The impact of group coaching on the self-efficacy, test anxiety and perceived stress in male adolescents

Jack Cranston[1] and Mary-Jane Budd[2]

[1]Department of Psychology and Human Development, IOE – Faculty of Education and Society, University College London, WC1H 0AA, UK
[2]School of Psychology, University of East London, E15 4LZ, UK

Correspondence to: jack.cranston.15@ucl.ac.uk

The impact of group coaching on the self-efficacy, test anxiety and perceived stress in male adolescents

Abstract

One-to-one coaching interventions have had a demonstrably positive impact on the psychological wellbeing of young people but are beyond the resources of many schools. By contrast, group coaching has received little investigation and may be more feasible and offer similar benefits. This study sought to examine the effectiveness of group coaching to decrease test anxiety and perceived stress and increase self-efficacy amongst male students attending an English secondary school. In a quasi-experimental between-participant design, 32 male students between 16 and 18 years of age were allocated to a group coaching programme (n = 16) or a wait-list control group (n = 16) based on existing class membership. The six-week group coaching programme was structured around the GROW coaching model and was facilitated by a teacher-researcher trained in coaching psychology techniques. ANCOVA analyses found that group coaching had no statistically significant effect on self-efficacy or perceived stress despite improved post-intervention mean scale scores for both measures. The coaching group experienced a significant increase in test anxiety whereas the control group demonstrated improved post-intervention scores against this measure. Findings did not attest to a significantly positive impact for group coaching. Further research is recommended to determine the potentially detrimental effects of group coaching against certain measures and which wellbeing measures may be enhanced in adolescents as effectively as using traditional one-to-one coaching.

Keywords: *group coaching, GROW model, male adolescents/students, test anxiety, self-efficacy, perceived stress.*

The mental wellbeing of young people is an increasingly pressing concern for parents, educators and legislators. Data suggests that children and adolescents in the United Kingdom are amongst the least satisfied with their lives in Europe (The Children's Society, 2020). UCAS (2021) has reported a 450% rise in adolescents disclosing mental health conditions such as anxiety and depression over the last decade and other research has highlighted increases regarding inattention and conduct issues during COVID-19 lockdowns (Waite et al., 2021). Financial cuts to Child and Adolescent Mental Health Services (CAMHS) mean that the mental wellbeing of young people has increasingly become the responsibility of schools and their staff (King & Fazel, 2021; Frith, 2016). Many schools are currently struggling to finance effective internal provisions targeting student wellbeing as their own budget cuts have led to a 9% fall in real terms spending per pupil over the last ten years (Institute for Fiscal Studies, 2020). Approaches to mental health in schools are therefore mainly reactive; support is for the most part only extended to students who openly present or disclose their difficulties (Madden et al., 2011). The Department for Education (2021) has pledged £17 million to bolster the mental health support offered by schools and colleges, but both the timeframe and stipulations associated with this funding are currently unclear.

Given these issues, many schools are opting to investigate the utility and cost-effectiveness of interventions which may have a positive effect on student performance and wellbeing. Current school-based interventions range from cognitive behavioural therapy to mindfulness activities, peer support and anti-bullying programmes (Werner-Seidler et al., 2017). Despite the wide implementation of these divergent methods, many schools continue

to report limited staff capacity (including access to external agencies) and a lack of national policy guidance as the primary barriers to effective support for students' wellbeing (Patalay et al., 2016). Furthermore, schools often have neither the capacity nor time to meaningfully verify the impact of the programmes which are being used (Green et al., 2018). Whilst very few other forms of intervention have benefitted from substantial empirical investigation, the application and evaluation of coaching psychology in schools has become increasingly widespread.

Coaching in schools

Coaching psychology (also known as 'evidence-based coaching') is described as the systematic application of behavioural science to increase the performance, achievement and wellbeing of individuals and groups within non-clinical populations (Grant, 2007). Coaching can be recognised as a structured conversation which enables an individual to improve their performance and achieve goals in a specified area (van Nieuwerburgh, 2018). Coaching within schools was originally focused on improving the performance of school senior leaders and teachers with the potential for second-hand benefits to students (Knight, 2007). However, over the past decade the explicit coaching of school students by both teachers and peers has grown in status alongside the increase in action research being undertaken in schools (Mertler, 2019). Coaching methods have been strongly advocated by proponents of 'Positive Education' who support the explicit teaching of wellbeing in schools in order to enhance student satisfaction regarding life and learning (Norrish et al., 2013; Seligman et al., 2009). Dyadic (one-to-one) coaching methods involving a single coach and coachee are supported by a bourgeoning evidence base which highlights advantages in terms of both student academic performance and mental health (Dulagil et al., 2016; Green et al., 2007; Robson-Kelly & van Nieuwerburgh, 2016).

Consequently, many schools are now actively attempting to establish a 'coaching culture' whereby a shared vernacular is adopted by the entire school community including teachers, students and parents (Campbell, 2015).

Group coaching

Research exploring the impact of 'group coaching' in both adults and young people is particularly sparse (Brown & Grant, 2010; O'Connor & Cavanagh, 2017; Passmore & Fillery-Travis, 2011). Thornton (2016) describes group coaching as "a small group of people meeting together in active participation on several occasions, for the purpose of learning, including developing new capacities and skills [where] participants learn through exchange and interaction with each other" (p.24). Notably, a considerable overlap exists between this definition and what is already expected to occur within school classrooms. Group coaching is therefore an intervention which could be easily transferable to educational settings given that students and staff are already familiar with many of the key tenets and expectations associated with this methodology.

To the authors' knowledge, no studies to date have been undertaken which assess the impact of group coaching on the wellbeing of school-aged children or adolescents. Whilst group coaching is currently an underdeveloped subdiscipline, it may provide a time-efficient and low-cost means of supporting young people with various issues pertaining to their wellbeing. The adoption of group coaching would theoretically enable schools to leverage time and resources more effectively given the higher student-to-staff ratio associated with this approach (Britton, 2009; Gorell, 2013).

Group coaching arguably benefits from certain strengths which are not applicable to dyadic coaching methods. Whilst very little group coaching research has taken place in schools, an emerging literature base has identified a variety of advantages linked with group coaching in executive contexts (Ascentia, 2005; Brown & Grant, 2010; Kets de Vries, 2005; Ward, 2008). The most commonly cited strengths of group coaching relate to the benefits associated with facilitated peer exchanges. Peer exchange results in greater accountability, the availability of role models, the positive power of peer pressure whereby an individual's personal goals can be tested against the perceptions of others, as well as the development of communication skills and collaborative behaviours (Britton, 2013). The fact that group coaching simultaneously incorporates peer-to-peer and coach-to-coachee support is potentially advantageous given that prior research has demonstrated the efficacy of other peer support models used within educational institutions (Brady et al., 2014; Houlston et al., 2009; King & Fazel, 2021, Warner & Budd, 2018).

As coaching psychology has become increasingly popular, a plethora of diverse approaches tailored specifically to the age, gender and culture of those participating have emerged (Passmore, 2013). For example, distinct methods have been proposed regarding the most effective means of coaching adult men and women (Erlandson, 2013; Ludeman, 2013). The same, however, has not yet occurred for male and female adolescents. Where previous school-based studies have focused on one gender specifically, this has occurred out of sampling necessity rather than deliberate design (Green et al., 2007; Madden et al., 2011). The lack of research concerning the effect of coaching on male secondary school students specifically is particularly concerning given the widening gender gap in terms of both academic performance and emotional literacy which consistently sees boys underperforming when compared with their

female peers (Fischer et al., 2004). Pinkett and Roberts (2019) contend that adolescent males are more likely to sabotage their academic outcomes than they are to engage with issues which are troubling them in order to protect their sense of self-esteem. This assertion is partly corroborated by recent research which identified gender discrepancies regarding the effectiveness of dyadic peer-to-peer coaching in an English secondary school; the findings indicated that the self-esteem of male adolescents significantly increased regardless of whether they received coaching or not which could be indicative of self-presentational concerns (Warner & Budd, 2018). To successfully quantify the impact of group coaching, as well as its suitability as an approach for school-aged males particularly, more research which assesses this methodology's impact against pre-determined wellbeing measures is required. For the present study self-efficacy, test anxiety and perceived stress were employed as three separate measures related to wellbeing.

Self-efficacy

Self-efficacy is understood as an individual's perception of their causal agency and likelihood of success in a given situation (Bandura, 1977; Gecas, 1989). Self-efficacy influences aspirations as well as responses to different life stressors and the concept has been regularly associated with 'subjective well-being' (Diener, 2000). Numerous studies have reported that high levels of self-efficacy are related to increased psychological wellbeing (Cheung & Sun, 2000; Endler et al., 2001; Schiaffino & Revenson, 1992; Shelley & Pakenham, 2004). Other research has also stressed the importance of self-efficacy regarding the mental health of adolescents (Caprara et al., 2006; Muris et al., 2001; Muris, 2002). Jackson (2002) asserts that self-efficacy levels determine how effectively a young person will handle the failures that they may encounter. Students with low levels of self-efficacy are more likely to be risk adverse and avoid

experiences where poor performance is likely and may also doubt the authenticity of their own successes (Pajares, 1996). For the present study, self-efficacy was judged as a preferable indicator of adolescent wellbeing when compared to 'self-esteem'. Self-esteem is a construct which shares similarities with self-efficacy but is arguably more problematic in terms of measurement (Heatherton & Wyland, 2003). Indeed, prior studies indicate that self-esteem in males tends to increase over time regardless of whether any intervention has been delivered (McCarthy & Hoge, 1982; Moksnes & Espnes, 2013; Warner & Budd, 2018).

Gender differences have been identified concerning reported self-efficacy levels in adolescents, although empirical results have often been inconsistent. A separate meta-analysis on gender differences in academic self-efficacy identified an overall effect size in favour of males (Huang, 2013). One school-based study found that a dyadic self-efficacy coaching programme had beneficial results concerning college students diagnosed with attention deficit hyperactivity disorder and other learning difficulties (Costello & Stone, 2012). The effect of group coaching on self-efficacy amongst a student population remains unknown; the present study therefore aims to provide a novel insight as to whether group coaching can lead to an increase in self-efficacy levels amongst male adolescents.

Test anxiety

Test anxiety is a situation-specific trait and refers to the physiological and behavioural responses caused by an assessment of performance (Hodapp et al., 1995; Zeidner, 1998). Elevated anxiety levels are believed to consume cognitive resources which in turn may impede a student's concentration, motivation, examination preparation and performance (Eysenck & Calvo, 1992; Linnenbrink, 2007). Whilst test anxiety is a reliable phenomenon associated with

low levels of academic performance, recent studies demonstrate that uncertainty and disruption to schools during the COVID-19 pandemic has resulted in increased test anxiety amongst students (Fernández-Castillo, 2021; Li et al., 2021).

Quantitative and qualitative research findings have indicated that dyadic coaching interventions can serve to reduce test anxiety (Grant, 2003; Dunne et al., 2018). Male students have consistently been found to report lower levels of test anxiety than their female counterparts (Aydin, 2019; Lowe & Lee, 2008; Neuderth et al., 2009; Putwain, 2007). This observable gender difference is conceivably the result of male adolescents being less comfortable expressing their emotions and admitting what they may perceive as weakness (Pinkett & Roberts, 2019). Indeed, a meta-analysis by Hembree (1988) found that females were more likely to report higher test anxiety but that this was not associated with lower performance scores. These results have been replicated by more recent investigations and it has been argued that the gender differences are a result of socialisation patterns which allow females to develop more effective coping strategies for test anxiety (Núñez-Peña et al., 2016).

Currently, the majority of the research related to test anxiety has utilised large university student samples rather than adolescents attending secondary school (Ergene, 2003; Chapel et al., 2005). Public examinations undertaken during secondary school are widely accepted as anxiety-inducing experiences for teenagers given that university acceptance and future career aspirations will often hinge on these results (Green et al., 2007) With this in mind, it is important to explore interventions which may help to reduce test anxiety and group coaching offers a fresh avenue of investigation. In the absence of any empirically tested group coaching interventions targeting test anxiety, it is expected that this methodology will prove beneficial given that peer-

to-peer coaching and tutoring interventions have previously resulted in diminished test anxiety for participants (Fantuzzo et al., 1989; Warner & Budd, 2018).

Perceived stress

Elevated levels of stress have critical implications for the mental health and wellbeing of young people (Pascoe et al., 2020). Stress can be defined as the biological, cognitive and behavioural reactions against perceived and actual threats to homeostasis (Anisman, 2015). Perceived stress therefore incorporates an individual's feelings or thoughts as to how much stress they are experiencing at a particular time (Phillips, 2013). Interpersonal stressors during adolescence are often more strongly associated with emotional and behavioural issues than with academic difficulties (Hampel et al., 2008). The suggestion that males experience important developmental milestones later than females may explain why they report future-related stress to a lesser extent during adolescence (Seiffge-Krenke et al., 2009). Prior research indicates that perceived stress mediates the relationships between self-esteem and peer-to-peer and parent–child relationships for female adolescents, but not for males (Bi et al., 2016). Regardless of gender differences, however, support from peers, families and teachers have all been found to decrease levels of perceived stress (Hampel et al., 2008).

Dyadic coaching interventions have been recognised to help participants develop more objective views regarding life stressors as well as enhanced coping capabilities and increased awareness of their own strengths (Ladegård, 2011). Additionally, a study conducted in Iran found that high levels of perceived stress were significantly related to lower self-efficacy amongst male secondary school students (Moeini et al., 2008). Considering these findings, coaching may also help reduce stress indirectly as coachees achieve improvements in other

areas which are being targeted (Gyllensten & Palmer, 2005). Coaching which involves a peer-to-peer support element has been seen to increase the stress management skills of students (Devine et al., 2013). Overall, the evidence considered suggests that group coaching could viably lead to a reduction in perceived stress.

The Current Study

Further research scrutinising alternative approaches to coaching adolescents is required if the effectiveness of coaching psychology in educational settings is to be truly determined (Warner & Budd, 2018). This small-scale quantitative investigation seeks to contribute to the group coaching psychology literature and establish a basis for future research regarding the efficacy of methods targeting specific sub-populations, including male adolescents. Based on the findings outlined, the following hypotheses are presented:

1. Self-efficacy will significantly increase in participants assigned to the group coaching condition.
2. Test anxiety will significantly decrease in participants assigned to the group coaching condition.
3. Perceived stress will significantly decrease in participants assigned to the group coaching condition.

Methods

Participants

Participants of the study were all 'Year 12' students attending a co-educational secondary academy situated in Slough, UK. The sample consisted of 32 male students

between 16 and 18 years of age (mean age = 16.94 years, *SD* = 0.50 years). Participants were recruited on the basis of tutor group membership to streamline the delivery of the coaching interventions during designated contact time. The two tutor groups had similar profiles in terms of ethnic diversity and prior academic performance as well as students undertaking a mixture of vocational and academic qualifications. 16 participants were allocated to the experimental condition (mean age = 17.06 years, SD = 0.44 years) and received the group coaching intervention in two separate groups of 8 students. Groups of this size are considered desirable for group coaching programmes as they allow for a sufficient range of individual and collective views to be explored (Thornton, 2016). The other 16 students were assigned to the wait-list control condition (mean age = 16.81 years, *SD* = 0.54 years).

Design

The study employed a quasi-experimental between-participant design which utilised existing groups based on the students' tutor group membership. The study's independent variable was 'exposure to group coaching' which had two levels including an experimental condition (group-coached) and a wait-list control condition (non-coached). The three dependent variables were self-efficacy, test anxiety and perceived stress. All participants answered the same online survey consisting of three separate questionnaires both prior to the onset of the six-week group coaching programme and also once the intervention had concluded.

Measures

Participant self-efficacy was measured using the General Self-Efficacy scale (Schwarzer & Jerusalem, 1995), a 10-item self-report scale which assesses personal agency in order to predict the respondent's capacity to cope with stressful life events. Sample items include "Thanks to my resourcefulness, I can handle unforeseen situations" as well as "I can solve most problems if I invest the necessary effort". Items are rated on a 4-point Likert scale from 1 (not at all true) to 4 (exactly true) and no items require reverse scoring. The scale score is calculated by finding the sum of all items, resulting in a final composite score ranging between 10 and 40 whereby higher scores suggest greater levels of self-efficacy. Cronbach's alpha (α) both pre- and post-intervention found good reliability levels, with values of $\alpha = 0.90$ and $\alpha = 0.83$ respectively.

Test anxiety was assessed using the 10-item Westside Test Anxiety Scale (Driscoll, 2007). Each item was rated on a 5-point Likert scale ranging from 1 (not at all or never true) to 5 (extremely or always true). Individual item scores are summed, and the resulting aggregate score is then divided by 10. This provides a final score between 1.0 and 5.0, where higher scores reflect increased levels of test anxiety. No items require reverse scoring and item examples include "The closer I am to a major exam, the harder it is for me to concentrate on the material" or "I struggle with writing assignments, or avoid them as long as I can. I feel whatever I do will not be good enough". Cronbach's alpha values indicated good internal consistency for this scale both pre-intervention ($\alpha = 0.91$) and post-intervention ($\alpha = 0.87$).

Perceived stress was measured using the Perceived Stress Scale (Cohen et al., 1983) which consists of 10 items. Items were rated according to a 5-point Likert scale ranging from

0 (never) to 4 (very often). Individual item scores are summed to create a total composite score between 0 and 40, with higher summative scores suggesting elevated levels of perceived stress. Four of the items are positively worded and require reverse scoring. Typical items include “In the last month, how often have you been upset because of something that happened unexpectedly?” and “In the last month, how often have you felt that you were on top of things?”. This scale also displayed sufficient internal consistency (α = 0.74 for pre-intervention and α = 0.79 for post-intervention).

Procedure

Following the receipt of ethical approval from the School of Psychology ethics committee, University of East London, and prior to the commencement of the coaching intervention, all participants completed an online survey (Qualtrics, Provo, UT) which included all three questionnaires. The group coaching intervention was organised and facilitated by the teacher-researcher, an experienced coach of students and school staff who had received training from an accredited external provider. The group coaching programme comprised of six face-to-face coaching sessions which occurred on a weekly basis and were 30 minutes in length.

The group coaching methodology allowed participants to develop their perspectives via knowledge transfer and mutual support, both opportunities which are rarely provided by traditional dyadic coaching programmes (Jordan et al., 2013). This study was theoretically underpinned by the GROW model, a framework which was initially devised by Graham Alexander (Alexander & Renshaw, 2005) and later popularised by John Whitmore (2017). GROW is an acronym which outlines the four distinct phases of a coaching conversation:

'Goal-setting', 'Reality', 'Options' and 'Will'. The structure and timings of each group coaching session follows Abdulla (2018). The goal-setting phase of the group coaching programme required each coachee to establish a clear goal with the support of their peers and the teacher-coach. All the goals set were required to be 'SMART' (O'Connell et al., 2012). The goal set in the first group coaching session became the participants' 'overarching goal' which they would aim to accomplish by the end of the six-week programme. At the beginning of each subsequent session (excluding the final session) every student was tasked with setting a new 'proximal goal' that they would attempt to achieve by the next session. The four proximal goals set were intended to help divide the overarching goal into more manageable components. Following the completion of the group coaching programme, all participants from both conditions repeated the online survey consisting of the self-efficacy, test anxiety and perceived stress measures. Participants who had been allocated to the wait-list control condition were then offered the intervention.

RESULTS

The raw survey data was collected from each of the 32 participants and then imported from Qualtrics into SPSS (IBM, Version 26) for statistical analysis. Pre-intervention and post-intervention scores for the three dependent variables (self-efficacy, test anxiety and perceived stress) were calculated separately according to the scoring criteria associated with each scale; only negatively worded items from the PSS scale received reverse scoring. Total scores for each variable were normally distributed with means and standard deviations presented in Table 2.

Table 2. *Means and standard deviations of the pre-intervention and post-intervention scale scores for the coaching and control condition (N = 32).*

		Pre-intervention		Post-intervention	
Measure	**Condition**	***M***	***SD***	***M***	***SD***
Self-efficacy	Coaching	29.88	6.86	31.00	3.35
	Control	30.31	3.93	31.25	5.00
Test Anxiety	Coaching	2.79	0.74	3.22	0.66
	Control	3.20	0.98	2.83	0.86
Perceived Stress	Coaching	17.38	6.44	16.75	4.41
	Control	15.63	6.41	16.19	7.29

Preliminary analysis of the descriptive statistics and comparison of the post-intervention means indicated an increase in self-efficacy scores between pre-intervention and post-intervention for participants belonging to both the experimental and control. Test anxiety for participants in the experimental condition increased while test anxiety decreased for those assigned to the control condition. The perceived stress of the participants belonging to the experimental condition decreased between pre-intervention and post-intervention whereas the

perceived stress of those in the control condition increased. The variability of responses provided by the participants who had received group coaching (as demonstrated by standard deviation) decreased in all three measures post-intervention; only test anxiety scores became less variable within the control group.

A one-way analysis of covariance (ANCOVA) was carried out separately on the post-intervention scores for each of the dependent variables, with the pre-intervention scores as a covariate. The first ANCOVA was conducted to examine whether group coaching led to a significant increase in post-intervention self-efficacy scores. After controlling for pre-intervention scores, coaching did not have a significant effect on post-intervention self-efficacy scores, $F(1, 29) = 0.002$, $p = .96$, $\eta_p^2 < .01$. Estimated marginal means were similar in the control ($M = 31.16$, $SE = 0.89$) and experimental ($M = 31.09$, $SE = 0.89$) condition.

The second ANCOVA examined the effect of group coaching on test anxiety, when pre-intervention scores were controlled for. The results showed that condition had a significant effect on post-intervention test anxiety scores [$F(1, 29) = 6.78$, $p = .014$, $\eta_p^2 = .190$] with the control condition having lower post-intervention test anxiety ($M = 2.83$) than the coached condition ($M = 3.22$) with a small effect size ($\eta_p^2 = .190$).

The third ANCOVA results revealed no significant main effect for condition on post-intervention perceived stress scores [$F(1, 29) = 0.161$, $p = .69$, $\eta_p^2 = .006$] when pre-intervention scores were controlled for. Estimated marginal means for perceived stress were similar in both the experimental ($M = 16.16$, $SE = 1.07$) and control ($M = 16.78$, $SE = 1.07$) condition.

Discussion

This study sought to investigate the effect of a group coaching programme on the self-efficacy, test anxiety and perceived stress of male school students. It was hypothesised that participation in the group coaching programme would be associated with significant decreases in test anxiety and perceived stress and a significant increase in self-efficacy. Although descriptive statistics showed that the self-efficacy and perceived stress of students that received group coaching did improve, the statistical tests did not find support for any of the three hypotheses.

The study's findings indicated that participant self-efficacy scores increased regardless of whether they had received group coaching. This did not support the first hypothesis but is consistent with some previous research which have found that male self-concepts are often less volatile than those of their female peers during adolescence and therefore more likely to increase without intervention (McCarthy & Hoge; 1982; Moksnes & Espnes, 2013). The suggestion that self-report amongst males is influenced by self-presentational concerns may be applicable to perceived self-efficacy (Heatherton & Wyland, 2003). It is also possible that high levels of self-efficacy may inhibit the effectiveness of group coaching for male adolescents. If the coachee already possesses high self-efficacy it is less likely that they will be able to identify meaningful goals during the coaching process. It has also been noted that males will often challenge feedback received during coaching programmes (Erlandson, 2013). This was observed throughout the present study where participants often engaged in robust debate and disagreement on the feedback which they had received concerning their goals, realities and

options from both the teacher-coach and their peers. Whilst this may have been indicative of commitment to the intervention, it could also potentially demonstrate an important limitation of group coaching for this sub-population; male adolescents are less likely to engage constructively if their self-efficacy levels are already high and feel that the intervention is of little benefit to them.

The findings suggest that test anxiety increased amongst the participants that received group coaching and decreased amongst those who had not. This finding refuted the second hypothesis and is also inconsistent with much of the empirical literature which indicates that coaching can help to reduce test anxiety (Dunne et al., 2018; Grant, 2003). Some recent studies have suggested that test anxiety levels have been broadly elevated during the COVID-19 pandemic due to learning and assessment disruption (Fernández-Castillo, 2021; Li et al., 2021) although this does not adequately account for the reduced test anxiety observed within the control group. It should be noted that the second measures survey was completed when all of the participants were about to sit their end-of-year examinations. Proximity to these assessments as well as the exceptional circumstances associated with schooling during the pandemic could explain the increase in test anxiety amongst the experimental group given that many of the participants who undertook the coaching programme had set goals which were specifically related to examination performance. This point is supported by Hembree (1988) who argues that interventions will not consistently decrease test anxiety scores when students deem the stakes to be high. It is feasible that the increased test anxiety experienced by those who were coached was linked to the added accountability instilled by membership of the coaching group including the regular interrogation of academic goals as well as the challenging nature of the GROW conversations being conducted. Indeed, qualitative research findings have

demonstrated that key moments within the coaching process are often characterised by coachee anxiety regarding potential outcomes (Day et al., 2008). The negative effect of coaching on test anxiety found in this study highlights the need for caution amongst those applying coaching psychology methods. Little research has been undertaken regarding the negative effects of coaching in educational settings, but it has been identified that coaching which targets certain topics can have detrimental effects (Schermuly & Graßmann, 2019) and the negative impact of groups which young people perceive as inequitable has also been reported (Theobald et al., 2017). It is possible that issues pertaining to academic achievement and test performance may fall into this category with regards to group coaching in schools. Participants were required to compare and evaluate their own goals, realities and options in relation to those of their peers which could have result in elevated anxiety although further research is needed to validate this assumption.

The findings show that perceived stress amongst those who took part in the group coaching programme did decrease, but not in a statistically significant manner. This result meant that the null hypothesis for the third prediction of the study could not be rejected. Previous research highlights that stress can be successfully lowered through coaching interventions (Grant, 2003; Gyllensten & Palmer, 2005). Despite this, it has been argued that coaching may not effectively reduce stress unless 'stress reduction' is being targeted specifically (Green et al., 2007). The fact that most of the students who received group coaching identified goals which related to academic performance may partly explain why a significant reduction in stress was not observed.

Limitations

The duration of the group coaching sessions is acknowledged as a limitation. Successful dyadic coaching interventions have recommended that sessions should last at least 60 minutes in order to maximise benefit to both the coach and coachees (Passmore & Brown, 2009). In the past, group coaching interventions have employed 90-minute weekly sessions for a duration of 10 weeks (Jordan et al., 2016). In this study the group coaching sessions were carried out during 30-minute tutor periods and the brevity of these sessions (and the programme as a whole) may have limited the impact of group coaching against the measures considered. Limited time may have also compromised the participants' opportunities to discuss and evaluate their goals, options and realities fully. The coach was known to the students as a teacher at the school which may have impacted how the participants conducted themselves within the coaching sessions. Results of a recent meta-analysis show that the relationship between the coach and coachee is likely to influence coaching effects (Graßmann et al., 2020). This said, the fact that the teacher was an internal coach with domain expertise may have given the intervention more credibility than a methodology relying solely on peer support (Jones et al., 2016; Spence & Grant, 2007; Sue-Chan & Latham, 2004). Future studies may consider employing an additional condition using an external coach to assess whether this increases or decreases the benefits of group coaching.

Future considerations

This is, to the authors' knowledge, the first investigation to explore the influence of group coaching on self-efficacy, test anxiety and perceived stress in adolescent males. The

cultivation of school-based action research constitutes a key strength of this study. Both the design and methodology employed in the present study can be easily disseminated and replicated across a variety of educational settings with relative affordability and ease. Prior evidence would suggest that student wellbeing can be positively associated with academic performance (Durlak et al., 2011). Limited participant demographic information was acquired during data collection for the study. Future research should seek to address this oversight and target specific subgroups. It is plausible that subgroup analysis would reveal that different groups are better suited to receive either dyadic or group coaching respectively. Moving forward, it would therefore be useful to compare the effect of separate group and dyadic coaching conditions within the same study. Future research could focus on academic performance or learning satisfaction measures to explore the link between group coaching and student achievement or contentment with learning. In the current study, participants were studying for a range of different qualifications in various subjects which meant that drawing valid and reliable comparisons would have been difficult in this respect. Additionally, no longitudinal measures were taken and therefore there is no way to know whether the study's results were maintained over time. Future research should consider administering a second post-intervention test to uncover whether any of the immediate effects of coaching have endured as well as effects which may have taken longer to emerge (Cohen et al., 2017).

Conclusion

The findings of the present study did not demonstrate a significantly positive impact for group coaching on test anxiety, self-efficacy or perceived stress. However, the effectiveness and utility of group coaching should not be disregarded considering that improved scores were observed regarding the latter two measures. Future research employing larger samples and

adhering to the suggested design and methodological amendments is required to determine whether this methodology can effectively enhance the wellbeing of adolescents as effectively as dyadic coaching within schools. Group coaching is offered as a potentially positive influence concerning wellbeing outcomes although group dynamics between male adolescents can be complex and specific. The potential for negative or harmful effects of coaching for specific individuals and across different groups should be investigated as a matter of priority moving forward.

References

Abdulla, A. (2018). *Coaching students in secondary schools: Closing the gap between performance and potential.* Routledge.

Alexander, G., & Renshaw, B. (2005). *Supercoaching: The missing ingredient for high performance*. Random House.

Anisman, H. (2015). *Stress and your health: From vulnerability to resilience.* Wiley & Sons.

Ascentia. (2005). Leicester Case Study Feedback Group Coaching: Can it make a difference? *International Journal of Evidence Based Coaching and Mentoring*, *3*(1).

Aydin, U. (2019). Test anxiety: gender differences in elementary school students. *European Journal of Educational Research*, *8*(1), 21-30.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bi, Y., Ma, L., Yuan, F., & Zhang, B. (2016). Self-esteem, perceived stress, and gender during adolescence: Interactive links to different types of interpersonal relationships. *The Journal of psychology*, *150*(1), 36-57.

Brady, B., Dolan, P., & Canavan, J. (2014). What added value does peer support bring? Insights from principals and teachers on the utility and challenges of a school-based mentoring programme. *Pastoral Care in Education*, *32*(4), 241-250.

Britton, J. J. (2009). *Effective group coaching: Tried and tested tools and resources for optimum coaching results*. John Wiley & Sons.

Brown, S. W., & Grant, A. M. (2010). From GROW to GROUP: Theoretical issues and a practical model for group coaching in organisations. *Coaching: An International Journal of Theory, Research and Practice*, *3*(1), 30-45.

Campbell, J. (2015). Coaching in schools. In C. van Nieuwerburgh (Ed.), *Coaching in professional contexts* (pp. 131-144). SAGE Publications.

Caprara, G. V., Steca, P., Gerbino, M., Paciello, M., & Vecchio, G. M. (2006). Looking for adolescents' well-being: Self-efficacy beliefs as determinants of positive thinking and happiness. *Epidemiology and Psychiatric Sciences*, *15*(1), 30-43.

Chapell, M. S., Blanding, Z. B., Silverstein, M. E., Takahashi, M., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, *97*(2), 268.

Cheung, S. K., & Sun, S. Y. (2000). Effects of self-efficacy and social support on the mental health conditions of mutual-aid organization members. *Social Behavior and Personality: An International Journal*, *28*(5), 413-422.

Cohen, L., Manion, L., & Morrison K. (2017). *Research methods in education* (8th ed.). Routledge.

Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*, 386-396.

Costello, C. A., & Stone, S. L. (2012). Positive Psychology and Self-Efficacy: Potential benefits for college students with attention deficit hyperactivity disorder and learning disabilities. *Journal of Postsecondary Education and Disability*, *25*(2), 119-129.

Day, A., De Haan, E., Sills, C., Bertie, C., & Blass, E. (2008). Coaches' experience of critical moments in the coaching. *International Coaching Psychology Review*, *3*(3), 207-218.

Department for Education. (2021). *Schools and colleges to benefit from boost in expert mental health support.* Available at: [https://www.gov.uk/government/news/schools-and-colleges-to-benefit-from-boost-in-expert-mental-health-support].

Devine, M., Meyers, R., & Houssemand, C. (2013). How can coaching make a positive impact within educational settings?. *Procedia-Social and Behavioral Sciences*, *93*, 1382-1389.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*, 34-43.

Driscoll, R. (2007). Westside Test Anxiety Scale Validation. *Online submission*.

Dulagil, A., Green, S., & Ahern, M. (2016). Evidence-based coaching to enhance senior students' wellbeing and academic striving. *International Journal of Wellbeing*, *6*(3).

Dunne, K., Moffett, J., Loughran, S. T., Duggan, V., & Campion, D. P. (2018). Evaluation of a coaching workshop for the management of veterinary nursing students' OSCE-associated test anxiety. *Irish Veterinary Journal*, *71*(1), 1-13.

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405-432.

Endler, N. S., Kocovski, N. L., & Macrodimitris, S. D. (2001). Coping, efficacy, and perceived control in acute vs chronic illnesses. *Personality and Individual Differences*, *30*(4), 617-625.

Ergene, T. (2003). Effective interventions on test anxiety reduction: A meta-analysis. School Psychology International, 24, 313-328.

Erlandson, E. (2013). Coaching with men: Alpha males. In J. Passmore (Ed.), *Diversity in coaching: Working with gender, culture, race and age* (pp. 179-198). Kogan Page Publishers.

Eysenck, M. W., & Calvo, M. G. (1992). Anxiety and performance: The processing efficiency theory. *Cognition & emotion*, *6*(6), 409-434.

Fantuzzo, J. W., Riggio, R. E., Connelly, S., & Dimeff, L. A. (1989). Effects of reciprocal peer tutoring on academic achievement and psychological adjustment: A component analysis. *Journal of educational psychology*, *81*(2), 173.

Fernández-Castillo, A. (2021). State-Anxiety and Academic Burnout Regarding University Access Selective Examinations in Spain During and After the COVID-19 Lockdown. *Frontiers in Psychology*, *12*, 17.

Fischer, A. H., Rodriguez Mosquera, P. M., Van Vianen, A. E., & Manstead, A. S. (2004). Gender and culture differences in emotion. *Emotion*, *4*(1), 87.

Frith, E. (2016). *CentreForum commission on children and young people's mental health: State of the Nation, April 2016.* Available at: [https://epi.org.uk/publications-and-research/children-young-peoples-mental-health-state-nation].

Gecas, V. (1989). The social psychology of self-efficacy. *Annual review of sociology*, *15*(1), 291-316.

Gorell, R. (2013). *Group coaching: A practical guide to optimizing collective talent in any organization*. Kogan Page Publishers.

Graßmann, C., Schölmerich, F., & Schermuly, C. C. (2020). The relationship between working alliance and client outcomes in coaching: A meta-analysis. *Human Relations*, *73*(1), 35-58.

Grant, A. M. (2003). The impact of life coaching on goal attainment, metacognition and mental health. *Social Behavior and Personality: An International Journal*, *31*(3), 253-263.

Grant, A. M. (2007). A model to goal striving and mental health for coaching populations. *International Coaching Psychology Review, 2*(3), 248-262.

Green, L. S., Grant, A. M., & Rynsaardt, J. (2007). Evidence-based life coaching for senior high school students: Building hardiness and hope. *International Coaching Psychology Review, 2*(1), 24-32.

Green, L. S., Oades, L. G., & Robinson, P. L. (2018). Positive education programmes: Integrating coaching and positive psychology in schools. In C. van Nieuwerburgh (Ed.), *Coaching in education: Getting better results for students, educators, and parents* (pp. 133-152). Routledge.

Gyllensten, K., & Palmer, S. (2005). Can coaching reduce workplace stress? A quasi-experimental study. *International Journal of Evidence Based Coaching and Mentoring*, *3*(2), 75-85.

Hampel, P., Meier, M., & Kümmel, U. (2008). School-based stress management training for adolescents: Longitudinal results from an experimental study. *Journal of Youth and Adolescence*, *37*(8), 1009-1024.

Heatherton, T. F., & Wyland, C. L. (2003). Assessing self-esteem. In S. J. Lopez & C. R. Snyder (Eds.), *Positive psychological assessment: A handbook of models and measures* (pp. 219–233). American Psychological Association.

Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. *Review of educational research*, *58*(1), 47-77.

Hodapp, V., Glanzmann, P. G., & Laux, L. (1995). Theory and measurement of test anxiety as a situation specific trail. In C. D. Spielberger & P. R. Vagg (Eds.), *Test anxiety: Theory, assessment, and treatment* (pp. 47-58). Taylor & Francis.

Houlston, C., Smith, P. K., & Jessel, J. (2009). Investigating the extent and use of peer support initiatives in English schools. *Educational Psychology*, *29*(3), 325-344.

Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education*, *28*(1), 1-35.

Institute for Fiscal Studies. (2020). *Larger funding cuts for schools in poor areas leave them badly placed to deal with COVID-19 challenges.* Available at: [https://ifs.org.uk/publications/15026].

Jackson, J. W. (2002). Enhancing self-efficacy and learning performance. *The Journal of Experimental Education*, *70*, 243-254.

Jones, R. J., Woods, S. A., & Guillaume, Y. R. (2016). The effectiveness of workplace coaching: A meta-analysis of learning and performance outcomes from coaching. *Journal of occupational and organizational psychology*, *89*(2), 249-277.

Jordan, S., Gessnitzer, S., & Kauffeld, S. (2016). Effects of a group coaching for the vocational orientation of secondary school pupils. *Coaching: An International Journal of Theory, Research and Practice*, *9*(2), 143-157.

Kets de Vries, M. F. R. (2005). Leadership group coaching in action: The zen of creating high performance teams. *Academy of Management Executive*, *19*(1), 61-76.

King, T., & Fazel, M. (2021). Examining the mental health outcomes of school-based peer-led interventions on young people: A scoping review of range and a systematic review of effectiveness. *PloS one*, *16*(4), e0249553.

Knight, J. (2007). *Instructional coaching: A partnership approach to improving instruction*. Corwin Press.

Ladegård, G. (2011). Stress management through workplace coaching: The impact of learning experiences. *International Journal of Evidence Based Coaching & Mentoring*, *9*(1).

Li, G., Zhou, J., Yang, G., Li, B., Deng, Q., & Guo, L. (2021). The Impact of Intolerance of Uncertainty on Test Anxiety: Student Athletes During the COVID-19 Pandemic. *Frontiers in Psychology*, *12*.

Linnenbrink, E. A. (2007). The role of affect in student learning: A multi-dimensional approach to considering the interaction of affect, motivation, and engagement. In P. A. Schutz & G. D. Pekrun (Eds.), *Emotion in education* (pp. 107-124). Academic Press.

Lowe, P. A., & Lee, S. W. (2008). Factor structure of the Test Anxiety Inventory for Children and Adolescents (TAICA) scores across gender among students in elementary and secondary school settings. *Journal of Psychoeducational Assessment*, *26*(3), 231-246.

Ludeman, K. (2013). Coaching with women. In J. Passmore (Ed.), *Diversity in coaching: Working with gender, culture, race and age* (pp. 199-215). Kogan Page Publishers.

Madden, W., Green, S., & Grant, A. M. (2011). A pilot study evaluating strengths-based coaching for primary school students: Enhancing engagement and hope. *International Coaching Psychology Review*, *6*(1), 71-83.

McCarthy, J. D., & Hoge, D. R. (1982). Analysis of age effects in longitudinal studies of adolescent self-esteem. *Developmental Psychology*, *18*(3), 372.

Mertler, C. A. (2019). *Action research: Improving schools and empowering educators*. SAGE Publications.

Moeini, B., Shafii, F., Hidarnia, A., Babaii, G. R., Birashk, B., & Allahverdipour, H. (2008). Perceived stress, self-efficacy and its relations to psychological well-being status in Iranian male high school students. *Social Behavior and Personality: An International Journal*, *36*(2), 257-266.

Moksnes, U. K., & Espnes, G. A. (2013). Self-esteem and life satisfaction in adolescents—gender and age as potential moderators. *Quality of Life Research*, *22*(10), 2921-2928.

Muris, P. (2002). Relationships between self-efficacy and symptom of anxiety disorders and depression in a normal adolescent sample. *Personality and Individual Differences, 32*(2), 337-348.

Muris, P., Schmidt, H., Lambrichs, R., & Meesters, C. (2001). Protective and vulnerability factors of depression in normal adolescents*. Behavior Research and Therapy, 39*(5), 555-565.

Neuderth, S., Jabs, B., & Schmidtke, A. (2009). Strategies for reducing test anxiety and optimizing exam preparation in German university students: a prevention-oriented pilot project of the University of Würzburg. *Journal of Neural Transmission*, *116*(6), 785-790.

Norrish, J. M., Williams, P., O'Connor, M., & Robinson, J. (2013). An applied framework for positive education. *International Journal of Wellbeing*, *3*(2), 147-161.

Núñez-Peña, M. I., Suárez-Pellicioni, M., & Bono, R. (2016). Gender differences in test anxiety and their impact on higher education students' academic achievement. *Procedia-Social and Behavioral Sciences*, *228*, 154-160.

O'Connell, B., Palmer, S., & Williams, H. (2012). *Solution focused coaching in practice.* Routledge.

O'Connor, S., & Cavanagh, M. (2017). Group and team coaching. In T. Bachkirova, G. Spence, & D. Drake (Eds.), *The Sage handbook of coaching.* SAGE Publications.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, *66*, 543- 578.

Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, *25*(1), 104-112.

Passmore, J. (Ed.). (2013). *Diversity in coaching: Working with gender, culture, race and age*. Kogan Page Publishers.

Passmore, J., & Brown, A. (2009). Coaching non-adult students for enhanced examination performance: a longitudinal study. *Coaching: An International Journal of Theory, Research and Practice*, *2*(1), 54-64.

Passmore, J., & Fillery-Travis, A. (2011). A critical review of executive coaching research: A decade of progress and what's to come*. Coaching: An International Journal of Theory, Research and Practice, 4*(2), 70-88.

Patalay, P., Giese, L., Stanković, M., Curtin, C., Moltrecht, B., & Gondek, D. (2016). Mental health provision in schools: priority, facilitators and barriers in 10 European countries. *Child and Adolescent Mental Health*, *21*(3), 139-147.

Phillips, A. C. (2013). Perceived stress. In M. D. Gellman & J.R. Turner (Eds.), *Encyclopedia of Behavioral Medicine.* Springer.

Pinkett, M., & Roberts, M. (2019). *Boys don't try?: Rethinking masculinity in schools*. Routledge.

Putwain, D. W. (2007). Test anxiety in UK schoolchildren: Prevalence and demographic patterns. *British Journal of Educational Psychology*, *77*(3), 579-593.

Robson-Kelly, L., & van Nieuwerburgh, C. (2016). What does coaching have to offer to young people at risk of developing mental health problems? A grounded theory study. *International Coaching Psychology Review*, *11*(1), 75-92.

Schermuly, C. C., & Graßmann, C. (2019). A literature review on negative effects of coaching – what we know and what we need to know. *Coaching: An International Journal of Theory, Research and Practice*, *12*(1), 39-66.

Schiaffmo, K. M., & Revenson, T. A. (1992). The Role of Perceived Self-Efficacy, Perceived Control, and Causal Attributions in Adaptation to Rheumnatoid Arthritis: Distinguishing Mediator from Moderator Effects. *Personality and Social Psychology Bulletin*, *18*(6), 709-718.

Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). NFER-NELSON.

Seiffge-Krenke, I., Aunola, K., & Nurmi, J. E. (2009). Changes in stress perception and coping during adolescence: The role of situational and personal factors. *Child Development*, *80*(1), 259-279.

Seligman, M. E., Ernst, R. M., Gillham, J., Reivich, K., & Linkins, M. (2009). Positive education: Positive psychology and classroom interventions. *Oxford Review of Education*, *35*(3), 293-311.

Shelley, M., & Pakenham, K. I. (2004). External health locus of control and general self-efficacy: Moderators of emotional distress among university students. *Australian Journal of Psychology*, *56*(3), 191-199.

Spence, G. B., & Grant, A. M. (2007). Professional and peer life coaching and the enhancement of goal striving and well-being: An exploratory study. *The Journal of Positive Psychology*, *2*(3), 185-194.

Sue-Chan, C., & Latham, G. P. (2004). The relative effectiveness of external, peer, and self-coaches. *Applied Psychology*, *53*(2), 260-278.

The Children's Society. (2020). *The Good Childhood Report 2020.* Available at: [https://www.childrenssociety.org.uk/sites/default/files/2020-11/Good-Childhood-Report-2020.pdf].

Theobald, E. J., Eddy, S. L., Grunspan, D. Z., Wiggins, B. L., & Crowe, A. J. (2017). Student perception of group dynamics predicts individual performance: Comfort and equity matter. *PloS one*, *12*(7), e0181336.

Thornton, C. (2016). *Group and team coaching: The secret life of groups* (2nd ed.). Routledge.

UCAS. (2021). *Starting the conversation: UCAS report on student mental health.* Available at: [https://www.ucas.com/file/513961/download?token=wAaKRniC].

van Nieuwerburgh, C. (2018). Coaching in education: An overview. In C. van Nieuwerburgh (Ed.), *Coaching in education: Getting better results for students, educators, and parents* (pp. 3-23). Routledge.

van Nieuwerburgh, C., & Passmore, J. (2018). Coaching in secondary or high schools. In C. van Nieuwerburgh (Ed.), *Coaching in education: Getting better results for students, educators, and parents* (pp. 63-74). Routledge.

Waite, P., Pearcey, S., Shum, A., Raw, J., Patalay, P., & Creswell, C. (2021). How did mental health of children and adolescents change during early lockdown during the COVID-19 pandemic in the UK?. *JCPP Advances*, *1*(1).

Ward, G. (2008). Towards executive change: A psychodynamic group coaching model for short executive programs. *International Journal of Evidence Based Coaching and Mentoring*, *6*(1), 67-78.

Warner, N., & Budd, M. (2018). The impact of peer-to-peer coaching on self-esteem, test anxiety and perceived stress in adolescents. *The Coaching Psychologist*, *14*(2), 69-79.

Werner-Seidler, A., Perry, Y., Calear, A. L., Newby, J. M., & Christensen, H. (2017). School-based depression and anxiety prevention programs for young people: A systematic review and meta-analysis. *Clinical Psychology Review*, *51*, 30-47.

Whitmore, J. (2017). *Coaching for performance: The principles and practice of coaching and leadership* (5th ed.). Nicholas Brealey.

Zeidner, M. (1998). *Test anxiety: The state of the art*. Plenum Press.