

A systemic approach to supporting motivation and behaviour in the classroom during the COVID-19 pandemic: A self-determination theory informed professional development intervention for secondary school teachers

Hayley Prickett^a and Ben Hayes^b

^a Warwickshire Educational Psychology Service, Warwickshire County Council, Shire Hall, Market Place, Warwick, CV34 4RL,

^b University College London (UCL), 26 Bedford Way, London WC1H 0AP

Correspondence: hayleyprickett@warwickshire.gov.uk

Abstract

This exploratory study employed mixed-methods to investigate outcomes associated with an online self-determination theory (SDT) based teacher professional development (PD) intervention, and explored teachers' perspectives about re-engaging students following COVID-19. Participants were 33 secondary school teachers from across England and Wales. Quantitative data from a single group pretest-posttest design were analysed, and a range of teacher outcomes were analysed through paired (dependent) sample t-tests. Qualitative data from teachers' written responses were analysed using framework analysis (FA). Quantitative findings indicated significant increases in teachers' self-efficacy, and personal responsibility, and moderate teacher control beliefs, and significant reductions in teachers' negative beliefs about student misbehaviour, and high teacher control beliefs. The overarching themes within the framework included a priori generated themes of autonomy, relatedness, and competence, as well as an emergent theme 'a different approach is needed: putting psychological needs first'. Implications for practice and further research are discussed.

Keywords: psychological needs, teacher professional development, student motivation, educational psychologists, COVID-19, pandemic

Introduction

Supporting and enhancing student intrinsic motivation within the school environment is arguably of central importance given the range of beneficial outcomes associated with this including: increased school engagement (Froiland & Worrell, 2016); greater school

satisfaction and reduced rates of dropping out of school (Tian et al., 2014); greater psychological wellbeing (Burton et al., 2006); greater value for academic activities (Niemic & Ryan, 2009); and greater academic success (Richardson et al., 2012; Taylor et al., 2014). In addition, children who are intrinsically motivated are deemed less likely to engage in disruptive behaviour (Education Endowment Foundation, 2019; Granero-Gallegos et al., 2020). Whilst there are numerous psychological theories of student motivation, many of these infer that the onus for motivation and effort lies within the student and their own cognitive and affective states. For a helpful review of student and educational motivation theories and research, see Tollfesen (2000). Self-Determination Theory (SDT; Ryan & Deci, 2000) contrasts this as it considers the environment around the student as being crucially important for motivation.

SDT proposes that intrinsic motivation and psychological well-being are achieved through the satisfaction of three core psychological needs for autonomy, competence and relatedness (Ryan & Deci, 2000; Schutte & Malouff, 2018). *Autonomy* refers to the experience of behaviour as volitional and self-endorsed. It relates to feeling in control, able to make choices, and have a say in decisions. The need for *competence* refers to the experience of behaviour as effectively enacted. It relates to feeling competent and capable of achieving the task at hand. *Relatedness* concerns the need to feel a sense of connectedness and belonging with others and to experience warm, responsive, caring and reciprocal relationships. (Deci et al., 1991; Ryan & Deci, 2000). In the classroom, greater need satisfaction has been associated with higher levels of intrinsic motivation (Niemic & Ryan, 2009), a tendency to engage in a deep approach to learning and a subsequent decrease in avoidant strategies (Betoret & Artiga, 2011).

Another important factor in relation to student motivation, especially within the secondary educational phase, is the impact of adolescence on intrinsic motivation. Research suggests that intrinsic motivation gradually declines across the secondary phase (Gillet et al., 2012; G. Taylor et al., 2014) with the most significant decline occurring around 13 to 14 years (Gnambs & Hanfstingl, 2016). A multitude of factors might help to account for this decline. Firstly, ‘within-child’ explanations might recognise that factors such as peer and romantic relationships and the need for autonomy are becoming more salient in adolescence. Moreover, neuroscientific advancements have also enabled possible connections to be made between motivation and factors including the neurocircuitry involved in reward processing (Gee et al., 2018) and heightened sensitivity to peer rejection (Blakemore, 2018). Alternatively, a decline

in intrinsic motivation might be explained as a failure within the secondary education system to adequately fulfil the three core psychological needs proposed by SDT (Gnambs & Hanfstingl, 2016).

Teachers' ability to provide a need-supportive teaching style has been recognised within the literature as positively associated with levels of student motivation and achievement (Assor et al., 2005; Kaplan, 2018; Leenknecht et al., 2017) with academic intrinsic motivations remaining more stable when the three core psychological needs are satisfied. Thus, psychological need satisfaction may act as a buffer to the decline of intrinsic motivation in adolescence (Gnambs & Hanfstingl, 2016). In addition, need dissatisfaction and need thwarting teacher behaviours have been found to be associated with maladaptive student functioning and passive or defiant behaviour (Cheon et al., 2019) and increased anger and bullying behaviour (Hein et al., 2015). Accordingly, teacher professional development (PD) interventions that support need-supportive teaching practices have been found to be beneficial for increasing students' need satisfaction and school engagement (Cheon & Reeve, 2015; Kaplan, 2018).

Some limitations within the current body of literature related to SDT based teacher PD interventions provide opportunity for further research. The majority of such studies have employed what are referred to as 'Autonomy Supporting Intervention Programs' (ASIPs). ASIPs are SDT based teacher PD interventions aimed at developing autonomy-supporting teaching practices. More recently, SDT based teacher PD interventions have combined autonomy and competence supporting strategies (Jang et al., 2010). Little has been done in regard to programmes that combine the three core psychological needs. In addition, SDT based teacher PD intervention studies have largely focused on the impact on student engagement with physical education (PE) lessons (for example, Aelterman et al., 2013; Cheon, Reeve & Ntoumanis, 2018). The impact of such interventions on general classroom engagement has largely been neglected.

Current research

This exploratory research was undertaken during the global COVID-19 public health pandemic in which schools were required to cease typical classroom teaching for the majority of students for several months. Some commentators argue that as a result of

this, students may experience a lack of control and freedom (autonomy); difficulties accessing academic support (competence); and disruptions to important relationships (relatedness) (Carpenter & Carpenter, 2020). The sudden and unprecedented nature of the crisis means that there is little empirical research relating to the impact of such a situation on students and teachers. This context therefore shaped the research and consideration of how teachers could use SDT and associated strategies to support students' re-engagement with school became an important aspect of the research.

Research aims and questions

The present study considered two broader aims. Firstly, to investigate the outcomes associated with an online SDT-based teacher PD intervention. Secondly, to explore the factors that teachers perceive to be important in supporting students' re-engagement with school following the COVID-19 school closures. More specifically, the research questions were as follows:

- (1) Is there a significant change in teachers' self-reported levels of teaching self-efficacy, personal responsibility, discipline beliefs and negative attitudes towards challenging behaviour following the PD intervention?
- (2) What do teachers perceive to be important when considering how to support students' re-engagement with school after COVID-19?

Methodology

Design

To address the research questions delineated above, a one-phase Embedded-Experiment variant mixed-method design (Creswell & Plano Clark, 2011) was employed. As such, quantitative data were utilised to answer research question 1 and qualitative data were embedded within the design in order to answer research question 2. A mixed-method approach was deemed appropriate in this study in order to make the best use of the complementary nature of quantitative and qualitative methods (Lieber & Weisner, 2015), extend the breadth and range of enquiry (Greene et al., 1989) and to enhance the study's practical value (Bryman, 2006).

Ethical considerations

Ethical approval was sought from the University College London (UCL) Psychology and Language Sciences (PALS) Ethics Committee (approval number CEHP/EP/2019/0006). The British Psychological Society's Code of Ethics and Conduct (British Psychological Society, 2018) was used to ensure ethically appropriate decision making throughout the design and implementation of the research. Participants' informed consent was obtained through means of providing them with detailed information about the study prior to agreeing to participate. This included a clear explanation of expectations on them, possible benefits and disadvantages of participation and their right to withdraw participation at any time without consequence. Privacy and confidentiality were upheld by means of participants devising their own Unique Identification Code (UIC) which they recorded, instead of names or other identifiable information, on all questionnaire forms. The UCL Data Protection Officer was informed of the study and a data protection registration number was issued (Z6364106/2019/10/08). All information was collected and stored in accordance with Data Protection regulations (Data Protection Act, 2018).

Participants

Information about the study was initially distributed via an electronic notification system to all schools in a large local authority in England. Subsequently, it was circulated nationally to educational psychologists via the electronic forum 'EPNET'. In total, 33 qualified teachers from secondary schools across England and Wales opted to take part in the study. Of these, 91% were female (n=30) and 9% were male (n=3). Participants ranged in age from 21 to 61 years and over with teachers most frequently falling within the 26 – 30 years age range (n=10). All teachers were qualified with a diverse range of teaching experience from 1 year to more than 26 years. The most common experience range was 1 – 5 years (n=16). The majority of teachers (n=28) were employed within a mainstream secondary school setting with a small proportion (n=5) teaching within an SEMH unit attached to a mainstream school. In regard to previous training, 15% reported that they had received prior training in pupil motivation and engagement (n=5) whereas 85% reported no prior training. For those who detailed

the training that they had received (n=3), this was typically described as a within school CPD related to behaviour management.

The intervention – SDT based teacher professional development (PD) programme

The intervention involved a short duration teacher professional development (PD) programme designed and delivered by the first author. SDT underpinned all aspects of the training design with the intention of supporting teachers to understand and reflect upon student motivation and behaviour from a systemic perspective: specifically, the role of teachers and the wider school system for fostering a ‘need-supportive’ environment.

The SDT related content of the programme was developed by drawing on the work of other researchers in this area (Aelterman et al., 2014; Cheon, Reeve, & Song, 2019; Cook et al., 2018; Sparks et al., 2017). Programme content was split into two parts. Part 1 introduced SDT, the three core psychological needs and the relationship between need satisfaction and behaviour. Part 2 provided an overview of motivating strategies related to each of the psychological needs and practical application exercises using school-based scenarios. A reflection activity (with reading material provided as stimulus; Carpenter & Carpenter, 2000) was included between the two parts of the programme to encourage teachers to apply their learning to the present circumstances (the COVID-19 pandemic). Table 1 provides a detailed overview of the content of the training package.

Table 1. Content of the training package

Training element	Content
Part 1: Theoretical content	<ul style="list-style-type: none"> • Introduction to the key concepts of SDT including the three core psychological needs of autonomy, competence and relatedness and the link between these and intrinsic motivation. • Description of the three psychological need states (need satisfaction, need dissatisfaction and need frustration) and the impact of these states on pupil motivation and behaviour, especially in the context of adolescence.

	<ul style="list-style-type: none"> • Different teacher motivational styles and the empirical evidence regarding the benefits of applying a need-supportive motivational approach. • Time for reflection on the learning in the context of participants' own teaching practice.
Independent reflection activity	<ul style="list-style-type: none"> • Article provided about the impact of the COVID-19 public health crisis on students (Carpenter & Carpenter, 2020). • Teachers were required to read the article and respond to a series of open questions related to: the links between the article and their learning from the training; the potential impact of the crisis on students' three core psychological needs; and ways that teachers could utilise SDT to support students' re-engagement with school.
Part 2: Practical strategies	<p>An overview of strategies that could be applied to teaching practice to support each of the three psychological needs:</p> <p><i>Competence supporting</i></p> <ul style="list-style-type: none"> • Three steps to providing competence support were outlined: 1) provide clear explanations of what competent functioning and adaptive behaviour looks like; 2) provide the guidance and modelling students need in order to learn how to adjust their behaviour and meet the expectations; and 3) provide the performance feedback students need to develop a future pathway to more effective functioning (Reeve, Cheon, & Jang, 2019). • Teachers were encouraged to use the steps for supporting a student with both a learning and a behavioural difficulty in their own time. <p><i>Autonomy supporting</i></p> <ul style="list-style-type: none"> • Description of six strategies for supporting students' needs for autonomy (e.g. Reeve & Halusic, 2009) including phrases/short scripts to demonstrate each strategy: 1) take the students' perspective; 2) vitalise inner motivational resources; 3) provide explanatory rationales; 4) acknowledge and accept students' negative affect; 5) rely on informational, non-controlling

language; and 6) demonstrate patience.

- Teachers were provided with a pupil scenario and encouraged to independently reflect on which of the autonomy supporting strategies they could apply within the scenario.

Relatedness supporting

- A variety of strategies for supporting students' sense of belonging and connectedness within the classroom were outlined (e.g. as described in Sparks et al., 2017): 1) individualised conversation; 2) demonstrating interest; 3) teacher enthusiasm; 4) awareness of students' emotional states; 5) caring and supportive behaviour; 6) friendly communication; and 7) and fun and humour.
- Teachers were asked to generate ideas about how they could explicitly show some of these within their classroom behaviour and interactions with students.
- Introduction to the Establish Maintain Restore (EMR model; (Cook et al., 2018) as a tool for self-reflection about the quality of the teacher-student relationship.
- Information about ways to restore a relationship rupture and the implications of such approaches for discipline and classroom management strategies.

Small group discussions focussed on the application of taught strategies within a classroom-based scenario.

The PD programme was delivered in three separate blocks with 10, 11 and 12 teachers taking part respectively. Each training block was delivered in two parts, with sessions lasting two hours, supported by a PowerPoint presentation and teacher workbook. In order to allow time to consider the content of the training and to complete the reflection activity, teachers received Part 2 of the training two to five days after Part 1. Given the school closures at the time of the study, sessions were delivered using an online video conferencing platform.

Data collection and analysis

For the quantitative aspect of this study, a quasi-experimental one group pretest - posttest design was employed. A questionnaire booklet was administered to all participating teachers prior to the intervention commencing (T1) and again afterwards (T2). This was deemed important in order to assess the impact of the intervention on teachers' attitudes and beliefs. The measures administered included: The Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001); the Teacher Responsibility Scale (TRS; Lauermann & Karabenick, 2013); the Beliefs about Discipline Inventory (BDI; Glickman & Tamashiro, 1980) and an adapted version of the Teachers' Attitudes Towards Learning and Behaviour Difficulties Scale (TALBDS; Elik et al., 2010). In terms of the adapted TALBDS, only the scenario describing a pupil with behavioural difficulties was administered and the details of these difficulties were further elaborated. Item wording was changed to align with UK terminology and demographic information about the student in the scenario was removed. Questionnaire responses for each participant were analysed in a series of paired (dependent) sample t-tests.

For the qualitative aspect, textual data were collected as part of a reflection activity that teachers engaged with between Parts 1 and 2 of the PD programme. In this activity, teachers were asked an open-ended question: 'How could we use SDT theory to support students' re-engagement with school after the COVID outbreak?' Participants' written answers were collated together in a single word document and analysed using framework analysis (FA) (Ritchie & Spencer, 2002). FA is considered to be both a highly structured, yet flexible method of qualitative analysis (Gale et al., 2013) as it can be informed by a priori issues related to relevant theory or the research questions, as well as incorporate emergent themes from participants' accounts (Ritchie & Spencer, 2002). This was considered advantageous within the present research as participants' responses were expected to be influenced by the training they had received, and the nature of the question asked. To enhance the robustness of the analysis, the concept of 'trustworthiness' (Lincoln & Guba, 1985), with its four criteria for achieving this, was applied within the interpretative process.

Findings

Research Question 1: Is there a significant change in teachers' self-reported levels of teaching self-efficacy, personal responsibility, discipline beliefs and negative attitudes towards challenging behaviour following the PD intervention?

A series of paired sample t-tests were conducted to explore the outcomes associated with participation in the PD programme (Table 2). Results indicated that there were significant increases between T1 and T2 in: teaching self-efficacy ($M = 160.36$, $SD = 22.35$; $M = 175.06$, $SD = 21.96$; $t(31) = 4.86$, $p = .000$, $d = 0.650$; teacher responsibility ($M = 55.23$, $SD = 6.95$; $M = 58.00$, $SD = 7.61$; $t(30) = 2.15$, $p = .040$, $d = 0.38$) and moderate teacher control beliefs ($M = 5.13$, $SD = 1.07$; $M = 5.59$, $SD = 1.27$; $t(31)$, 2.09 , $p = .045$, $d = 0.39$). In addition, significant decreases between T1 and T2 were observed in: high teacher-control beliefs ($M = 4.94$, $SD = 1.29$; $M = 4.19$, $SD = 1.31$; $t(31) = -2.71$, $p = .011$, $d = 0.58$) and negative attitudes towards challenging behaviour ($M = 81.26$, $SD = 8.57$; $M = 75.48$, $SD = 11.15$; $t(30) = -3.416$, $p = .002$, $d = 0.58$). There was no significant difference between T1 and T2 in low teacher-control beliefs.

Other significant findings from the quantitative data include significant increases in teachers' self-efficacy for student engagement ($t(31) = 6.93$, $p = .000$, $d = 0.98$) and classroom management ($t(31) = 6.35$, $p = .000$, $d = 0.81$) but not instructional strategies and in teachers' responsibility for student motivation ($t(30) = 3.45$, $p = .002$, $d = 0.59$) but not for the other three subscales: student achievement, teacher-student relationships and teaching quality. In addition, significant decreases were found in relation to teachers' negative emotions ($t(30) = -5.56$, $p = .000$, $d = 1.11$) and negative immediate reactions ($t(30) = -4.48$, $p = .000$, $d = 0.72$) towards challenging behaviour with no significant changes observed in teachers' negative beliefs or negative planned behaviour.

Table 2. Results of the paired t-tests across the administered measures

Scale	Mean difference	T score	p-value	Cohen's d
Teacher Sense of Efficacy Scale (TSES): Total	14.53	4.86	0.000	0.65
TSES: Student engagement	8.88	6.93	0.000	0.98
TSES: Instructional Strategies	-0.69	-0.62	0.541	
TSES: Classroom Management	6.35	6.35	0.000	0.81

Scale	Mean difference	T score	p-value	Cohen's d
Teacher Responsibility Scale (TRS): Total	2.77	2.15	0.040	0.38
TRS: Student Motivation	1.77	3.45	0.002	0.59
TRS: Student Achievement	0.16	0.35	0.728	
TRS: Teacher-Student Relationships	0.38	0.90	0.374	
TRS: Teaching Quality	0.45	1.09	0.284	
Beliefs on Discipline Inventory (BDI): High Teacher Control	-0.75	-2.71	0.011	0.58
Beliefs on Discipline Inventory (BDI): Moderate Teacher Control	0.46	2.09	0.045	0.39
Beliefs on Discipline Inventory (BDI): Low Teacher Control	0.34	1.61	0.118	
Teachers' Attitudes towards Learning and Behaviour Difficulties Scale (TALBDS): Total	-5.78	-3.42	0.002	0.58
TALBDS: Beliefs	-0.64	-1.15	0.260	
TALBDS: Emotions	-5.84	-5.59	0.000	1.11
TALBDS: Immediate Reactions	-2.80	-4.48	0.000	0.72
TALBDS: Planned Behaviour	0.13	0.30	0.766	

Research Question 2: What do teachers perceive to be important when considering how to support students' re-engagement with school after COVID-19?

Teachers' open-ended text responses to the reflection activity were analysed using framework analysis. These responses varied in quantity; the shortest response was 10 words in length and the longest response was 415 words in length. Of the total 33 participants who completed both parts of the PD intervention, 29 provided a written response to this question. Collectively, answers to this question provided 4.5 pages of typed text (in font type Arial size 12).

A priori determined themes within the framework were the three core needs outlined within SDT of ‘autonomy’, ‘relatedness’ and ‘competence’. The analysis highlighted that participants’ comments mapped onto these concepts, providing further support for their inclusion within the framework. In addition to these, participants’ comments suggested that they felt as though psychological needs should be prioritised and that time would be needed to meet these needs before typical learning and successful curriculum delivery could be achieved. This emerged as a predominant theme within the data and was labelled as ‘A different approach is needed: prioritising psychological needs.’ Taking a different approach to supporting students’ psychological needs was conceptualised as *what* will be required (Theme 1) and that application of SDT is *how* that could be achieved (Theme 2).

Each of the themes within the framework were comprised of several sub-themes. Some sub-themes were considered to be stronger or more prominent than others on the basis of the number of participants who referred to them. Strong sub-themes were conceptualised as comprising six or more comments and are denoted in the table below by an asterisk (*). Sub-themes comprising two or three comments were considered to be weaker sub-themes. Table 3 outlines the theoretical framework that was developed through the data analysis process and accompanying quotes from the data.

Table 3. Thematic Framework

Theme 1. A different approach is needed: prioritising psychological needs (<i>what is required</i>)				
“It will be nowhere near as simple as picking up from when we left off.” P8				
<i>Understanding and empathy</i>	<i>Prioritisation of core psychological needs*</i>	<i>Time*</i>	<i>Support*</i>	<i>Engage and Motivate</i>
“We have to focus on being understanding of their loss and the trauma they have faced during lockdown.” P4	“Focus on the child and the psychological needs first before the curriculum.” P1	“Understand that we cannot make up for missed time and this should not be the focus.” P19	“All pupils are going to need this support... have patience, be calm and support pupils in their progress.” P18	“We need to give students something to work towards to motivate them.” P28
Theme 2. Application of Self-Determination Theory (<i>how it could be achieved</i>)				
Theme 2a. Relatedness	Theme 2b. Autonomy		Theme 2c. Competence	
<i>Reconnect and rebuild relationships*</i>	<i>Control and freedom</i>		<i>Differentiate*</i>	
“Time to reconnect with their peers... make sure that pupils feel completely comfortable with their friends once again.” P21	“Give them back some control to empower them.” P19		“Creating lessons that will be appropriate and that will include all learners.” P17	
<i>Trust, honesty and openness</i>	<i>Choices and decisions</i>		<i>Reassurance (academic)</i>	
“This will rebuild the trust between teacher	“Re-affirm decision making opportunities, options, choices etc.” P7		“Reassurance over possible gaps in knowledge and insecurities from perceived	

and pupil.” P15	<i>Student voice</i>	gaps.” P7
<i>Belonging and safety</i>	“Schools could consider ways in which they	<i>Building confidence and self-esteem*</i>
“Keep reminding the students that we are still	can hear students' views and adapt where	“Work on improving their self-esteem to
here for them and that we still belong in the	possible to enhance the sense of autonomy”	allow them to start progressing again.” P12
same community.” P22	<i>P3</i>	<i>Catching up or moving forward</i>
<i>Relatedness comes first</i>	<i>Non-pressurising</i>	“Lessons that have individualized support - at
“Students need to start with relatedness to	“Sharing experiences and not having an	the same time stretch - so that a student does
then gain autonomy to then gain their	immediate pressure of work catch up.” P2	not feel like they are just treading water - but
competence.” P27		moving forward.” P25

Theme 1. A different approach is needed: prioritising psychological needs

The need to take a different approach when schools resume strongly resonated within the data. Within this higher-order theme, five sub-themes emerged: understanding and empathy; prioritisation of core psychological needs; time; support; and engage and motivate.

Permeating the data was a sense that schools and teachers need to be understanding and take an empathic approach to supporting students' successful re-engagement with school. Participants highlighted that such an approach would need to consider the impact of school closures on students and take their experiences during lockdown (and the impact of these) into account. Participants recognised the need to find out more about what students had "*been through*" to ensure a better understanding, ability to respond and support students appropriately as well as to relate teaching and learning to their experiences. Within this sub-theme, some of the participants referred to challenging student behaviour. These participants discussed how they believed it to be important to understand such behaviour from an unmet needs perspective. By meeting students' needs and ensuring adequate support was in place, such challenging behaviour could therefore be managed or prevented. In addition, some participants suggested that experiences in lockdown as well as on their return to school could result in greater "*pushback*" (P28) and defiance.

Participants commented that schools should ensure that they meet students' psychological needs as a priority before other academic or curriculum-based pressures. Participants described taking a more flexible and needs responsive approach to the start of term, placing relationships and recovery first. Some participants acknowledged the challenges of such an approach in that schools would need to be "*brave to put aside academic priorities*" (P24) but that it would be "*much more easily said than done*." (P2).

Related to the first two sub-themes, the importance of allowing time when schools re-opened featured clearly throughout the data. It was recognised that in order to put psychological needs first, "*time and space*" (P7) would be needed to do this. Some participants expressed the view that schools should not focus on catching up or making up the lost time as a result of lockdown but instead allow time for students to adjust to school once again and for their psychological needs to be met. Additionally, it

was highlighted that schools and teachers would need to spend time in order to build their understanding of what students had experienced.

The notion of providing support for students was present throughout the data. Participants talked about being more aware of SDT and its core psychological needs and ensuring that these needs were supported. Other participants suggested that students may require support as a result of their experiences in lockdown and to return to school and to “*adapt to new ways of working*” (P18). For some participants, it was commented on that school staff would need to find ways to engage and motivate the students once again in school and learning. Again, SDT was referred to by some participants as a way that schools and teachers could support engagement and motivation.

Theme 2a. Relatedness

Of key importance to the participants appeared to be the need to support students’ sense of relatedness. Four sub-themes became apparent through the analytic process: reconnect and rebuild relationships; trust, honesty and openness; belonging and safety; and relatedness comes first.

A strongly prominent sub-theme evident across numerous participants’ comments was the importance of “*rebuilding*” and “*focusing*” on student-teacher and student-student relationships. Participants referred to the need to support and provide the time for students to “*reconnect*” with their peers and teachers and to rebuild any relationships damaged or broken as a result of the lockdown. It was highlighted that catching up with friends will be “*uppermost in adolescents’ minds*” (P3) and so schools would need to “*think carefully about how to support connectedness for their young people*” (P3).

The sub-themes of trust, honesty and openness were present in the comments of many of the participants. Some participants acknowledged the importance of open communication and being “*transparent and honest*” (P14) about what is happening and why. Some articulated that working together collaboratively and focusing on rebuilding relationships would help to establish trust. Another participant suggested that through honesty and trust, students would be able to appreciate the benefits of returning to education.

Some participants discussed the importance of fostering a sense of belonging and safety for students on their return to school. The need to re-establish safe spaces

was commented on specifically as was ensuring that teachers and schools make students aware that they still belong and are part of something, i.e., the school community. Some participants discussed how schools and teachers could offer reassurance to students that they are all “*in the same boat*” (P18) and that a new normal can be found “*together*” (P14).

Finally, a sub-theme emerged from the comments of a small number of participants that fulfilling core needs starts with relatedness, i.e., that there is an order required and that relatedness comes first in this order. Participants suggested that by “*focusing on relationships [students will be able] to achieve a sense of autonomy and then a sense of competence*” (P23). This focus on relatedness first is also somewhat supported by the fact that the greatest number of comments across all the data was within the ‘*reconnect and rebuild relationships*’ sub-theme.

Theme 2b. Autonomy

The importance of supporting students’ sense of autonomy was present throughout the data. This was encapsulated by four sub-themes: control and freedom; choices and decisions; student voice; and non-pressurising.

Participants’ comments suggested a recognition of the importance of supporting students to retain a sense of control and freedom over aspects of their school life and future goals. This could be achieved, some suggested, through helping students to re-establish routines and to encourage them to “*make plans*” (P29) to work towards so that they feel in control of their futures. Additionally, autonomy supporting strategies were conceptualised by some participants as ensuring that students have the opportunity to make choices and by “*including them in any...decision making*” (P26).

Further to the above sub-themes, participants discussed the ways in which autonomy could also be enhanced through teachers and schools gaining and responding to students’ views and helping students to “*regain their voice*” (P15). This could be achieved through providing opportunities for students to shape the nature of the curriculum and learning activities and incorporating ideas into lessons of how students have enjoyed learning during their time at home. One participant reported that this might help students to feel as though they have made an “*individual contribution to the new normal*” (P21).

Some participants spoke of the need to reduce the possible pressure on students by using “*language which does not pressure*” (P7). This was considered relevant to supporting autonomy as minimising pressure could be conceptually understood as being in contrast to taking a controlling and need thwarting approach. Links between this sub-theme and ‘*putting psychological needs first*’ were also noted in that some participants commented about how the emphasis should not be on the curriculum initially, to reduce the academic pressure that students might otherwise experience to “*catch up*” (P15).

Theme 2c. Competence

Analysis of participants’ responses indicated that clear consideration was also given to supporting students’ sense of competence. Within this, four sub-themes were identified: differentiate; reassurance (academic); building confidence and self esteem; and catching up or moving forward.

Many of the participants recognised that the impact of lockdown on students’ academic competence would vary greatly between students and may depend on how successful students were at home learning. With this in mind, comments suggested that the “*onus [will be] on teachers*” (P3) to provide appropriate differentiation and personalised learning and support for each student would be even greater than before.

An important aspect of supporting competence was noted by participants as providing reassurance about academic progress. They noted that some students might feel concerned and insecure about “*perceived gaps*” (P7) in their knowledge and education as a result of lockdown. Teachers would therefore need to offer reassurance that these can be overcome and that their situations over lockdown would not act to “*determine how they will progress for the rest of their school life*” (P17) and would be “*easy to recover from*” (P21).

A strong sub-theme that emerged from the data was the importance of building up students’ confidence, self-esteem and belief in themselves. Suggestions for ways to achieve this included providing opportunities to achieve, helping students to feel good about what they have done and achieved during lockdown and highlighting “*what they can do...rather than the things they cannot do or have missed*” (P25).

In the final sub-theme, a dichotomy of views emerged. Some participants discussed the possibility of catch up or refresher sessions for academic content to support students’ sense of competence. However, others suggested that it would be

important to look and move forward as opposed to looking back about what has been missed or not achieved.

Discussion

The quantitative data from the study suggests that participation in an online SDT based teacher PD intervention was associated with increases in teachers' sense of self-efficacy, personal responsibility, moderate teacher control beliefs and decreases in high teacher control beliefs and negative attitudes towards challenging student behaviour. More specifically, increases were observed in: self-efficacy for student engagement and classroom management; personal responsibility for student motivation; and decreases in negative emotions and immediate reactions towards challenging behaviour. It is possible that receiving training underpinned by a systemic theory of motivation may have supported teachers to reflect on the impact of the school environment and teaching practices on student motivation and subsequent behaviour.

The qualitative aspect of this study demonstrated that teachers drew upon the three core psychological needs of autonomy, competence and relatedness when considering how to support students to re-engage with school. In addition, there was a strong emphasis placed on the importance of prioritising students' psychological needs over and above other academic or curriculum demands. Themes around being understanding, supportive and allowing time for students to adjust suggest that teachers were advocating for a relational and humanistic approach. Whilst similar research around teachers' views of supporting students after a pandemic is not yet available, teachers' comments are somewhat aligned with some of the principles of post-disaster psychosocial care outlined by Hobfoll et al. (2007) such as promoting a sense of safety and social connectedness. Additionally, teachers' comments suggested that they recognised the value of SDT in promoting student need satisfaction as a means of supporting psychological wellbeing impacted on by the COVID-19 crisis. This aligns with recent empirical investigations which highlight a relationship between need satisfaction, improved wellbeing and stress reduction in adult samples during the COVID-19 pandemic (Behzadnia & FatahModares, 2020; Cantarero et al., 2020; Šakan et al., 2020).

Implications for educational psychology practice

The findings discussed above indicate that teachers might be supported to think differently about student disengagement and challenging behaviour when presented with a theoretical model that can begin to explain these. Armstrong and Hallett (2012; p. 77) suggest that it is important for EPs to support teachers to “develop positive, sustainable and psychologically informed practice” with individuals who present with social, emotional and behavioural difficulties. They suggest that EPs are able to encourage teachers to think beyond the individual nature and characteristics of the child as the cause of the difficult behaviour to consider the wider systemic issues that might be at play (Armstrong & Hallett, 2012). EPs, with their skills and experience in consultation, may therefore have a role in facilitating conversations with school staff that may begin to “counter negative dominant discourses” (Roffey, 2012, p. 16). Through consultative processes, EPs could share information about the links between SDT, unmet psychological needs, disengagement and behaviour. Consequently, this may support school staff to consider alternative explanations i.e. systemic level factors, for student disengagement and challenging behaviour (Wilding, 2015) and ways to create more motivationally supportive interactions and environments (Guay et al., 2010).

Within the present study, teachers expressed a desire to take a relational approach to supporting student motivation and behaviour. This might be particularly pertinent for children and young people at risk of exclusion whereby the promotion of positive teacher-pupil relationships can have a powerful impact on emotional and behavioural adjustment (Wang et al., 2013). EPs are therefore able to promote positive relational practices through both consultation-based approaches and the delivery of relevant teacher training initiatives, something which is regarded as an increasingly valued aspect of the EP role (Lee & Woods, 2017). Comments also suggested that some teachers felt that their ability to take a relational approach is constrained by current school policies and procedures and academic pressures. Given their position as an objective advisor or ‘critical friend’ (Evans, 2015) and their expertise in child development, EPs have the capacity to influence school culture and ethos. This might be achieved, for example, through assisting schools to revise behaviour management policies in favour of adopting evidence informed relational approaches. A useful illustration of this is the attachment based behaviour regulation policy developed by EPs and other professionals in Brighton and Hove (Ahmed et al., 2018).

Strengths and limitations

An important strength of the current study was the way in which the design and content of the training evolved in response to the COVID-19 public health crisis. The mixed-methods approach enabled outcomes associated with the training to be explicitly measurable whilst also facilitating the collection of rich data about teachers' perceptions of how to support students' re-engagement with school. The intervention was adapted to be highly relevant for teachers, encouraging them to apply the learning to the current situation. It could further be argued that the findings contribute distinctively to the literature. As far as the author is aware, very little, if any, similar research exists that directly explores teachers' views around ways to support students school re-engagement after a pandemic.

In addition, previous research in this area is dominated by the application of such PD initiatives to those who teach PE. A strength of the present research is that it extended the teacher sample to include a wider range of subjects, thus applying the principles of SDT to classroom motivation and engagement more broadly. This is beneficial as it provides support for the application and practical utility of such interventions across a wider range of school-based contexts, students and staff. It also raises the possibility of improving academic outcomes through enhancing engagement with core academic subjects, something which could have a more substantial bearing on students' life outcomes.

Moreover, the design and delivery of a teacher training programme by someone who is experienced in working with teachers and schools could be considered an advantage of the study. This enabled the content to be highly relevant, relatable and applicable to teachers' typical classroom experiences. As research in this area highlights, a trainer's familiarity with the teacher role and the problems that they face (Kennedy 2019) and the perceived relevance and usefulness of training to teachers' daily work (van Veen et al., 2012) are important aspects of effective teacher PD.

A key limitation of this **exploratory** study is the absence of a comparison group. It is therefore not possible to draw causal conclusions that changes observed on the outcome measures were as a direct result of the training. Other factors, such as time for teachers to come together in groups to reflect, and increased exposure to media coverage relating to the impact of COVID-19 and school closures on children and

young people, might have contributed to the observed changes. Given the national and global context in which the training took place, it is difficult to disentangle the range of possible influences on teachers at that time from the training received.

It is important to acknowledge the study's weaknesses in relation to the participant sample and recruitment methods. The sample size in this study was relatively small, 33 teachers across five schools. In addition, participants were from five different schools across England and Wales. Whilst this could be considered a strength of the study, it is difficult to ascertain the extent to which the reported outcomes might have been impacted on by factors associated with the culture and ethos of the different schools. In addition, teachers self-selected into the study and therefore those who chose to participate might be qualitatively different to their peers in terms of demographic variables and other aspects measured within the study such as beliefs about discipline. Participating teachers might also be more receptive to learning about alternative approaches to supporting students post-COVID than their non-participating counterparts.

Given the COVID-19 context, participants were not able to immediately apply the taught concepts and skills within their teaching practice. Correspondingly, it was not possible to ascertain whether participation in the training was related to changes in the use and quality of need-supporting teaching behaviours in the classroom. The time delay between receiving the training and the return to school post COVID might have also impacted on teachers' ability to successfully employ the taught concepts within their teaching practice.

Finally, some important limitations of the framework analysis (FA) method are worthy of note. Due to its highly structured, categorical nature, FA cannot easily accommodate a wide range of divergent ideas and themes should these be present within the data (Gale et al., 2013). Furthermore, the use of pre-determined categories could be considered reductionist in nature and might lead to an increased risk of confirmation bias during the interpretive process.

Conclusions

In summary, the quantitative findings from this exploratory study ~~indicate~~ suggest an association between participation in a SDT based PD intervention and positive changes in terms of teachers' beliefs about themselves (their competency, level of personal

responsibility and discipline beliefs) and their students (attitudes towards challenging behaviour). Receiving training underpinned by a systemic theory of motivation may therefore have supported teachers to consider the impact of the environment on student motivation and subsequent behaviour.

The qualitative aspect of this study demonstrated that teachers drew upon the three core psychological needs of autonomy, competence and relatedness when considering how to support students to re-engage with school. In addition, teachers' comments highlighted their views that a different approach to supporting students, one that prioritises relational and psychological needs over and above academic pressures, would be required.

Overall, this study endorses the value of SDT as a theoretical model of classroom engagement and motivation whilst also contributing to the literature in this area. The research suggests that such a theory, when explicitly taught to teachers, may support a range of positive outcomes in terms of the beliefs that teachers hold about themselves and their students, and the importance they place on supporting students' core psychological needs. Further research is suggested to expand the evidence base, and to address the limitations of the current research.

ORCID

Ben Hayes

<https://orcid.org/0000-0003-2347-9926>

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