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ORIGINAL ARTICLE

Increasing Help-Seeking Intentions for Mental Health Difficulties in Early Adolescence: The Role of Cumulative Promotive Factors

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Abstract
Despite evidence to suggest that receiving support for mental health difficulties can improve later outcomes, adolescents often do not seek help when needed. While factors that reduce the likelihood of help-seeking intentions are well established, little is known about the factors that may increase adolescents' intentions to seek help. This study sought to identify promotive factors for general help-seeking intentions, as well as help-seeking intentions from formal and informal sources specifically, and to test the assumptions of cumulative promotion theory in relation to help-seeking. Participants comprised 290 early adolescents (aged 11–14) in Northwest England who completed a suite of online measures assessing their mental health, wellbeing, and help-seeking intentions. Candidate promotive factors were modelled, and a cumulative promotive index (CPI) score was generated for each participant. Hierarchical regression was used to analyse the data. A range of promotive factors were identified for help-seeking intentions. CPI scores were significant predictors of all three help-seeking outcomes, even after accounting for the variance explained by the individual promotive factors. Thus, this study confirms two key tenets of cumulative promotion theory in relation to help-seeking intentions amongst adolescents: (1) as the number of promotive factors increases, intentions to seek help for mental health difficulties also increase, and (2) the number of promotive factors is more important than their nature when increasing help-seeking intentions.

Keywords Help-seeking · Adolescents · Mental health · Promotive factors · Cumulative promotion

Introduction

Early adolescence (aged 11–14) is a critical period for mental health, with half of all lifetime mental health difficulties (MHDs) having their first onset before the age of 14 (Kessler et al., 2005). One in six young people (5 to 19 year olds) are now thought to have a least one mental health disorder, with the rate having risen by 4.6% since 2017 (NHS Digital, 2022). Furthermore, while the long-term impact of the COVID-19 pandemic is still unclear, estimates suggest it has resulted in rising depressive and anxiety symptoms, potentially due to sudden lifestyle changes (e.g., home schooling), experiences of trauma, and a lack of access to the coping resources typically used (Mansfield et al., 2022; Temple et al., 2022), meaning rates may be higher still in coming years. Left untreated, MHDs can be related to a host of difficulties that can persist across the lifespan, including poorer health, academic, and social outcomes (Green et al., 2005). When symptoms of MHDs do develop, evidence suggests that receiving help early can reduce their long-term impacts (Clayborne et al., 2019). However, while effective, evidence-based treatments for MHDs in young people are available, less than two-thirds of those experiencing difficulties access any professional help (Reynolds et al., 2012; Sadler et al., 2018). While a number of structural barriers exist, other reasons relate to a lack of help-seeking intentions and behaviours (Hayes et al., 2023; Radez et al., 2020). Thus, improving help-seeking intentions may promote access to appropriate and effective support.

Help-Seeking Intentions in Young People

Help-seeking efficacy refers to knowing when and where to seek help and developing coping competencies designed to improve one's mental health care and self-management

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capabilities (Kutcher et al., 2016). It is widely acknowledged that appropriate help-seeking is protective against the development of MHDs (Fenwick-Smith et al., 2018), particularly in young people (Wilson et al., 2008). However, in spite of this, many young people report not seeking help for their symptoms, largely due to beliefs that they do not need any type of mental health care, that they need to be autonomous and strong enough to handle it alone, and that the support and treatment that mental health services provide is not helpful or effective (Burgess et al., 2009; Nearchou et al., 2018). Decision making regarding help-seeking may also have been further complicated by the COVID-19 lockdowns, given the reduced availability of support services and professionals, and school 'closures' for most young people limiting access to teachers and counsellors, as well as face-to-face contact with peers. Thus, addressing the complex network of influencing factors is essential to increasing help-seeking among young people. Indeed, Wilson et al.'s (2011) review of early support and help-seeking argues that finding effective ways to encourage young people to access appropriate help for early symptoms of MHDs should be at the top of prevention and early intervention agendas.

Help-seeking can be divided into two main categories: informal (e.g., friends and family) and formal (e.g., professional services, school staff; Rickwood et al., 2005). Most formal sources relate to young people disclosing their symptoms to either adults in schools (e.g., school counsellors, teachers) or mental health professionals. However, this can present with challenges. For instance, evidence suggests that only 18–24% of young people would seek help from an adult when experiencing symptoms of poor mental health (Gulliver et al., 2010), with young people expressing difficulties in reaching out to formal sources of help for a variety of reasons. For example, regarding school staff, a lack of availability of services in school and a lack of dissemination of information about how to get help have been noted as significant barriers (Rothì et al., 2008). Additionally, studies have concluded that confidentiality and trust are also a concern for young people, as they fear that the information will be discussed with other staff and parents (Andriessen et al., 2019). Outside of school there is also an underuse of professional services, due to factors similar to those outlined above (Leavey et al., 2011), as well as a lack of knowledge about where to find professional help (Rickwood et al., 2005).

Thus, often young people indicate that they prefer to disclose difficulties and ask for help from their friends (i.e., informal sources) when experiencing symptoms of poor mental health. This is thought to be due to increased levels of trust, existing relationships, and shared previous experiences which result in a belief that peers will be able to help deal with symptoms more effectively (Camara et al., 2017; Radez et al., 2022). Further advantages of informal social support identified by Griffiths et al. (2011) include the accessibility and availability of the support, the supporter's background knowledge of the person, and the personal attributes of the supporter (i.e., trustworthy, honest, non-judgemental, loving). However, informal sources of support are often neglected in the literature, despite the fact that these 'natural helpers' (as termed by Hinson and Swanson (1993)) can play an important role in determining if/when formal help is sought (Cornally & Mccarthy, 2011).

Conversely, one aspect that seems to positively influence young people's decisions to seek professional help is the severity of the symptoms experienced. For example, research has shown that young people are more willing to seek professional help when they are dealing with symptoms they consider more severe, such as psychosis or suicidal ideation (Raviv et al., 2009). However, it is still unclear how the severity of symptoms relates to other barriers, such as stigma and trust. Indeed, there is a lack of clarity regarding the interaction of factors that predict help-seeking, as well as limited research examining factors that go beyond attitudes or resource availability; an issue to which we now turn.

Risk and Promotive Factors for Help-Seeking

As noted previously, there are a variety of factors that can affect the likelihood of young people seeking help for MHDs, typically known as risk (associated with a decreased likelihood of help-seeking) and promotive (associated with an increased likelihood of help-seeking) factors. However, much of the extant literature tends to focus on risk factors, with a paucity of research focusing on factors that promote help-seeking intentions. In addition, while most research tends to examine predictive factors individually, in reality, they rarely occur in isolation; instead, they cluster together and are not independent of one another (Flouri & Kallis, 2007). Researching the effects of individual risk and promotive factors therefore fails to account for the complex and interactional relationships between them (Gerard & Buehler, 1999), meaning that the importance of a single variable can be overestimated (Sameroff et al., 2003). In other words, it is unlikely that any one single risk or promotive factor will determine whether a young person seeks help for an MHD; instead, it is far more plausible that there will be an interplay of factors which together influence a young person's likelihood of seeking help. This concept aligns with Ecological Systems Theory (Bronfenbrenner, 1986), which suggests that risk and promotive factors are located in various ecological domains, and that all aspects of a young person's environment interact to influence development, both directly and indirectly. In the light of this, much recent research in mental health has shifted its focus to the effects of exposure to multiple risks (Evans et al., 2013).

One useful explanatory framework through which we can better understand the detrimental effects of multiple risk exposure is Rutter's (1979) cumulative risk theory (CRT). CRT posits that young people's developmental outcomes are better predicted by combinations of risk factors, rather than single risk factors in isolation (Greenberg et al., 1999). Furthermore, it proposes that it is the *number* of risk factors experienced, as opposed to their specific *nature* of the risks, that is most important in determining the risk–outcome relationship (Evans et al., 2013). In his seminal Isle of Wight study, Rutter (1979) found that while no individual variable predicted disorder in young people, when any two stressors occurred together, the risk increased by fourfold; when three and four stressors occurred, the risk increased by tenfold. Thus, he posited that it was not any single factor, but the accumulation of stressors that led to psychiatric disorders, with higher cumulative risk leading to greater adjustment difficulties (Ashworth & Humphrey, 2018). To date, cumulative risk effects have been demonstrated in multiple studies regarding health, behaviour, and academic outcomes, with higher cumulative risk indices consistently predicting poorer outcomes for young people (e.g., Appleyard et al., 2005; Ashworth & Humphrey, 2018; Demkowicz et al., 2021; Flouri & Kallis, 2007; Gerard & Buehler, 2004a; Gerard & Buehler, 2004b; Hebron et al., 2016; Oldfield et al., 2015).

CRT has two main underlying assumptions; first, it suggests that the greater the number of risk factors, the greater the prevalence of problems (Appleyard et al., 2005; Oldfield et al., 2015). Secondly, it is the accumulation of risk factors, rather than the presence or absence of particular risk factors or combinations of them, that impacts upon outcomes. These tenets are based on the principle of equifinality; that is, there are multiple routes to the same outcome (Dodge & Pettit, 2003). However, not all studies measure both assumptions of CRT and thus the theorised superior predictive power of cumulative risk (after accounting for the nature of the individual risk factors) is often neglected (Ashworth & Humphrey, 2018).

Despite the traditional focus on risk, increasing emphasis has recently been placed on the positive factors in young people's lives (Ostaszewski & Zimmerman, 2006), with suggestions being raised that promotive factors may operate in the same cumulative way as risk factors. For instance, Stoddard et al. (2013) investigated both cumulative risk and promotive effects in adolescent violent behaviour, finding that the more promotive factors young people had in their environment, the less violent their behaviour. Similarly, Ostaszewski and Zimmerman (2006) identified a cumulative promotion effect with adolescent drug and alcohol use, whereby higher cumulative promotive indices (CPIs) were associated with lower polydrug use, both in the short-term and longitudinally in their one-year follow-up. However, cumulative protection theory (CPT) has only been examined in a handful of studies and has not yet been explored in relation to help-seeking intentions. Therefore, the utility of this model in relation to adolescent help-seeking for MHDs is not yet known.

The Current Study

Although receiving help for MHDs can effectively reduce distress and improve later outcomes for adolescents, they often do not seek help, especially from formal sources of support. However, while factors that reduce the likelihood of help-seeking intentions are well established, little is known about the factors that may increase their intentions to seek help, especially from informal sources of support. Furthermore, although CRT has been explored in adolescent mental health, CPT has not been examined in the same way, despite promotive factors also being unlikely to occur in isolation. Finally, the recent COVID-19 pandemic may have presented new challenges that could have influenced adolescents' help-seeking intentions, given significant lifestyle changes, a potential reduction in the availability of typical coping resources, and the decreased accessibility of both formal and informal support. Thus, this study aimed to address several key gaps in the literature by (1) identifying promotive factors for both formal and informal help-seeking intentions in an early adolescent sample, (2) identifying COVID-19-related factors which may be promotive in help-seeking intentions, (3) adapting the CRT model to explore cumulative promotion effects on help-seeking intentions, and (4) testing both assumptions of CRT in an adapted CPT model (i.e., to determine not just whether cumulative promotion increases the likelihood of help-seeking intentions, but also whether cumulative promotion is a superior predictor of outcomes, relative to the effects of the individual promotive factors).

Method

Design

The current study employed secondary analysis of data collected as part of the Adolescents' Lockdown-Induced Coping Experiences (ALICE) study (Ashworth et al., 2022), which explored risk and promotive factors for MHDs among early adolescents during the COVID-19 lockdowns. Data were analysed in two stages. First, predictor variables significantly associated with the three outcomes of interest (general help-seeking intentions, intended informal help-seeking, and intended formal help-seeking) were established, to identify significant risk (predictors associated with reduced help-seeking intentions) and promotive (predictors associated with increased help-seeking intentions) factors. Second,

significant promotive factors were summed to generate a cumulative promotion index (CPI) score in order to assess the cumulative promotion effect.

Participants

Participants were $N = 290$ early adolescents aged 11–14 in the Northwest of England. Information sheets and links to an online survey were distributed to parents via secondary schools in the region, who could then decide whether to pass this information on to their child. Of the participants, 52.8% identified as male and 45.2% as female, with the remaining 2% identifying as 'other' or indicating that they preferred not to say. Sixteen percent reported that they were in receipt of free school meals (FSM; a proxy for belonging to a low-income household). Other demographic data are presented in Table 1. The sample is broadly in line with the national average for pupils of this age in terms of proportion eligible for FSM (17.3%) and belonging to a ethnic minoritised group (32.3%) (DfE, 2022).

An a priori sample size calculation, performed using the G*Power software v. 3.1.9.2 (Faul et al., 2007, 2009) showed a minimum sample size of 208 participants would be required to detect a moderate effect size ($f^2 = .15$) at standard alpha ($p < .05$) and power (.95) values for 17 predictor variables.

Table 1 Demographic data

Demographic	%
Gender	
Male	52.8
Female	45.2
Other/prefer not to say	2.0
Ethnicity	
White	76.9
Asian/Asian British	8.8
Mixed ethnicity	7.5
Chinese/Chinese British	2.0
Black/Black British	1.0
Another ethnic group	2.0
Sexuality	
Heterosexual	79.9
LGBTQIA+	9.5
Prefer not to say	10.2
Religion	
Christianity	32.7
Islam	8.2
Hinduism	1.4
Receiving Free School Meals	16
Long-Term Medical Need or Disability	11.6

There were 12.8% of values missing in the data. To establish any systematic variation in patterns of missingness, an omnibus test for missing completely at random (MCAR) was conducted using Little's test. Little's test was not statistically significant, $\chi 2(1266) = 1333.54$, $p = .09$, indicating MCAR can be assumed. Accordingly, missing data were handled using mean imputation in SPSS v.29 software.

Materials

All participants completed a survey online consisting of several self-report mental health and wellbeing measures as part of the ALICE study, from which the variables for this study were drawn.

Candidate Risk and Promotive Factors

Part 1 of the survey presented a series of bespoke demographic questions relating to participants' age, gender identity, ethnic group, and FSM status. They were also asked categorical (yes/no/don't know/prefer not to say) questions regarding if they had any long-term medical needs, if they had any special educational needs or disabilities (SEND), or if they currently received support from a mental health professional or Child and Adolescent Mental Health Services (CAMHS). All questions were optional and offered a 'prefer not to say' response.

Part 2 presented a suite of measures asking about participants' mental health and wellbeing and Part 3 contained a series of questions designed specifically for the ALICE study, asking about participants' experiences of COVID-19 and what their lockdown looked like. These measures are outlined in Table 2.

Help-Seeking

The General Help-Seeking Questionnaire (GHSQ; Wilson et al., 2005) is a brief self-report measure of help-seeking intentions. Question one was used for the present study. This question asks respondents to rate the likelihood on a seven-point Likert scale *(1 = extremely unlikely; 7 = extremely likely*) of them seeking help from ten different sources if they were having a personal or emotional problem. Five items relate to informal sources of support (e.g., parent, friend), three to formal sources of support (e.g., doctor, phone helpline), and the final two items offer options to indicate they would not seek help from anyone, or allow them to provide an 'other' response. Scores for general intended help-seeking were generated by summing scores from all items except 'I would not seek help from anyone'. Scores for informal intended help-seeking were generated by summing the five informal items, and scores for formal intended help-seeking were generated by summing the three formal items. Higher

Table 2 Candidate risk and promotive factors and associated measures

Candidate factor	Measure	Description
Part 2		
Optimism	The revised version of the Life Orientation Test (LOT-R; Herzberg et al., 2006)	The LOT-R is a 10-item self-report measure designed to assess individual differences in generalised optimism versus pessimism. Participants are presented with a series of statements (e.g., *in uncertain times, I usually expect the best*; *if something can go wrong for me, it will*), and are asked to rate the extent to which they agree on a five-point Likert scale (*strongly disagree/disagree/neutral/agree/strongly agree*). Scores are summed, with higher values indicating higher levels of optimism. The LOT-R has successfully been utilised with secondary school-aged children and has reported discriminant validity (Creed et al., 2002; Wong & Lim, 2009). In the current study, internal consistency was $\alpha = 0.60–0.78$.
Internalising difficulties Externalising difficulties	Me and My Feelings (Deighton et al., 2013)	Me and My Feelings is a brief, 16-item school-based self-report measure of child mental health, covering two broad domains: internalising difficulties (e.g., emotional problems) and externalising difficulties (e.g., behavioural problems). Statements are provided (e.g., *I feel lonely; I lose my temper*), and young people are asked to rate the extent to which they feel each statement represents them on a three-point Likert scale (*never/sometimes/always*). The first 10 items comprise the internalising difficulties subscale, while the remaining six form the externalising difficulties subscale. Scores are summed for each subscale, with higher scores indicating higher levels of difficulties. Internal consistency in the context of the present data was $\alpha = 0.77–0.80$. Psychometric properties are well reported, including previously established construct, convergent, and discriminant validity, and the measure has been validated for use with children aged eight years and over (Deighton et al., 2013; Patalay et al., 2014).
Wellbeing	Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS; Stewart-Brown et al., 2009)	SWEMWBS is a seven-item self-report measure, consisting of a series of positively-worded statements about thoughts and feelings (e.g., *I've been feeling relaxed*). Participants are asked to rate each statement on a five-point Likert scale (*1 = none of the time, 2 = rarely, 3 = some of the time, 4 = often, and 5 = all of the time*) that best describes their experiences over the last two weeks. Scores are summed, with higher scores indicative of higher positive mental wellbeing. The SWEMWBS is recommended for use with secondary school pupils ((Evidence Based Practice Unit, 2018; Ng Fat et al., 2017)) and has established convergent and construct validity (Ringdal et al., 2018). Internal consistency for the current study was $\alpha = 0.88$.

Table 2 (continued)

Candidate factor	Measure	Description
Home support	Student Resilience Survey: Family Connection subscale (Lereya et al., 2016)	The Student Resilience Survey comprises 12 subscales measuring young people's perceptions of their individual characteristics, as well as their protective factors embedded in the environment. Six subscales were used: family connection (four items), peer support (11 items), community connection (four items), school connection (four items), self-esteem (3 items), and problem solving (3 items) subscales. Respondents are presented with a series of statements (e.g., *at school there is an adult who really cares about me*), and they are asked to rate the extent to which each statement fits them best on a five-point Likert scale (*1 = never; 5 = always*). Scores are summed for each subscale, with higher scores indicating greater levels of support in each domain. Psychometric properties include criterion validity, and validation for use in children aged 11 years and over. Previous studies have indicated mostly small differential item functioning for ethnic minority participants (Lereya et al., 2016). Internal consistency in the current study was $\alpha = 0.80–0.93$.
School support	Student Resilience Survey: School Connection subscale (Lereya et al., 2016)	
Community support	Student Resilience Survey: Community Connection Subscale (Lereya et al., 2016)	
Peer support	Student Resilience Survey: Peer Support subscale (Lereya et al., 2016)	
Self-esteem	Student Resilience Survey: Self-Esteem subscale (Lereya et al., 2016)	
Problem solving	Student Resilience Survey: Problem Solving subscale (Lereya et al., 2016)	
Help-seeking experience – informal Help-seeking experience - formal	Bespoke help-seeking experiences item	This bespoke item asked participants to select from a list the resources they have used to get help with a personal or emotional problem (*e.g., Apps, phone line*), to measure previous help-seeking behaviours. The number of sources utilised in the last year was summed for formal (two items e.g., a counsellor) and informal (three items e.g., talking to a friend) sources.
Part 3		
COVID-19 beliefs	Bespoke question	Participants were presented with six items pertaining to 'fear of COVID-19', asking them to rate on a five-point scale the extent to which they were worried about themselves or their family member becoming unwell with COVID-19 (e.g., '*if my friends and family were to develop COVID-19 they would suffer badly from it'; 1=strongly disagree, 5=strongly agree).* Scores were summed, with higher scores indicating greater levels of concern. The internal consistency was $\alpha = .84$.
Lockdown experience	Bespoke question	Participants were presented with three items relating to lockdown and were asked to rate their experiences of each on five-point Likert scales (*very bad-very good; very hard-very easy; very boring-very fun*). Scores for these items were summed, to form an overarching 'lockdown experience' variable, with higher scores indicating a better lockdown experience. The internal consistency was $\alpha = .80$.
Household difficulties	Bespoke question	Participants were asked to select from a list any difficulties they or anyone in their household had experienced during lockdown (*e.g., lost their job, unable to access enough food, you lost somebody close to you*). They could select all that applied. The number of difficulties faced was summed.
Adherence to guidance	Bespoke question	Participants were asked to rate the extent to which they were adhering to Government guidance regarding COVID-19 restrictions on a seven-item scale (*1 = not at all; 7 = completely*).

Table 2 (continued)

Candidate factor	Measure	Description
Family member shielding	Bespoke question	Participants were asked if any household members were shielding (*yes/no/don't know/prefer not to say*).
Family member keyworker	Bespoke question	Participants were asked if any household members were keyworkers (*yes/no/don't know/prefer not to say*).

scores indicated increased likelihood of intending to seek help. Internal consistency in the context of the present data was $\alpha = .74$, indicating acceptable scale reliability. Psychometric properties are well reported, including scale reliability, test-retest reliability, and convergent and divergent validity (Cakar & Savi, 2014; Wilson et al., 2005).

Procedure

Data Generation

Ethical approval was granted by the authors' institutional research ethics committee (ref: 20/NSP/037). Informed opt-in consent was obtained from parents, and assent from adolescents. As noted above, help-seeking data, as well as a suite of 'candidate' or potential risk and promotive factors (i.e., the variables to be tested to identify if they were significant risk/promotive factors; see Table 2), were obtained from data collected as part of the ALICE study. Where a direct measure was not possible, a proxy variable was utilised. For example, FSM eligibility was utilised as a proxy measure of familial deprivation.

Analysis

To assess for issues relating to multicollinearity, bivariate correlations were conducted between all of the candidate risk/promotive factors and variance inflation factors (VIFs) were assessed. Three hierarchical multiple regression analyses were then conducted in IBM SPSS v29 to establish how much variance in the three outcome variables of interest (general intended help-seeking, intended informal help-seeking, and intended formal help-seeking) could be accounted for by the predictor 'candidate' variables. A model-building approach was taken for each outcome, in accordance with existing cumulative risk research (e.g., Ashworth & Humphrey, 2018). The first stage of the analysis involved all candidate variables being fitted into the models, with demographic variables entered in step 1, and mental health and wellbeing variables in step 2. Significant risk and promotive factors were then identified; candidate variables were identified as risk factors if they were associated with a significant decrease in help-seeking intentions, and promotive factors if they were associated with a significant increase in intentions. As there is less existing evidence for the COVID-19-related risk and promotive factors, and due to the relatively small sample size, this stage of the analysis was exploratory in nature, and so COVID-19-related predictors were added as a third step in the models. Significant risk and promotive factors were identified and compared with previous models.

Variables identified as significant promotive factors at either step 2 or step 3 of the model were summed for each of the three outcome variables of interest, creating a cumulative promotive index (CPI) score for each participant that represented the number of promotive factors they had. Prior to this, promotive factors were dichotomised by being coded as either '0' for absent or '1' for present. For continuous variables, they were coded as '1' if scores fell at or above the 75th percentile, while all other scores were coded as '0', in line with previous cumulative risk research (e.g., Ashworth & Humphrey, 2018; Gerard & Buehler, 2004b; Hebron et al., 2016; Oldfield et al., 2015).

CPI scores were then fitted in new regression models to test the first assumption of CPT. To test the functional form of the promotive-outcome relationship, CPI scores were squared and mean-centred before being added to these models. Finally, the appropriate CPI scores (i.e., CPI or CPI squared) were fitted to new models alongside dichotomised versions of the significant promotive factors in order to test the second assumption of CRT — the whole of the influence CRT exerts on outcomes is greater than the sum of its individual parts. Again, this is in line with existing CRT research e.g., Ashworth and Humphrey (2018); Evans et al. (2013); Hebron et al. (2016); Oldfield et al. (2015).

Results

Descriptive Statistics

Descriptive statistics are presented in Table 3. Participants generally rated themselves as having high levels of support from home, school, the community, and their peers. Levels of wellbeing were in line with population norms for SWEMWBS (Ng Fat et al., 2017). Mean scores for optimism, internalising difficulties, and externalising difficulties fell around

Table 3 Descriptive statistics

	Mean	*SD*	Observed ranges
Part 2			
Family support	4.55	0.59	1.25–5
School support	3.79	0.91	1–5
Community support	4.15	1.05	1–5
Peer Support	4.11	0.83	1.36–5
Optimism	3.30	0.57	1.6–4.9
Self-esteem	11.45	2.37	4–15
Problem solving	11.04	3.42	3–15
Internalising difficulties	1.69	0.42	1–2.8
Externalising difficulties	1.49	0.40	1–2.83
Wellbeing	3.49	0.72	1.14–5
Previous informal help-seeking	0.62	0.77	0–3
Previous formal help-seeking	0.04	0.22	0–2
Part 3			
Fear of COVID-19	3.75	1.36	1–7
Experience of lockdown	2.93	0.94	1–5
Household difficulties	0.50	0.78	0–3
Following government guidance	5.77	1.16	2–7
Outcomes			
General help-seeking intentions	26.42	7.80	8–49
Informal help-seeking intentions	16.03	4.25	4–26
Formal help-seeking intentions	7.74	4.47	3–21

the mid-way point for all three variables (3.3/5, 1.7/3, 1.5/3, respectively).

Bivariate correlations were conducted between all predictor variables to assess for issues relating to multicollinearity. The majority of correlations were small and all were well within the acceptable limit ($r < .7$), indicating no issues with multicollinearity (Shieh & Fouladi, 2003).

Risk and Promotive Factors

Candidate variables were fitted as predictors into hierarchical regression models to identify significant risk and promotive factors. Table 4 shows the results for general help-seeking intentions, and intended help-seeking from informal and formal sources, respectively. VIF statistics for the three models ranged from 1.003 to 3.785, which were all below the threshold of 5 for multicollinearity (James et al., 2013).

For general help-seeking intentions, a significant model was identified in step 2, $F(19, 270) = 4.39$, $p < .001$. The R^2 indicates the predictors in the model accounted for approximately 48.6% of the variance. Four predictors were identified as significant promotive factors: having long-term medical needs, higher perceived levels of school support, higher levels of problem-solving, and a higher reported frequency of previous help-seeking from informal sources were all associated with higher intended help-seeking scores. No significant risk factors for lower intended help-seeking scores were identified.

For informal help-seeking intentions, a significant model was identified in step 2, $F(19, 270) = 8.06$, $p < .001$. The R^2 indicates the predictors in the model accounted for approximately 36.2% of the variance. Three predictors were identified as significant promotive factors: having higher perceived levels of home support, higher perceived levels of peer support, and higher levels of optimism were all associated with higher intended help-seeking scores. One risk factor was identified: having an SEND. A separate regression analysis with all SEND categories (no SEND as reference category) revealed that having a diagnosis of autism or mental health difficulties (i.e., falling in to the 'social, emotional and mental health' category of need; DfE & DoH, 2015) were both associated with lower help-seeking intention scores from informal sources.

For formal help-seeking intentions, a significant model was identified in step 2, $F(19, 270) = 2.428$, $p = .001$. The R^2 indicates the predictors in the model accounted for approximately 14.6% of the variance. Three predictors were identified as significant promotive factors: having long-term medical needs, higher perceived levels of school support, and higher levels of problem-solving were all associated with higher intended help-seeking scores. One risk factor was identified: having higher perceived levels of community support was associated with lower intended help-seeking scores.

COVID-19 Pandemic Predictors

Six candidate risk and promotive factors related to the COVID-19 pandemic were added to the aforementioned models in a third step.

For general help-seeking intentions, the R^2 indicates an improved model ($\Delta R^2 = 0.21$), with approximately 27.6% of the variance accounted for. All significant risk and promotive factors identified in step 2 remained significant, and two additional significant risk factors emerged: having higher levels of reported internalising difficulties, and more closely adhering to Government guidelines on COVID-19 restrictions were both associated with lower intended help-seeking scores.

For informal help-seeking intentions, the R^2 indicates an improved model ($\Delta R^2 = 0.32$), with approximately 37.6% of the variance accounted for. All significant risk and promotive factors identified in step 2 remained significant, with the exception of perceived peer support as a promotive factor, which was no longer significant once the additional variables were fitted. One further promotive factor was identified: having long-term medical needs was associated with higher intended help-seeking scores. Two additional risk factors were also significant:

Table 4 Hierarchical multiple regression models (step 3) – help-seeking intentions: risk and promotive factors

	General help-seeking		Informal help-seeking		Formal help-seeking	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.044**		.097***		.010	
Age		−.077		−.027		−.009
Gender		−.040		−.062		−.016
Ethnicity		.011		.024		.039
Support from CAMHS		−.032		−.056		−.028
Long-term medical needs		−.137*		−.108*		−.151*
SEND		.053		.114*		.040
FSM		−.024		−.024		−.019
Step 2	.182***		.317***		.086**	
Optimism		.030		.135*		−.011
Internalising difficulties		−.187*		−.178*		−.084
Externalising difficulties		.041		−.033		−.038
Wellbeing		.076		.078		−.001
Home support		.076		.161*		−.058
School support		.161*		.094		.222**
Community support		−.131		−.087		−.170*
Peer support		.082		.139		−.055
Self-esteem		−.127		−.055		−.099
Problem solving		.212**		.091		.267**
Help-seeking experience – informal		.167**		.096		.142*
Help-seeking experience – formal		.078		.011		.099
Step 3	.207***		.317***		.092**	
COVID-19 beliefs		−.002		.020		−.014
Lockdown experience		−.068		−.117*		−.017
Household difficulties		−.086		−.021		−.125*
Adherence to guidance		−.168**		−.049		−.090
Family member shielding		.017		.011		.030
Family member keyworker		.063		.033		.038
Total R^2	.433*		.731*		.188*	

Standardised regression coefficients reported from Step 3 of the model

* $p < .05$. ** $p < .01$. *** $p < .001$

having higher levels of internalising difficulties and a more positive lockdown experience were associated with lower intended help-seeking scores.

For formal help-seeking intentions, the R^2 indicates an improved model ($\Delta R^2 = 0.09$), with approximately 17.1% of the variance accounted for. All significant risk and promotive factors identified in step 2 remained significant. However, one additional promotive factor was identified: having a higher frequency of previous help-seeking from informal sources was associated with higher intended formal help-seeking scores. One COVID-19 risk factor was also identified: having a higher level of household difficulties during the pandemic was associated with lower intended help-seeking scores.

Cumulative Promotion

Based on the promotive factors identified in the models, participants were allocated a CPI score for each of the three outcome variables (general help-seeking, informal help-seeking, and formal help-seeking intentions; see Table 5), pertaining to the number of promotive factors they were exposed to. Table 5 shows the total number of participants at each of the promotive levels across the three models. The majority of participants had 0 or 1 promotive factor.

To test the first assumption of CPT, participants' CPI scores were fitted in new models as explanatory variables. CPI scores were significant predictors of general help-seeking ($\beta = 2.50$, $p < .001$), informal help-seeking ($\beta = 1.86$,

Table 5 Number (*N*) and percentage (%) of participants per CPI level

	Intended general help-seeking		Intended informal help-seeking		Intended formal help-seeking	
CPI Level	*N*	%	*N*	%	*N*	%
0	105	36.2	72	24.8	105	36.2
1	84	29.0	54	18.6	84	29.0
2	45	15.5	43	14.8	45	15.5
3	10	3.4	24	8.3	10	3.4
4	2	0.7	1	0.3	2	0.7
Missing	44	15.2	96	33.1	44	15.2
Total	290	100	290	100	290	100

$p < .001$), and formal help-seeking ($\beta = 1.15$, $p < .001$) intentions. Thus, the first assumption was met: help-seeking increased as the number of promotive factors increased.

To test the functional form of the promotive-outcome relationships, the squared terms of the CPI scores (i.e., the quadratic terms) were fitted to the three models alongside the original CPI scores (i.e., the linear terms). If the squared term accounts for additional variance beyond the linear CPI score, then a disproportionate relationship is present, indicating a non-linear relationship. However, prior to this analysis, the CPI score is mean-centred before being squared to avoid multicollinearity issues (Oldfield et al., 2015). The squared terms were not significant predictors of general help-seeking ($\beta = -0.17$, $p = .733$), informal help-seeking ($\beta = -0.42$, $p = .114$), or formal help-seeking ($\beta = -0.18$, $p = .540$) intention scores. This suggests that the relationships between CPI scores and help-seeking intention scores were linear. Figures 1, 2, and 3 provide a visual representation of the relationships between CPI scores and the three outcome variables.

To test the second assumption of CPT, the CPI scores were fitted in new models as explanatory variables, along with dichotomised forms of the variables found to be significant promotive factors in the first stage of the analysis. The CPI scores were significant predictors of participants' general help-seeking ($\beta = 2.70$, $p = .004$), informal help-seeking ($\beta = 2.36$, $p < .001$), and formal help-seeking ($\beta = 1.10$, $p = .043$) intention scores, even after accounting for the variance explained by the individual promotive factors. Thus, the second assumption was met: cumulative promotion is a superior predictor of outcomes, relative to the effects of the individual promotive factors. Tables 6, 7, and 8 show the results of these models.

Discussion

The present study sought to examine promotive factors for help-seeking intentions (general, formal, and informal sources) in early adolescence, and test the potential of utilising an adapted CRT model to explore cumulative promotion effects on help-seeking intentions. A range of promotive factors, including long-term medical needs, optimism, problem-solving skills, perceived levels of support, and previous help-seeking experience was identified. In terms of cumulative promotion, CPI scores were

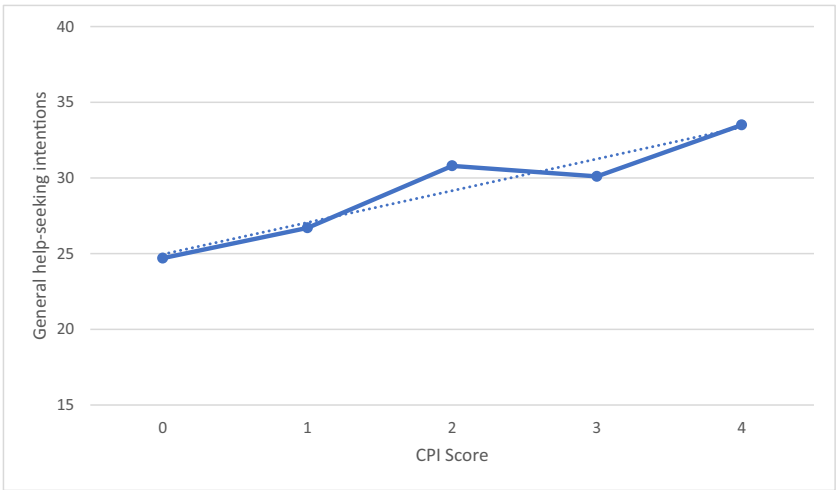

Fig. 1 Functional form of risk–outcome relationship for general help-seeking intentions

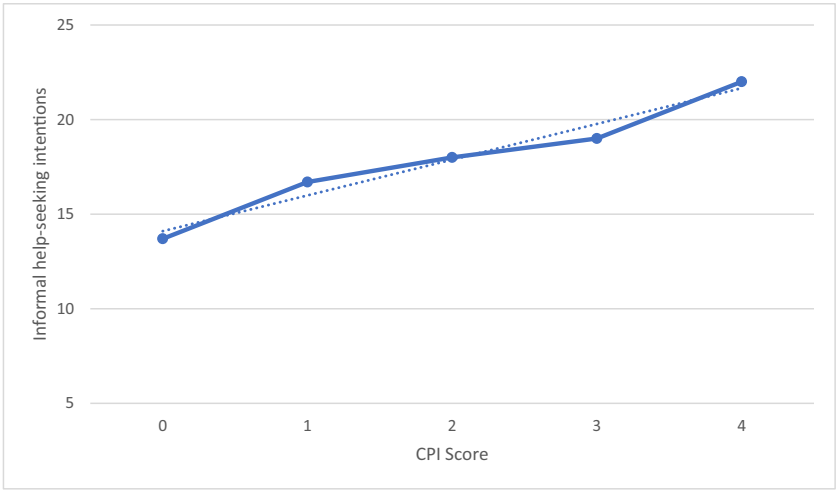

Fig. 2 Functional form of risk–outcome relationship for informal help-seeking intentions

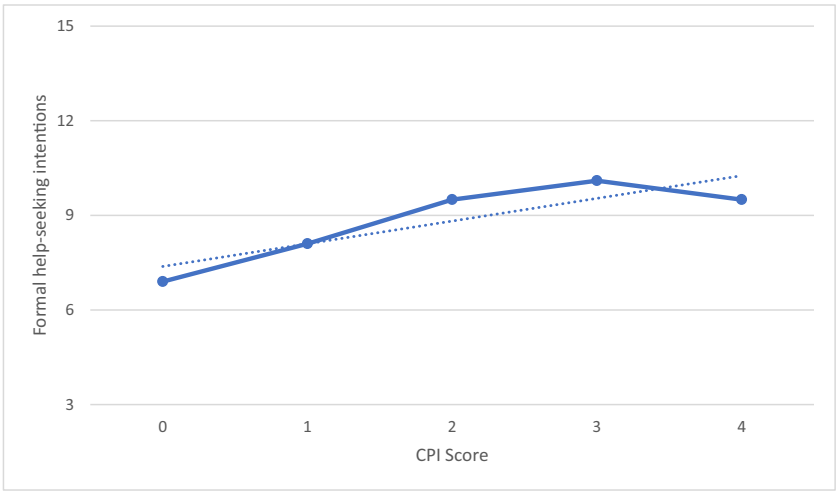

Fig. 3 Functional form of risk–outcome relationship for formal help-seeking intentions

Table 6 CPT model for general help-seeking intentions

CPT assumption 1			Quadratic CPI			CPT assumption 2		
	Coefficient	Standard error		Coefficient	Standard error		Coefficient	Standard error
CPI score	2.502***	0.562	CPI score	2.639***	0.690	Long-term medical needs	−0.244	2.015
			CPI score squared	-0.169	0.496	School support	−0.483	1.629
						Problem-solving	0.000	0.000
						Help-seeking experience	0.000	0.000
						CPI score	2.700**	0.944
-2*log likelihood = 1434.407			-2*log likelihood = 1434.290			-2*log likelihood = 1434.319		

significant predictors of all three help-seeking outcomes and were still significant predictors even after accounting for the variance explained by the individual promotive factors. Thus, both assumptions of CRT were met and were found to be applicable to CPT: (1) cumulative promotion increases the likelihood of help-seeking intentions, and (2) cumulative promotion is a superior predictor of outcomes, relative to the effects of the individual promotive factors.

Table 7 CPT model for informal help-seeking intentions

CPT assumption 1			Quadratic CPI			CPT assumption 2		
	Coefficient	Standard error		Coefficient	Standard error		Coefficient	Standard error
CPI score	1.864***	0.259	CPI score	2.092***	0.295	Long-term medical needs	−1.682	1.050
			CPI score squared	-0.420	0.265	Home support	−0.569	0.996
						Peer support	−0.511	0.945
						Optimism	0.000	0.000
						CPI score	2.363***	0.616
-2*log likelihood = 1039.778			-2*log likelihood = 1037.290			-2*log likelihood = 1037.181		

Table 8 CPT model for formal help-seeking intentions

CPT assumption 1			Quadratic CPI			CPT assumption 2		
	Coefficient	Standard error		Coefficient	Standard error		Coefficient	Standard error
CPI score	1.145***	0.326	CPI score	1.282***	0.395	Long-term medical needs	0.301	1.186
			CPI score squared	−0.178	0.290	School support	−0.051	0.947
						Problem solving	0.000	0.000
						Previous help-seeking	0.000	0.000
						CPI score	1.104*	0.547
-2*log likelihood = 1315.364			-2*log likelihood = 1315.364			-2*log likelihood = 1315.643		

Promotive Factors

A notable and consistent finding across all three help-seeking outcomes was the promotive effect of having long-term medical needs. This suggests that individuals facing chronic health conditions were more inclined to seek assistance, irrespective of the source. A potential explanation for this may be that previous experience of seeking help for physical health conditions has normalised the process for these young people, resulting in them also being more likely to seek help for mental health difficulties. This result emphasises the interconnected nature of physical and mental health, highlighting the need for integrated healthcare approaches that recognise and address the holistic nature of wellbeing in early adolescents with chronic medical conditions (Garralda, 2004).

While the promotive effects of long-term medical needs relate to only a relatively small sub-sample of the population, the finding that previous help-seeking experiences is promotive in future help-seeking intentions in general is a lesson that can be applied when supporting *all* young people. Furthermore, it appears that previous help-seeking specifically from informal sources is associated with increased future help-seeking intentions from formal sources. This implies a self-perpetuating cycle wherein individuals who have sought informal support in the past are more likely to repeat this behaviour in the future with formal sources. It is thus vital that young people who reach out for help receive effective support, in order to ensure that they are not deterred from seeking help again in the future if needed (Radez et al., 2020, 2022; Rickwood et al., 2005). Understanding and leveraging this pattern can help schools, clinicians, and intervention developers to capitalise on existing informal support networks, acknowledging their potential as gateways to further assistance. For instance, schools may want to explore options such as peer mentoring or buddy schemes, with rigorous training and support in place for mentors, to ensure that young people who make use of these systems have a positive experience.

For both general and formal help-seeking intentions, higher perceived levels of school support emerged as a significant promotive factor. This is perhaps unsurprising given that if pupils feel they are well-supported by their school (which is in itself a formal support mechanism for mental health difficulties) then they will be more likely to reach out for help from this source should they need it. This underscores the pivotal role educational institutions play in shaping early adolescents' attitudes toward seeking help. Schools can serve as conduits for mental health promotion, fostering an environment where pupils feel supported and able to ask for help when needed (Patalay et al., 2017; Sharpe et al., 2017). Thus, the findings here advocate for a whole-school

mental health approach within educational settings, as well as the careful and considered implementation of effective support mechanisms. However, young people's concerns surrounding confidentiality (e.g., Andriessen et al., 2019) need to be taken into account when considering the role of the school in providing mental health support. It is perhaps important that schools are transparent with their policies and procedures regarding confidentiality (and limits to confidentiality) and pupils' rights, to prevent young people from 'second guessing' what will happen if they make a disclosure and ultimately being deterred from seeking help in this setting. Other significant promotive factors such as problem-solving skills and optimism also make logical sense. For instance, higher problem-solving skills may help early adolescents to recognise when they are in a position where they need support for mental health difficulties, and identify the relevant steps that need to be taken in order to receive appropriate care (Cornally & Mccarthy, 2011), whilst optimism may equip them with a positive outlook that increases their inclination to seek help and belief that it will be received (Spendelow & Jose, 2010). As such, schools could deliver interventions targeting the enhancement of problem-solving abilities and optimism during early adolescence, which may prove instrumental in cultivating a proactive approach to both formal and informal help-seeking.

Cumulative Promotion Theory

A unique element of this study is the exploration of CPT in relation to early adolescents' help-seeking intentions. CPI scores were significant predictors of all three intended help-seeking outcomes, whereby help-seeking intentions increased with each additional promotive factor. This therefore supports the first assumption of cumulative risk/promotion theory: the greater the number of promotive factors, the greater the likelihood of intended help-seeking. Interestingly, all three relationships were linear in nature, suggesting a proportionate rise in help-seeking intentions with each additional promotive factor. While cumulative risk-outcome relationships have been identified repeatedly in the literature (e.g., Appleyard et al., 2005; Ashworth & Humphrey, 2018; Demkowicz et al., 2021; Flouri & Kallis, 2007; Gerard & Buehler, 2004a; Gerard & Buehler, 2004b; Hebron et al., 2016; Oldfield et al., 2015), similar cumulative promotion effects have only been examined a handful of times (e.g., Ostaszewski & Zimmerman, 2006; Stoddard et al., 2013), and they have not been explored in relation to help-seeking. Furthermore, results were also consistent with the second assumption of cumulative risk/promotion theory, in that exposure to each additional promotive factor resulted in an increase in help-seeking intentions, irrespective of the nature of the individual promotive factors (Ashworth & Humphrey, 2018; Oldfield et al., 2015). In other words, the number of promotive factors an adolescent was exposed to was more important than the nature of the individual factors (Rutter, 1979). To our knowledge, this is the first study to test both assumptions of CRT in relation to promotive factors, with our findings supporting the applicability of CRT assumptions to CPT.

By adopting CPT methodology, the natural covariation of promotive factors can be accounted for (Flouri & Kallis, 2007), meaning that this approach may have superior power to explain more variance in outcomes. This counters previous criticisms of cumulative risk/promotion theory that emphasise the loss of potentially important information on the intensity of the predictor variables (Evans et al., 2013; MacCallum et al., 2002). Instead, these findings are consistent with the argument that no one factor is more important than another. Indeed, it is the confluence of promotive factors, rather than any singular promotive factor, that increases the likelihood of positive outcomes (Ashworth & Humphrey, 2018). As Flouri and Kallis (2007) suggest, investigating promotive factors in isolation may bias estimates of that variable's effects.

However, the promotive factors that are most likely to occur in conjunction are still unknown, as are the ways in which they interact with each other. Therefore, future research should continue to test CPT and attempt to replicate the findings identified here when exploring other mental health outcomes. In addition, it would be beneficial to explore the promotive factors that frequently co-occur and examine the multiple interactions taking place between them. Finally, *why* CPI has superior predictive power is also still unclear, and further work needs to be undertaken to establish the mechanisms underpinning the relationship between CPI and mental health outcomes. This in turn will help to inform early intervention and prevention work, aiding in the development of effective strategies that can increase early adolescents' access to promotive factors and subsequently improve mental health outcomes in this population.

The findings of this study hold significant implications for researchers, developers of mental health interventions, and the professionals in schools and clinical settings who deliver them. For researchers, findings highlight the need for future work to shift its focus to multiple promotive factors and the underlying mechanisms through which CPT impacts outcomes, and demonstrates a need for further exploration into the dynamic interactions among promotive factors and their longitudinal effects. Longitudinal research could provide insights into the evolving nature of help-seeking intentions and the sustained impact of cumulative promotive factors over time. In terms of intervention development and delivery in schools and clinical settings, it seems that it may not be the specific promotive factors that these interventions target that is important; instead, interventions may want to focus on increasing adolescents' access to as many

promotive factors as they can. As Ostaszewski and Zimmerman (2006) suggest, enhancing individual promotive factors may not be sufficient to achieve a successful outcome when facing certain constellations of risk. Intervention developers should thus consider the simultaneous enhancement of various promotive factors (Oldfield et al., 2015), tailoring strategies to address the unique needs and challenges faced by individuals in this developmental stage. Similarly, both schools and mental health practitioners may want to utilise interventions that have a strong logic model and theory of change (Humphrey et al., 2016), targeting a range of both proximal and distal factors associated with the outcome variable of interest. Adopting a whole-school approach that prioritises the development of promotive factors across all aspects of school life, or universal social-emotional learning programmes that focus on promoting a broad range of inter-related factors, may be most effective. Clinical interventions that adopt a strengths-based approach, focusing on the development of multiple promotive factors, may also be worth exploring for mental health practitioners.

Limitations

While the current study presents novel findings in relation to CPT and help-seeking, there are some limitations that should be considered. Firstly, there was a relatively small number of participants in one regional area of England (the Northwest) and participants were also self-selecting, as the surveys were sent home to them via their schools. As such, there is potential that the findings may not be representative of this age group nationally. However, participant demographics were broadly reflective of national averages (DfE, 2022) in terms of the proportion of adolescents eligible for FSM and those belonging to a minority ethnic background, although there is limited data available regarding the utility or differential functioning of the measures with diverse ethnic samples. Second, the limited sample size means that some of the CPI levels had only a small number of participants, thus potentially skewing the results. Third, the proportion of missing data was relatively high (12.8%), although this was handled using mean imputation and so was not considered to be problematic. Fourth, it was not possible to include all possible candidate promotive factors in the present study, and so some significant contributors to adolescent help-seeking outcomes may have been missed. Fifth, the cross-sectional nature of this study limits the extent to which causation can be inferred. Finally, criticisms of CRT/CPT include the loss of potentially important information regarding risk/promotive factors due to the binary treatment of variables (Evans et al., 2013). The use of the 75th percentile as a cut-off for risk/promotive status for continuous variables also means that participants' CPI scores are only relative to the rest of the sample, and it is unknown whether the scores in the sample are representative of the wider population. There is also a loss of information on the intensity of the promotive factors due to the dichotomisation of continuous variables.

Conclusion

The current study extends the knowledge base regarding cumulative promotion, providing preliminary evidence that assumptions of CRT can be applied to CPT. By identifying specific promotive factors and unveiling the cumulative nature of their effects, this study paves the way for further research in this area using larger, longitudinal datasets, as well as examining a wider range of candidate promotive factors and mental health outcomes. The findings also underscore the importance of holistic approaches that consider the multifaceted influences on help-seeking intentions during the critical period of early adolescence.

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Declarations

No funds, grants, or other support was received for this study. The authors have no competing interests to declare that are relevant to the content of this article. The study was approved (or granted exemption) by the Liverpool John Moores University's research ethics committee and was performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments.

Competing interests The authors declare they have no competing interests.

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