet, 2009; Larson et al., 2019; Tobin et al., 2013) and mocking students (Abbott & Jones, 2003). Abbott and Jones (2003) found that sarcasm and mocking accounted for nearly two-thirds of all teacher humour, despite students and teachers reporting this as the least common humour style. These contrasting findings could be explained by the use of unconscious aggressive humour, which Şahin (2021) supports as a reason for this discrepancy. Additionally, teachers may not have wanted to accurately report their use of aggressive humour, as students (Bieg et al., 2019) and teachers (Fovet, 2009) suggest that it should be avoided in the classroom.

Theme Two: Attitudes Towards Humour Use in the Classroom

Theme two focuses on student- and teacher-reported attitudes towards humour use in the classroom, including whether they have a positive or negative opinion towards humour (unspecified) and different humour styles. Teachers' attitudes towards humour help develop an understanding of why they use humour because they indicate the potential reasons they may or may not incorporate humour into their classroom. Alternatively, student attitudes towards humour give insight into how students may respond to humour use in the classroom, and therefore could have the potential to influence teachers' humour use.

Teacher Attitudes Towards Humour

In these studies, teachers' opinions on humour in the classroom were measured using surveys that focused on unspecified humour categorised as a single category (Haynie & Kellogg, 2008; Kilic, 2016; Koutrouba, 2012; Johari et al., 2021) or focused on one specific humour style (Kumar et al., 2020). Teachers' attitudes towards humour were reported in surveys as primarily positive (Fovet, 2009; Johari et al., 2021; Kilic, 2016; Koutrouba, 2012). No significant differences in opinions based on gender or teaching experience have been reported (Kilic, 2016; Kumar et al., 2020). As teachers report a positive attitude towards humour use in the classroom, they may use more humour with their students.

Student Attitudes Towards Humour

Teachers' sense of humour (unspecified) was identified as a desired trait by students in surveys (Minott, 2022; Stavrou, 2022), including affiliative (Jung & Choi, 2016) and course-related (Jung & Choi, 2016; Tap et al., 2019) humour styles. Furthermore, the lack of humour (unspecified) was identified as a trait of bad teachers (Stavrou, 2022; Suplicz, 2009), regardless of students' age (Unsal et al., 2018). Although most students reported positive attitudes towards humour (unspecified), Unsal et al.'s (2018) student surveys identified conditionally positive or

negative views towards humour. Students' open-ended responses suggest that teachers should use humour cautiously to avoid offence or timewasting. One possible explanation for negative, or conditionally positive views, could be due to the style of humour used by teachers, as these studies did not distinguish between different humour styles.

Aggressive humour was highlighted in surveys as having mixed student opinions, with 40% describing it as appropriate for the classroom (Steele, 1998), suggesting that students may not view all humour styles equally. Bieg et al. (2019) the authors concluded due to the negative results of aggressive humour that teachers should avoid using this style due to it leading to increased anger and boredom in students. In interviews, students also highlighted aggressive jokes directed towards hobbies, interests, morbidity, appearance, politics, and protected characteristics as topics teachers should avoid (Blackmore, 2011). Another cause for mixed student opinions on humour may be due to teachers' or students' individual differences. On surveys, students suggested that teachers cannot be taught to use humour (unspecified), and how humour (unspecified) is received depends on the teacher instigating it (Fovet, 2009). However, they also said that teachers should have good rapport (Fovet, 2009), self-confidence, mutual understanding with students, and be in tune with what their class finds funny to be positively received (Blackmore, 2011). Some studies found that students reported not wanting humour (unspecified) to be oversimplified as fun (Fovet, 2009), whereas Unsal et al.'s (2018) findings suggested that students did not want humour (unspecified) to be used as a learning tool.

Theme Three: Teachers' Opinions of Effectiveness of Humour Use

This theme focused on how teachers perceived humour as affecting their students' educational experiences in the classroom. In contrast to the previous theme, this theme discusses teachers' perceived benefits of students' educational experiences. Specifically, teachers reported how

humour use may positively affect their students' learning, wellbeing, and the classroom environment. This theme primarily refers to research in which humour styles are unspecified, and responds to the second part of the research question: 'Why are teachers of student aged 11-18 using humour in the classroom?'.

Teachers report using humour (unspecified) in their classrooms to create a positive educational environment (Kilic, 2016). They reported the use of humour (unspecified) to bridge generational, socioeconomic, and linguistic divides (Chandras, 2021) and perceived that humour (unspecified) (Fovet, 2009; Ryoo, 2019; Sundari, 2018), including aggressive humour (Larson et al., 2019) can be used to enhance relationships. Additionally, teachers discussed using humour (unspecified) to amuse students (Johari et al., 2021) and make learning fun (Şahin, 2021). In Pace's (2003) study, one teacher described their classroom as a circus, and it was their job to amuse and oversee the performance. Furthermore, Pace's (2003) findings suggest that humour (unspecified) is being used not only to entertain but also to manage classroom behaviour.

Teachers reported in surveys that they viewed humour (unspecified) as a tool to increase learning (Kilic, 2016; Ryoo, 2019) and students' linguistic skills (Kilic, 2016). This sentiment was echoed in interviews, where teachers talked about humour (unspecified) increasing learning (Ryoo, 2019; Şahin, 2021) and attention to the lesson (Kilic, 2016; Pace, 2003; Şahin, 2021), with one teacher describing it as the best medicine for student engagement in comparison to maintaining the persona of a serious teacher (Ryoo, 2019). Teachers also viewed humour (unspecified) as a valuable feedback tool, to check understanding (Ritchie et al., 2011) and correct mistakes without offending or embarrassing their students (Şahin, 2021). Aggressive humour, including satire and sarcasm, was identified as being used to correct mistakes without causing offence (Larson et al., 2019; Şahin, 2021). Although Larson et al. (2019) discussed

teachers' opinions on effectiveness, it is unclear from their methodology whether this refers to implied opinions based on observations or interviews with teachers.

Furthermore, teachers talked about using humour with the intention of increasing wellbeing. Ritchie et al. (2011) found one teacher reported using humour (unspecified) to increase the positive emotions of their students. This sentiment is echoed in other studies where teachers described using humour (unspecified) to encourage communication (Kilic, 2016), and reduce tension and stress (Ryoo, 2019; Şahin, 2021), especially during exam seasons (Şahin, 2021). Furthermore, course-related humour was described by teachers as reducing anxiety and boosting morale (Jung & Choi, 2016). Sarcastic humour was recognised as being used as a personal coping strategy in class (Larson et al., 2019; Pace, 2003). In Pace's (2003) case study, a teacher discussed responding to prejudice comments by students with sarcasm to avoid becoming visibly upset. One teacher in Larson et al.'s (2019) study supported this idea by suggesting that their sarcasm was a coping mechanism for the toll of teaching in a high-poverty area and having over a dozen students killed.

Theme Four: Students' Opinions of the Effectiveness of Teachers' Humour Use

Theme four discusses the self-reported effects of humour on students' educational experiences from student interviews and surveys in the literature, including both humour (unspecified) and specific humour styles. Student reports included their opinions on the effectiveness of humour in terms of its impact on the classroom environment, classroom management, student-teacher relationships, interest, learning processes, motivation, and wellbeing.

The Classroom Environment

Students have discussed perceiving humour (unspecified) as beneficial to the classroom environment (Blackmore, 2011; Fovet, 2009; Steele, 1998). It has been suggested that this is due

to humour increasing happiness (Blackmore, 2011; Fovet, 2009) and comfort (Fovet, 2009; Steele, 1998). Affiliative humour was particularly highlighted by students as being correlated with a positive classroom climate (Tsukawaki et al., 2020).

Teachers' humour use is also reported by students as affecting teachers' classroom management. Students discussed humour (unspecified) created feelings of safety and security (Blackmore, 2011), and aggressive humour allowed their teachers to maintain discipline (Šeďová, 2015). Despite this, most students reported negative outcomes associated with aggressive humour, including a negative correlation with classroom discipline, positive correlation with resistance (Tsukawaki et al., 2020), and humour (unspecified) was related to a loss of class control (Fovet, 2009). Findings also reported humour (unspecified) lead to an increase in students making fun of each other and being louder in the classroom (Unsal et al., 2018). In Kavandi and Kavandi's (2016) study, a student reported that their class laughed so loud that it caused disruption to the surrounding classrooms. Therefore, the possible implications of humour may not be confined to the classroom. One explanation for the contrasting findings of humour on classroom management could be the reported student concerns of teachers overusing humour (unspecified) (Blackmore, 2011; Unsal et al., 2018), meaning that humour may be perceived as more effective when not overused. However, these studies relied on surveys rather than qualitative methods which would have provided a greater understanding of the rationale behind students' answers. Additionally, since some studies investigated unspecified types of humour and others focused on specific humour styles, the findings are not directly comparable. Therefore, it is not clear what the reasons for a loss of control in the classroom might be, or how the teachers were using humour in the classroom.

Student-Teacher Relationships

Students also identified humour (unspecified) (Blackmore, 2011; Fovet, 2009; Steele, 1998), including self-defeating, and course-related humour (Bieg and Dresel, 2018) as enhancing the student-teacher relationship and approachability. The use of festive humour and reciprocal April Fools' Day pranks (Šeďová, 2015) has been reported to improve relationships and create harmony. However, Šeďová's (2015) study is the only one in the literature to include festive humour; therefore, it is not clear whether these findings are representative of other schools. Moreover, not all studies reported positive outcomes on student-teacher relationships; some students reported feeling embarrassed by humour (unspecified), ultimately leading to a loss of respect for their teacher (Blackmore, 2011). However, the literature does not state what the subject of humour use in these studies was when students shared negative opinions, meaning it is unclear what may have led to these contrasting views. Additionally, other factors, such as individual differences, could have impacted the outcomes of humour due to the delivery of humorous content by teachers.

Aggressive humour also had negative or mixed opinions (Blackmore, 2011; Steele, 1998). Despite this, Pace (2003) found that when interviewed, students reported that sarcasm improved rapport, created classroom entertainment, and allowed teachers to be viewed as friends. However, in Larson et al.'s (2019) study, one student expressed concerns that sarcastic humour could have a negative impact on students who were shyer. This study did not include whether any students felt negatively affected by their teachers' use of sarcasm. Additionally, despite reporting students' opinions on humour, it is not clear in the methodology how the data was recorded, as only the use of observation was reported in their procedure.

Student Interest

Teachers' humour (unspecified) has also been described by students in interviews and surveys as a way to increase their interest in content (Blackmore, 2011; Gibbs, 2018; Makewa et al., 2011; Ryoo, 2019; Unsal et al., 2018), keep their attention (Blackmore, 2011; Gibbs, 2018; Jung & Choi, 2016; Steele, 1998), and make classes fun (DiCamillo, 2010; Jung & Choi, 2016; Ryoo, 2019). Students interviewed in Minott's (2022) study suggested that these perceived benefits were due to teachers appearing more light-hearted rather than condescending when using humour (unspecified). Students commonly report a reduction in boredom (Blackmore, 2011; Unsal et al., 2018) and increased levels of enjoyment (Gibbs, 2018; Jung & Choi, 2016) when teacher humour (unspecified) is more frequent. Enjoyment has been reported to be positively correlated with course-related humour (Bieg et al., 2017, 2019). These findings were also seen specifically with teachers' use of affiliative humour (Tsukawaki et al., 2020). However, self-defeating (labelled as self-disparaging) humour did not predict enjoyment in Bieg et al.'s (2019) longitudinal study or Bieg et al.'s (2017) initial study focusing on humour use in German language classes. None the less, in Bieg et al.'s (2017) cross-sectional second study, which looked at humour styles in a wider range of subjects, self-defeating humour did predict enjoyment, specifically the more self-defeating humour that was used the greater the enjoyment. In contrast when aggressive humour was used this was found to negatively predict enjoyment (Bieg, et al., 2017; 2019).

Finally, a significant negative correlation was found for course-unrelated, and a positive correlation for self-defeating, and course-related humour and students' perceptions of interestingness of instruction, whereas there was no significant correlation for aggressive humour (Bieg & Dresel, 2018). These findings suggest that there may be an impact on students' interest based on the styles of humour used in the classroom. However, not all humour styles were

included in these surveys, meaning it is unclear whether other styles of humour, such as festive or self-enhancing humour, could also influence students' enjoyment.

An increased focus and willingness to learn when teachers used humour (unspecified) was discussed by students with ADHD in Gibbs's (2018) study. However, Unsal et al. (2018) reported contrasting findings, with students discussing reduced attention in class because they felt that their time was wasted. These contrasting findings could suggest that neurodivergence in students affects the relationship between students' attention in class and teachers' use of humour. However, due to the limited research on teachers' humour and neurodivergence, it cannot be concluded whether this contributed to Gibbs's (2018) findings.

Students' Learning Processes

Another effect of humour (unspecified) discussed by students in surveys and interviews was a perceived increase in learning (Blackmore, 2011; Fovet, 2009; Steele, 1998; Unsal et al., 2018), achievement (Blackmore, 2011; Tap et al., 2019), performance (Kavandi & Kavandi, 2016) and recall of information (Blackmore, 2011). Students suggested that this could be due to humour allowing them to retain information for longer (Blackmore, 2011; Unsal et al., 2018). However, not all students report positive effects on learning; alternative views identified in surveys suggest that humour (unspecified) could become a waste of class time (Fovet, 2009; Unsal et al., 2018), leading to deviation from class aims (Unsal et al., 2018). Additionally, in interviews, students expressed feeling short-changed by teachers, specifically when aggressively charged humour was used (DiCamillo, 2010).

The use of specific humour styles was also related to students' learning processes in the literature. Students reported increased learning associated with course-related humour in so far as elaboration of learning material was higher (Bieg & Dresel, 2018). Whereas self-defeating

humour was associated with the feeling of not being mentally challenged, course-unrelated humour was associated with reduced clarity of instruction (Bieg & Dresel, 2018). Bieg et al. (2017) concluded that students appeared to perceive the use of course-unrelated humour as an unproductive use of learning time. Students also reported feeling confused about content and for important themes to be lost (Bieg & Dresel, 2018), in addition to not feeling mentally challenged (Bieg et al., 2019). These findings suggest that humour, other than course-related, is not beneficial to students' learning processes. Furthermore, these studies also did not measure students' actual academic achievement, so it cannot be concluded whether the reported reduction in clarity and interest in instruction would also be related to actual quantitative differences in understanding and learning.

Motivation

Student motivation is reported to be affected by teachers' humour (unspecified). In interviews and surveys, students reported humour encouraging them to attend class regularly (Kavandi & Kavandi, 2016; Ryoo, 2019), increasing their collaboration (Blackmore, 2011), likeliness to open-up (Fovet, 2009), and approach subjects with less negative prejudice (Unsal et al., 2018). Similarly, they reported that affiliative humour increased their willingness to participate in class (Tsukawaki et al., 2020). The suggested positive increases in motivation due to humour (unspecified) could account for the reported increase in learning and recall as students become more engaged and open to learning. In support of this, Colorado School to Career Partnership (1999) identified course-related humour as improving motivation in 88% of the students surveyed. However, this survey only included course-related humour, meaning that it is unclear whether this outcome is specific to this humour style or would also be reported in relation to teachers' use of other humour styles. Bieg and Dresel (2018) also support these findings, as they

report course-related humour is a predictor for intrinsic motivation, whereas course-unrelated and aggressive humour were predictors for less intrinsic motivation.

Wellbeing

Finally, students also reported that their wellbeing was affected by teachers' use of humour (unspecified). Students reported psychological benefits (Unsal et al., 2018), including increased self-esteem, reduced tension (Blackmore, 2011; Steele, 1998), anxiety (Bieg et al., 2017; Makewa et al., 2011), and stress (Steele, 1998). In terms of the effects of specific types of humour, the use of affiliative humour is perceived to increase self-esteem (Tsukawaki & Imura, 2022). Self-defeating humour was not related to negative effects on emotions (Bieg et al., 2017; 2019), and course-related humour was perceived to reduce feelings of anger (Bieg et al., 2017, 2019), anxiety (Bieg et al., 2017), and lead to more enjoyment (Bieg et al., 2019).

However, aggressive humour styles, including sarcasm, were perceived to increase feelings of offence (Unsal et al., 2018), anger (Bieg et al., 2017, 2019), and anxiety (Bieg et al., 2017). Indeed, one student described their teachers' sarcastic humour as an unsettling mix of humour and disturbing content (Pace, 2003). These concerns related to aggressive humour indicate that the style of humour could affect how humour is being interpreted and received by students in class and that teachers cannot necessarily interpret laughter as an indication that humour has been well received. In their second study, Bieg et al. (2017) found that anxiety is positively correlated with course-unrelated humour and negatively correlated with course-related humour. This contrasts with their findings from study one which found no significant correlations between these humour styles and anxiety (Bieg et al., 2017). However, there could also be effects from personal relationships and external events in addition to teachers' use of humour, exacerbating students' emotions and wellbeing.

Theme Five: Observed Effect of Humour (Unspecified) on Students' Experience

Theme five builds on the frequency of humour used discussed in theme one by identifying how teachers' use of humour (unspecified) is observed to affect students' experience. Unlike theme four, which discussed students' self-reported effects of humour on their educational experiences, this theme discusses the effects of humour that were observed by researchers using classroom observations. The effects of humour (unspecified) on students' learning processes, understanding of content, and classroom environment are discussed.

Classroom Environment

Research has indicated that the use of teachers' humour could create a positive environment (Geelan, 2013; Harfitt, 2013; Jung & Choi, 2016) to support classroom management (Jung & Choi, 2016). Other studies have also observed that teachers use humour as a management tool to help manage resistance (Larson et al., 2019), disruption (Piirainen-Marsh, 2011), and diffuse tension between students (Fovet, 2009). These observations support the previous description of humour by a teacher as overseeing a performance (Pace, 2003). Students were also observed to show increased enjoyment (Horng et al., 2005), reduced anxiety (Ryoo, 2019), and increased laughter (Miura & Jones, 2005; Jung & Choi, 2016), engagement (Ritchie et al., 2011; Ryoo, 2019), respect, moral characteristics, (Jung & Choi, 2016), and positive relationships with their teacher (Geelan, 2013; Jung & Choi, 2016). Although these studies all report positive effects, which humour style specifically predicts these results remains an open question.

Despite suggesting that humour could create a positive environment and lead students to quieten down, Miura and Jones (2005) also found that when humour was used, just over half of the students showed no change or an increase in talking, making comments, and jokes. DiCamillo (2010), on the other hand, reported negative effects including reduced participation

and a less respectful climate. However, DiCamillo (2010) only observed one teacher, and Miura and Jones (2005) did not report how many participants, classes or number of observations were conducted in their research, meaning their findings may not be generalisable. Despite teachers reporting in theme three that they perceived humour (unspecified) as improving attention (Kilic, 2016; Pace, 2003; Şahin, 2021), these observations are supported by students in theme four, who suggested that humour could lead to decreased discipline (Tsukawaki et al., 2020) and loss of control (Fovet, 2009).

Students' Learning Processes

Classroom observations have also reported that teachers' humour affects students' learning processes. Studies have reported positive effects of teachers' humour use on students' learning by improving teachers' explanations (Miura & Jones, 2005), students' attention (DiCamillo, 2010; Horng et al., 2005), and critical thinking (Ryoo, 2019). However, DiCamillo (2010) also added that although attention increased, humour did not encourage a thoughtful classroom. Additionally, these studies did not measure actual student learning or improvement in students' academic achievement, meaning that it is unclear whether improved instruction and engagement in learning improves understanding. Swanson (2013) measured students' Spanish test scores for high humour classes compared to low, finding high humour to be associated with higher overall scores. However, teachers may not have accurately reported their use of humour either due to not accurately recognising how they use humour or through demand characteristics. Kavandi and Kavandi (2016) also reported higher achievement scores on grammar tests for teachers using course-related humour to teach exam content in their classes, supporting Swanson's (2013) findings. However, although this implies the use of course-related humour, no further information has been reported regarding the frequency or style of humour used in the included

humour treatment. Therefore, it is difficult to conclude whether this increase is representative of all humour styles and humour implementation techniques by teachers. Positive effects on students' learning processes and understanding are also supported by the findings discussed in themes three and four, with a perceived increase in learning and recall of information.

On the other hand, not all outcomes on students' learning processes were positive, with some studies identifying humour leading to events not conducive to learning (Miura & Jones, 2005). Students were seen to miss important contextual information because teachers focused their attention on making classes humorous (DiCamillo, 2010). Although these observations were not directly reflected through student perceptions in theme four, expressed concern over wasted time (Fovet, 2009; Unsal et al., 2018) and deviation from class aims (Unsal et al., 2018) could explain the observed lack of contextual information. However, observations on humour (unspecified) use did not specifically discuss the productive use of class time or attention to class aims. Although Swanson (2013) found that students performed higher on Spanish exams overall if teachers taught with more humour, they still achieved lower proficiency tests than the low humour group. Despite the findings not being statistically significant, they suggest that high-humour classes may not improve all areas of language learning. It is also not known how accurate self-report measures of humour frequency are, as Şahin (2021) identified that not all humour used by teachers is conscious, meaning that the control group may still be incorporating humour into their classes; their methodology does not include details of how this variable was controlled.

Additionally, although there are similarities between the perceived effects of humour reported by both teachers and students, some elements of students' educational experiences have not been discussed or identified in observational research. Teachers reported perceiving humour

(unspecified) as positively affecting students' wellbeing and being a beneficial feedback tool, and students reported humour (unspecified) to affect student-teacher relationships both positively and negatively. However, some of these effects are discussed in observations of specific humour styles, suggesting that they may have been categorised in quantitative studies as humour (unspecified) due to the lack of available data on the context of humour use.

Theme Six: Observed Effect of Humour Styles on Students' Experiences

Like theme five, this theme also discusses the observed effects of humour use in the classroom on students' educational experiences. However, this theme includes a distinction between different humour styles that were observed as being used by teachers and the effect that each of these differing styles may have had on students' educational experiences, rather than humour (unspecified). Additionally, in contrast to theme three which discusses the self-reported effects of humour styles by teachers, this theme discusses the observed effects on students. Three different styles of humour were discussed as having an effect on students' educational experiences: affiliative, aggressive, and course-related humour. Other styles of humour identified in the literature were not focused on or specifically discussed in the observations.

Affiliative Humour

Despite being identified by teachers as their preferred humour style (Şahin, 2021) and students most often reporting affiliative humour (Makewa et al., 2011), there are limited observations of the effect of affiliative humour on students' experiences. However, Ryoo (2019) reported that students engaged in deeper thinking when this humour style was used. The lack of reported effects of affiliative humour through observations could be due to the difficulty in identifying affiliative jokes used in conjunction with other humour styles, such as course-related humour. It is possible that teachers could be using multiple humour styles in tandem; however, the findings

often discuss the use of humour as if they are mutually exclusive. If researchers do not recognise all humour styles or view them as mutually exclusive, all styles may not be correctly identified when multiple styles are used in an interaction. Furthermore, the lack of affiliative humour observations, despite high student- and teacher-reported use, could be due to this style being used as a default unspecified classroom humour during observations and not specifically identified as its own humour style.

Aggressive Humour

Aggressive humour in the classroom had mixed reported outcomes. Sarcasm has been observed to create a sense of belonging (Larson et al., 2019) and maintain a lively but controlled atmosphere (Pace, 2003). Teachers were observed using sarcasm and irony to teach appropriate ways to behave and manage disruptive behaviour (Larson et al., 2019; Piirainen-Marsh, 2011). Although Larson et al. (2019) observed that students commonly reacted with laughter, they also frequently responded with groans and shock.

Although classroom observations found that aggressive sarcastic humour supported positive teacher-student relationships (Cho & Milner, 2003; Larson et al., 2019; Pace, 2003), they also found that it could cause negative repercussions (Larson et al., 2019; Pace, 2003; Piirainen-Marsh, 2011). Larson et al. (2019) reported that it could build opposition towards the teacher, and students were seen responding with dirty looks, rolled eyes, and red faces when sarcasm was used. Piirainen-Marsh (2011) found that, in some observations, rather than responding positively, students became offended. Different reported outcomes of aggressive humour could be due to teachers' choice of sarcastic topic or humour delivery affecting students' reception. Additionally, students' individual humour preferences or personalities may also explain the different observed responses.

Aggressive humour was also observed to manage behaviour, address moral concerns, and manage local moral norms (Larson et al., 2019). Chandras's (2021) case study supported this, as a teacher was observed using curt mimicking of inappropriate behaviour to teach correct etiquette in a more light-hearted and less direct manner. This use of aggressive humour reflects and supports the opinions discussed previously by teachers that aggressive humour is used with the intention of correcting mistakes while avoiding students possibly becoming offended (Larson et al., 2019; Şahin, 2021). DiCamillo's (2010) case study observations report students acting offended in response to their teacher's aggressive humour. However, other students in the class discussed finding humour entertaining during the interviews. This further supports the possible effect of students' individual differences on their reactions to teachers' humour.

Finally, the literature also reports that aggressive humour was observed to affect students' learning processes. Larson et al. (2019) found it helped to develop students' critical language understanding, break expectations, and broaden students' vocabulary when used purposefully. Tobin et al. (2013) suggested the increase in learning could be because sarcasm creates a positive climate which is beneficial for learning; however, it could also lead to increased feelings of pressure. Additionally, Pace (2003) observed that students felt confused about student-teacher interactions, and when sarcasm was racially charged, they stopped engaging in and thinking about concepts analytically. These differing outcomes further support the notion that teachers' delivery and topics of humour affect how students respond.

Course-Related Humour

Course-related humour had mixed effects on students' academic achievement in observations. An increase in students' vocabulary test scores was reported by Aria and Tracey (2003) for teachers using vocabulary laced instruction compared with a control group. This study supports the

findings previously discussed, which found that teachers using course-related humour to teach exam content significantly increased grammar scores (Kavandi & Kavandi, 2016). Despite these findings, it has not been reported how humour was used in either study, other than in relation to vocabulary instruction or exams, as no further details were included in their methodology. Therefore, it is not clear what different humour styles were incorporated in addition to course-related humour or the frequency of humour used by teachers. Additionally, DiCamillo's (2010) case study also found that humour impacted students' learning; however, the findings from the observed classroom were mixed. Students demonstrated increased attention, but they also demonstrated confusion when humour was used, as they appeared uncertain about what they should be learning.

Discussion

This scoping review aimed to determine how and why teachers used humour in the classrooms of students aged 11-18, and the effect humour may have on students' educational experiences. Six themes were generated from the 43 included papers addressing the three research questions: (1) how teachers use humour, (2) why teachers use humour, and (3) what effect humour has on students' educational experiences.

How Teachers Use Humour

The first theme directly addressed how teachers use humour in the classroom. The findings from this scoping review found that secondary teachers use seven humour styles, which have been widely reported in higher education classrooms: affiliative, self-enhancing, aggressive, self-defeating humour (Andarab & Mutlu, 2009; Frymier et al., 2008; Wanzer et al., 2006), course-related and course-unrelated humour (Frymier et al., 2008; Wanzer et al., 2006). Moreover, festive humour and three sub-categories of affiliative humour, which have not been frequently

discussed in the existing understanding of teachers' humour, were identified in this scoping review. These findings also highlight the tendency for research to report humour styles being used independently of one another and rarely identifying them being used in tandem (DiCamillo, 2010; Šeďová, 2015). Despite this, all humorous interactions used by teachers would have to be either course-related or course-unrelated depending on the relevance to class content. Then humorous interactions would be further categorised as festive, affiliative, aggressive, self-enhancing, self-defeating, or a combination of these styles, based on the topic or nature of the interaction. For example, as affiliative humour is identified as a collective term for socially acceptable humour, any positive humour used by teachers would be affiliative humour, in addition to possibly self-enhancing, self-defeating, or festive humour, depending on the intention and topic of the interaction.

An explanation could be that despite studies primarily using scales as opposed to observations or interviews, there is a lack of consistency in the current humour scales, none of which include all identified humour styles. This also limits our understanding of the differences in how teachers used humour. Such differences were identified based on students' age, ability, subject being taught, class size, and length of class periods. While these findings extend our understanding of the factors influencing how teachers use humour, many of these factors were only identified in single studies that used scales focusing on different humour styles. Therefore, to gain a full understanding of how teachers use humour, it is vital that a comprehensive humour scale is developed, in addition to increased use of observational and interview study design methods.

Why Teachers Use Humour

The second and third themes relate to why teachers use humour in the classroom. The findings suggest that teachers' use of humour in the classroom could be influenced by whether there is a positive or negative reception from students, and teachers' perceived benefits of humour to students' educational experiences. Students' mixed attitudes towards humour identified in this scoping review support the existing literature from higher education environments (Benjelloun, 2009; Jiang et al., 2011; Shah, 2019). Additionally, the findings of this scoping review identify the potential impact of humour styles on students' attitudes, with some styles such as aggressive humour having the potential to be received more negatively by students, which has seldom been commented on in the existing literature. However, the use of different humour styles does not appear to explain all the variation in students' opinions that were identified in this scoping review. Other factors such as the teachers' relationship with students, personality of students and teachers, or students' humour styles could also have the potential to impact how students respond. The reception of humour by the students identified here could impact why teachers choose to use humour, with teachers who receive negative outcomes possibly becoming more reluctant to use humour in future interactions than those who receive positive responses.

This scoping review revealed only positive views of humour by teachers at secondary levels, which contrasted some of the concerns expressed by teachers in the existing literature (Alexie & Chacon, 2013; Daumiller et al., 2020). The difference in opinions identified in this scoping review could be attributed to factors such as the age of students in the class, as existing literature focuses on higher education environments, or the different styles of humour used by teachers. In line with previous literature (Borgia & Owles, 2008; Gerouki, 2011; Minchew & Hopper, 2008), teachers identified humour as a tool to get students' attention, develop academic skills, and correct mistakes or deal with difficult situations. This scoping review also extends this

understanding, as it identifies teachers using humour as a personal coping mechanism in class. In contrast, existing knowledge suggests that humour could be used to maintain status or get the last laugh (Wardman, 2021), which was not reported in the included studies. These differences could be attributed to the difference between teachers' intentions of humour and how humour is perceived by others in the classroom. However, another explanation for this scoping review identifying humour being used as a positive coping mechanism could be due to differences in teachers' humour use with primary- and secondary-level students.

Humour and Students' Educational Experiences

The fourth, fifth, and sixth themes addressed the effect of humour on students' educational experiences. The findings from this scoping review support the current understanding that humour can potentially have negative effects on students' wellbeing (Wardman, 2021). However, they also contrast the current understanding by identifying positive benefits to wellbeing. This could be partly explained by the styles of humour used by teachers. Aggressive humour, for instance, is more likely to negatively impact wellbeing, whereas other studies reported benefits from unspecified types of humour. Although it could be that other factors, such as students' temperament and humour preferences may also affect how they are impacted by their teachers' humour use, however this has not been investigated within the existing literature. Furthermore, the observed use of aggressive humour contributes to the current understanding by identifying this humour style as a tool used by teachers to correct students in class and provide a developed understanding of the potential benefits and risks when it is used, affecting students' wellbeing, relationships, and learning.

The findings of this scoping review also support the existing literature on humour (unspecified) use on students' educational experiences, which report a mix of positive and

negative outcomes, including benefits to learning (Garner, 2006) and the negative outcome of increased disruption (Kavandi & Kavandi, 2015; Seidman & Brown, 2013). This evidence of effects on students' educational experiences was extended by the findings of this scoping review as additional negative outcomes on students' educational experiences were highlighted, such as increased confusion and missing important information. Although it is not clear what the cause of these contrasting findings is, one possible explanation could be differences in how teachers incorporate humour into their classrooms and the styles of humour they use. Due to there being minimal discussion of how teachers were using humour in these instances, it is unknown how much this impacted students' learning or if there was another factor influencing learning, such as the subject being taught or students' academic level.

Moreover, this scoping review extends the existing understanding of course-related humour use observed in the classroom. In contrast to the existing understanding which identifies positive outcomes (Kavandi & Kavandi, 2016), these findings also showed possible negative outcomes on students' learning, including increased confusion. These mixed outcomes could possibly be attributed to whether course-related humour is used in tandem with affiliative, self-enhancing, aggressive, or self-deprecating humour styles, as different styles could dictate the effect of humorous course-related interactions. The frequency of course-related humour could also possibly affect outcomes on students' educational experiences, leading to these reported mixed outcomes. However, this cannot be concluded from these findings, as there is currently not a sufficient understanding of this in the literature.

Limitations

This scoping review was rigorously conducted. The JBI methodological framework (Arksey & O'Malley, 2005; Peters et al., 2020) and the PRISMA extension for Scoping Reviews checklist

(Tricco et al., 2016) were followed, and the protocol was pre-registered on the Open Science Framework. One limitation of this scoping review is that the languages of the included articles were limited to those published in English and Spanish, as these are the two languages spoken by at least one co-author. During the process of data extraction, seven articles that appeared to meet the inclusion criteria were excluded because the full text was written in another language. This exclusion, despite English and Spanish being both widely used languages, could create a bias for Global North publications by excluding non-English- and Spanish-speaking countries. Furthermore, although there were studies reporting data from across five continents included within this scoping review the heterogeneity of the studies made it difficult to make cross-cultural comparisons.

Future Directions and Recommendations

The literature identifies the importance of considering all seven humour styles when looking at teachers' use of humour, as it is suggested that these may have different impacts on how humour affects students' educational experiences. To achieve this, a comprehensive teacher humour scale needs to be developed, including all seven categories and three sub-categories of humour, for completion by both teachers and students. This would strengthen the validity of the reported humour styles used and avoid the miscategorising of humour due to the lack of included styles. By having a comprehensive measure, research will be able to accurately identify the extent to which teachers report using different humour in the classroom.

Additionally, further research is needed to develop a better understanding of the implications of both teacher and student individual differences and how they may impact teachers' use and students' interpretation of different humour styles. This would allow for a better understanding of the extent that other factors could influence the positive or negative

effects of humour reported on students' educational experience. Moreover, further research that incorporates classroom observations and teacher interviews is necessary to develop an understanding of the extent that teachers use different humour styles simultaneously or separately from one another. Limited studies were identified in this scoping review with an experimental design (Aria & Tracey, 2003; Kavandi & Kavandi, 2016; Swanson, 2013), further experimental studies with students could help develop a better understanding of how teachers' humour impacts student's educational experiences. Specifically looking at experimental research cross-culturally would allow for a greater understanding of how generalisable humour findings are, due to this scoping review only identifying two cross-cultural studies (Fovet, 2009; Geelan, 2013), both focusing on Global North populations. In order for recommendations to be made about teachers' use of different humour styles in the classroom of students aged 11-18 the aforementioned gaps in the research need to first be addressed in the literature.

Conclusion

The aim of this scoping review was to determine how and why teachers used humour in the classrooms of students aged 11-18, and the effect humour may have on students' educational experiences. The findings identify teachers using seven styles and three sub-styles of humour due to the perceived benefits to students' educational experiences. Observations identified that teachers' humour could affect the classroom environment, student-teacher relationships, and students' motivation, learning, and wellbeing. In order to fully understand how teachers' humour styles affect adolescents' educational experiences, a comprehensive humour scale needs to be developed in addition to increased research using classroom observations and interviews.

References

Abbott, S., & Jones, R. (2003). No, seriously: Humor use by high school social studies teachers. In L. P. McCoy (Ed.), *Studies in teaching: 2003 Research Digest* (pp. 1-5). Wake Forest University.

Alexie, S., & Chacon, R. (2013). Big vibrators, bums, and big explosions: Danger and reward in teaching. *Teaching American Literature, 6*(2), 39–66.

Andarab, M. S., & Mutlu, A. K. (2019). Using humor in language classrooms: Greasing the wheels or putting a spanner in the works? A study on humor styles of turkish EFL instructors. *Eurasian Journal of Applied Linguistics, 5*(1), 23-39. https://doi.org/10.32601/ejal.543776

Aria, C., & Tracey, D. H. (2003). The use of humor in vocabulary instruction. *Reading Horizons: A Journal of Literacy and Language Arts, 43*(3), 161–179. https://scholarworks.wmich.edu/reading_horizons/vol43/iss3/2

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

Banas, J. A., Dunbar, N., Rodriguez, D., & Liu, S.-J. (2011). A review of humor in educational settings: Four decades of research. *Communication Education, 60*(1), 115–144. https://doi.org/10.1080/03634523.2010.496867

Benjelloun, H. (2009). An empirical investigation of the use of humor in university classrooms. *Education, Business and Society: Contemporary Middle Eastern Issues, 2*(4), 312–322. https://doi.org/10.1108/17537980911001134

Bieg, S., & Dresel, M. (2018). Relevance of perceived teacher humor types for instruction and student learning. *Social Psychology of Education: An International Journal, 21*(4), 805–825. https://doi.org/10.1007/s11218-018-9428-z

Bieg, S., Grassinger, R., & Dresel, M. (2017). Humor as a magic bullet? Associations of different teacher humor types with student emotions. *Learning and Individual Differences, 56*, 24–33. https://doi.org/10.1016/j.lindif.2017.04.008

Bieg, S., Grassinger, R., & Dresel, M. (2019). Teacher humor: Longitudinal effects on students' emotions. *European Journal of Psychology of Education, 34*(3), 517–534. https://doi.org/10.1007/s10212-018-0402-0

Blackmore, A. (2011). *To joke or not to joke – Some upper-secondary school students' perceptions and experiences of humour in the classroom*. [Undergraduate dissertation, Halmstad University]. Halmstad University Library. http://urn.kb.se/resolve?urn=urn:nbn:se:hh:diva-17128

Borgia, L., & Owles, C. (2008). Terrific teaching tips. *Illinois Reading Council Journal, 36*(4), 46–50.

Chandras, J. (2021). Hypothetical reported speech as pedagogical practice in multilingual classrooms in India. *Language and Education*, *36*(4), 297-311. https://doi.org/10.1080/09500782.2021.1981368

Cho, E., & Milner, J. (2003). Teacher-student interaction before and immediately after the bell in secondary English classrooms. In L. P. McCoy (Ed.), *Studies in Teaching: 2003 Research Digest* (pp. 35-39). Wake Forest University.

Colorado School to Career Partnership, Denver. (1999). *What works! Colorado high school senior survey 1999*. Initial Results. https://eric.ed.gov/?id=ED431887

Daumiller, M., Bieg, S., Dickhauser, O., & Dresel, M. (2020). Humor in university teaching: Role of teachers' achievement goals and self-efficacy for their use of content-related humor. *Studies in Higher Education, 45*(12), 2619–2633. https://doi.org/10.1080/03075079.2019.1623772

DiCamillo, L. (2010). "Fun" pedagogy curtails intellectual rigor in a U.S. history class. *Journal of Social Studies Research, 34*(2), 175–207.

https://www.proquest.com/openview/cf6e5b931c8534d809bd0a56e78fb631/1?pq-origsite=gscholar&cbl=48205

Fovet, F. (2009). The use of humour in classroom interventions with students with social, emotional and behavioural difficulties. *Emotional & Behavioural Difficulties, 14*(4), 275–289. https://doi.org/10.1080/13632750903303104

Fox, C. L., Dean, S., & Lyford, K. (2013). Development of a humor styles questionnaire for children. *Humor, 26*(2), 295–319. https://doi.org/10.1515/humor-2013-0018

Fox, C. L., Hunter, S. C., & Jones, S. E. (2016). Children's humour types and psychosocial adjustment. *Personality and Individual Differences, 89*, 86-91. https://doi.org/10.1016/j.paid.2015.09.047

Freeman, J. A. (2013). Creative writing pedagogy in the two year college: Lessons learned and literature reviewed, findings by a 35-year teacher. *Theory and Practice in Language Studies, 3*(9), 1520–1530. https://doi.org/10.4304/tpls.3.9.1520-1530

Freud, S. (1928). Humour. *The International Journal of Psycho-analysis, 9*, 1–6.

Frymier, A. B., Wanzer, M. B., & Wojtaszczyk, A. M. (2008). Assessing students' perceptions of inappropriate and appropriate teacher humor. *Communication Education, 57*(2), 266–288. https://doi.org/10.1080/03634520701687183

Garner, R. L. (2006). Humor in pedagogy: How ha-ha can lead to aha! *College Teaching, 54*(1), 177-180. https://doi.org/10.3200/CTCH.54.1.177-180

Geelan, D. (2013). Teacher explanation of physics concepts: A video study. *Research in Science Education, 43*(5), 1751–1762. https://doi.org/10.1007/s11165-012-9336-8

Gerouki, M. (2011). 'Teacher, will you marry me?' Integrating teachers' stories and self-reflective texts for exploring sexuality discourses in school settings. *Sex Education, 11*(1), 1–12. https://doi.org/10.1080/14681811.2011.538140

Gibbs, K. (2018). Australian adolescent boys with attention deficit/hyperactivity disorder (AD/HD): Teacher and teaching factors that assess the efficacy of reducing unwanted behaviours within the classroom environment. *Australian Journal of Learning Difficulties, 23*(1), 53–65. https://doi.org/10.1080/19404158.2017.1393626

Harfitt, G. J. (2013). Why 'small' can be better: An exploration of the relationships between class size and pedagogical practices. *Research Papers in Education, 28*(3), 330–345. https://doi.org/10.1080/02671522.2011.653389

Haynie, G., & Kellogg, A. (2008). *Improving student success in high school algebra I by identifying successful teachers and schools. Research watch. E&R report no.06.19.* Wake County Public School System. https://eric.ed.gov/?id=ED564379

Horng, J., Hong, J., ChanLin, L., Chang, S., & Chu, H. (2005). Creative teachers and creative teaching strategies. *International Journal of Consumer Studies, 29*(4), 352–358. https://doi.org/10.1111/j.1470-6431.2005.00445.x

Jackson, M. L., Nuñez, R. M., Maraach, D., Wilhite, C. J., & Moschella, J. D. (2021). Teaching comprehension of double-meaning jokes to young children. *Journal of Applied Behavior Analysis, 54*(3), 1095–1110. https://doi.org/10.1002/jaba.838

Jiang, F., Yue, X. D., & Lu, S. (2011). Different attitudes toward humor between Chinese and American students: Evidence from the implicit association test. *Psychological Reports, 109*(1), 99-107. https://doi.org/10.2466/09.17.21.PR0.109.4.99-107

Johari, A. B., Abdul Wahat, N. W., & Zaremohzzabieh, Z. (2021). Innovative work behavior among teachers in Malaysia: The effects of teamwork, principal support, and humor. *Asian Journal of University Education, 17*(2), 72–84. https://ir.uitm.edu.my/id/eprint/53718

Jung, H., & Choi, E. (2016). The importance of indirect teaching behaviour and its educational effects in physical education. *Physical Education and Sport Pedagogy, 21*(2), 121–136. https://doi.org/10.1080/17408989.2014.923990

Kavandi, E., & Kavandi, R. (2016). The effect of using humor on high school students' grammar performance and motivation. *Theory and Practice in Language Studies, 6*(7), 1466. https://doi.org/10.17507/tpls.0607.19

Kilic, Y. (2016). The views of Turkish teachers on the use of humor in secondary schools. *Educational Research and Reviews, 11*(9), 945–956. https://doi.org/10.1080/17408989.2014.923990

Koutrouba, K. (2012). A profile of the effective teacher: Greek secondary education teachers' perceptions. *European Journal of Teacher Education, 35*(3), 359–374. https://doi.org/10.1080/02619768.2011.654332

Kumar, M., John, S., & Jose, S. F. T. (2020). Attitude of higher secondary school teachers towards the use of magic tricks in the classroom. *Academic Journal of Interdisciplinary Studies, 9*(2), 47–54. https://doi.org/10.36941/ajis-2020-0022

Larson, J., Morris, T., & Shaw, K. (2019). Sarcasm as pedagogy of love: Exploring ironic speech acts in an urban high school English classroom. *Journal of Adolescent and Adult Literacy, 63*(2), 169–177. https://doi.org/10.1002/jaal.967

Levinson, J. (2010). Can laughter actually benefit a person's immune system? *Exceptional Parent, 40*(2), 64.

Li, Y., Liu, C., Yang, Y., Du, Y., Xie, C., Xiang, S., Duan, H., & Hu, W. (2022). The influence of resilience on social creativity: Chain mediation effects of sense of humor and positive mood. *Psychology in the Schools, 59*(8), 1609–1622. https://doi.org/10.1002/pits.22718

Low, R., King, S., & Foster-Boucher, C. (2019). Learning to bounce back: A scoping review about resiliency education. *Journal of Nursing Education, 58*(6), 321–329. https://doi.org/10.3928/01484834-20190521-02

Lu, J. G., Martin, A. E., Usova, A., & Galinsky, A. D. (2019). Creativity and humour across cultures: Where aha meets haha. In S. R. Luria, J. Baer & J. C. Kaufman (Eds.), *Creativity and humour* (1st ed., pp. 183-203). Academic Press. https://doi.org/10.1016/B978-0-12-813802-1.00009-0

Luevano, V. X., Pablo, J. N., Velazquez, M. L., Chance, B., & Ramirez, B. (2021). Attachment as a predictor of attraction to humor styles. *Personality and Individual Differences, 173*, 110634. https://doi.org/10.1016/j.paid.2021.110634

Makewa, L. N., Role, E., & Genga, J. A. (2011). Teachers' use of humor in teaching and students' rating of their effectiveness. *International Journal of Education, 3*(2), 1-17 https://doi.org/10.5296/ije.v3i2.631

Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., & Weir, K. (2003). Individual differences in uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire. *Journal of Research in Personality, 37*(1), 48–75. https://doi.org/10.1016/S0092-6566(02)00534-2

Mauriello, M., & McConatha, J. T. (2007). Relations of humor with perceptions of stress. *Psychological Reports, 101*(3_suppl), 1057–1066. https://doi.org/10.2466/PR0.101.4.1057-1066

McDonald, P. (2013). *The philosophy of humour*. Humanities-ebooks.

McGhee, P. (1971). Cognitive development and children's comprehension of humor. *Child Development, 42*(1), 123–138. https://doi.org/10.2307/1127069

McGhee, P. (2019). Humor in the ECE classroom: A neglected form of play whose time has come. In E. Loizou, S. L. Recchia (Eds.) *Research on Young Children's Humor* (pp. 83-106). Springer. https://doi.org/10.1007/978-3-030-15202-4_6

Minchew, S. S., & Hopper, P. F. (2008). Techniques for using humor and fun in the language arts classroom. *Clearing House, 81*(5), 232–236. https://doi.org/10.3200/TCHS.81.5.232-236

Minott, M. (2022). "Teacher characteristics they value": London upper secondary students' perspectives. *Educational Studies, 48*(1), 33–43. https://doi.org/10.1080/03055698.2020.1740879

Miura, S., & Jones, R. (2005). LOL: The use of humor in secondary social studies classroom. In L. P. McCoy (Ed.), *Studies in Teaching 2005 Research Digest* (pp. 71-75). Wake Forest University

Nilsen, E. S., Glenwright, M., & Huyder, V. (2011). Children and adults understand that verbal irony interpretation depends on listener knowledge. *Journal of Cognition and Development, 12*(3), 374–409. https://doi.org/10.1080/15248372.2010.544693

Pace, J. (2003). Using ambiguity and entertainment to win compliance in a lower-level US history class. *Journal of Curriculum Studies, 35*, 83–110. https://doi.org/10.1080/00220270210157597

Palomino Martín, A., Marchena Gómez, M. R., & Ramos Verde, E. J. (2017). Educación Física en Primaria y Secundaria: análisis comparativo de la interacción profesorado-alumnado. *Profesorado, Revista De Currículum Y Formación Del Profesorado, 21*(2), 253–270. https://doi.org/10.30827/profesorado.v21i2.10334

Peters, M. D. J., Marnie, C., Tricco, A. C., Pollock, D., Munn, Z., Alexander, L., McInerney, P., Godfrey, C. M., & Khalil, H. (2020). Updated methodological guidance for the conduct of scoping reviews. *JBI Evidence Synthesis, 18*(10), 2119–2126. https://doi.org/10.11124/JBIES-20-00167

Piirainen-Marsh, A. (2011). Irony and the moral order of secondary school classrooms | Elsevier Enhanced Reader. *Linguistics and Education, 22*(4), 364–382. https://doi.org/10.1016/j.linged.2010.09.003

Ritchie, S. M., Tobin, K., Hudson, P., Roth, W., & Mergard, V. (2011). Reproducing successful rituals in bad times: Exploring emotional interactions of a new science teacher. *Science Education, 95*(4), 745–765. https://doi.org/10.1002/sce.20440

Ryoo, J. J. (2019). "Laughter is the best medicine": Pedagogies of humor and joy that support critical thinking and communicative competence. In E. Manalo (Ed.), *Deeper Learning, Dialogic Learning, and Critical Thinking: Research-Based Strategies for the Classroom*. Routledge. https://doi.org/10.4324/9780429323058-11

Şahin, A. (2021). Humor use in school settings: The perceptions of teachers. *SAGE Open, 11*(2). https://doi.org/10.1177/21582440211022691

Sakyi, K. S., Surkan, P. J., Fombonne, E., Chollet, A., & Melchior, M. (2015). Childhood friendships and psychological difficulties in young adulthood: An 18-year follow-up study. *European Child & Adolescent Psychiatry, 24*(7), 815–826. https://doi-org.ezproxy.staffs.ac.uk/10.1007/s00787-014-0626-8

Salavera, C., Usán, P., Jarie, L., & Lucha, O. (2018). Sense of humor, affect, and personality. A study of university students. *Avances en Psicología Latinoamericana, 36*(1), 83–92. https://doi.org/10.12804/revistas.urosario.edu.co/apl/a.4511

Šeďová, K. (2015). Harmony or attack: The function of student humor at lower secondary schools. *New Educational Review, 39*(1), 27–38. https://doi.org/10.15804/tner.2015.39.1.02

Seidman, A., & Brown, S. C. (2013). College classroom humor: Even the pundits can benefit. *Education, 133*(3), 393–395.

Shah, S. S. H. (2019). The assessment of students' perception regarding the qualities of teacher which influence their learning process. *Pakistan Journal of Medical and Health Sciences, 13*(3), 724–727. https://www.pjmhsonline.com/2019/july_sep/pdf/724.pdf

Shayan, T. (2022). The culture of childhood in (and) spaces of resistance. *Contemporary Issues in Early Childhood, 23*(2), 122–138. https://doi.org/10.1177/1463949120966105

Shifman, L., Coleman, S., & Ward, S. (2007). Only joking? Online humour in the 2005 UK general election. *Information, Communication & Society, 10*(4), 465–487. https://doi.org/10.1080/13691180701559947

Skinner, M. E. (2010). All joking aside: Five reasons to use humor in the classroom. *Education Digest: Essential Readings Condensed for Quick Review, 76*(2), 19–21.

St-Amand, J., Smith, J., & Goulet, M. (2024). Is teacher humor an asset in classroom management? Examining its association with students' well-being, sense of school belonging, and engagement. *Current Psychology, 43*(3), 2499–2514. https://doi.org/10.1007/s12144-023-04481-9

Stavrou, E. N. (2022). The music teacher I'd like: Lessons learnt from students. *Frontiers in Education, 6.* https://doi.org/10.3389/feduc.2021.802560

Steele, K. E. (1998). *The positive and negative effects of the use of humor in the classroom setting* (Publication No ED426929). [Masters theses, Salem-Teikyo University]. ERIC. https://eric.ed.gov/?id=ED426929

Stengel, B. S. (2014). After the laughter. *Educational Philosophy & Theory, 46*(2), 200–211. https://doi.org/10.1080/00131857.2012.721729

Sundari, H. (2018). Analyzing interaction practices in a typical EFL classroom setting: A case of Indonesia. *LEARN Journal: Language Education and Acquisition Research Network, 11*(2), 181–192. https://so04.tci-thaijo.org/index.php/LEARN/article/view/163644

Suplicz, S. (2009). What makes a teacher bad? - Trait and learnt factors of teachers' competencies. *Acta Polytechnica Hungarica, 6*(3), 125–138. http://acta.uni-obuda.hu/Suplicz_19.pdf

Swanson, P. B. (2013). Spanish teachers' sense of humor and student performance on the national Spanish exams. *Foreign Language Annals, 46*(2), 146–156. https://doi.org/10.1111/flan.12031

Tap, W. D., Mtetwa, D. K., & Vere, J. C. (2019). Using humour for generating and maintaining interest in mathematics among secondary school students in South Sudan re-settled communities. *African Journal of Research in Mathematics, Science and Technology Education, 23*(2), 244–253. https://doi.org/10.1080/18117295.2019.1656871

Tobin, K., Ritchie, S. M., Oakley, J. L., Mergard, V., & Hudson, P. (2013). Relationships between emotional climate and the fluency of classroom interactions. *Learning Environments Research, 16*(1), 71–89. https://doi.org/10.1007/s10984-013-9125-y

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K., Colquhoun, H., Kastner, M., Levac, D., Ng, C., Sharpe, J. P., Wilson, K., Kenny, M., Warren, R., Wilson, C., Stelfox, H. T., & Straus, S. E. (2016). A scoping review on the conduct and reporting of scoping reviews. *BMC Medical Research Methodology, 16*(1), 15. https://doi.org/10.1186/s12874-016-0116-4

Tsukawaki, R., & Imura, T. (2022). Students' perception of teachers' humor predicts their mental health. *Psychological Reports, 125*(1), 98–109. https://doi.org/10.1177/0033294120972631

Tsukawaki, R., Imura, T., Kojima, N., Furukawa, Y., & Ito, K. (2020). The correlation between teachers' humor and class climate: A study targeting primary and secondary school students. *Humor, 33*(3), 405–421. https://doi.org/10.1515/humor-2019-0021

Unsal, S., Agcam, R., & Aydemir, M. (2018). Humour-based learning: From the lens of adolescents. *Multidisciplinary Journal of Educational Research, 8*(1), 29–55. https://doi.org/10.17583/remie.2018.3169

Veldman, K., Bültmann, U., Stewart, R. E., Ormel, J., Verhulst, F. C., & Reijneveld, S. A. (2014). Mental health problems and educational attainment in adolescence: 9-year follow-up of the TRAILS study. *PloS One, 9*(7), e101751. https://doi.org/10.1-371/journal.pone.0115070

Vrticka, P., Black, J. M., Neely, M., Shelly, E. W, & Reiss, A. L. (2013). Humor processing in children: Influence of temperament, age and IQ. *Neuropsychologia, 51*(13), 2799–2811. https://doi.org/10.1016/j.neuropsychologia.2013.09.028

Wanzer, M. B., Bainbridge Frymier, A., Wojtaszczyk, A. M., & Smith, T. (2006). Appropriate and Inappropriate Uses of Humor by Teachers. *Communication Education, 55*(2), 178–196. https://doi.org/10.1080/03634520600566132

Wardman, P. N. (2021). Humour or humiliation? When classroom banter becomes irresponsible sledging in upper-primary school contexts. *Discourse: Studies in the Cultural Politics of Education, 42*(3), 394–407. https://doi.org/10.1080/01596306.2019.1707777

Wierzbicki, M., & Young, R. D. (1978). The Relation of Intelligence and Task Difficulty to Appreciation of Humor. *Journal of General Psychology, 99*(1), 25. https://doi.org/10.1080/00221309.1978.9920891

Wu, C.-L., Lin, H.-Y., & Chen, H.-C. (2016). Gender differences in humour styles of young adolescents: Empathy as a mediator. *Personality and Individual Differences, 99*, 139–143. https://doi.org/10.1016/j.paid.2016.05.018