

The impact of peer-to-peer coaching on self-esteem, test anxiety and perceived stress in adolescents

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Schools are increasingly using peer support programmes to support students. This study will explore the effectiveness of peer-to-peer coaching on increasing self-esteem and reducing test anxiety and perceived stress in sixth form students. Fifty-five participants took part in the study. IGROW, a variation of the GROW coaching model, was used to structure a coaching intervention for 27 students, with 28 students receiving no coaching intervention. There was a significant improvement in self-esteem post-intervention for males regardless of group. The coaching group significantly reduced in test anxiety. There was no significant impact of coaching on perceived stress. Further research may determine whether peer coaching may be a beneficial low-cost method to support students during stressful periods.

Keywords: *IGROW, peer-to-peer coaching, adolescents, test anxiety, self-esteem, perceived stress.*

The mental health of young people is becoming an increasing concern, with more than half of school leaders saying it is a challenge to find support services for students (NAHT, 2017a; The Children's Society, 2017). Combining the issues around mental health alongside the cuts to school budgets of approximately £3bn, it is becoming increasingly more difficult to fund in-school care for children (Burns, 2017; NAHT, 2017a). This has led to an increase in the popularity of peer support models, with an estimated 62% of primary and secondary schools using this approach (Brady, Dolan & Canavan, 2014; Houlston, Smith & Jessel, 2009). Although peer support programmes vary, they generally teach young people to provide effective support to other students, with a view to increasing social and

emotional well-being and decreasing anti-social behaviour (Brady et al., 2014). The present study aims to assess the effectiveness of an intervention study on three measures (self-esteem, test anxiety and perceived stress) using peer-to-peer coaching.

Coaching

Coaching psychology has been described as a collaborative and solution focused practice. It is designed to enhance wellbeing, facilitate goal attainment and create purposeful, positive change (Law, 2013; Madden, Green & Grant, 2011). Coaching psychology and education are becoming more closely linked with teachers becoming facilitators in supporting students to become self-reliant and resilient learners (Devine, Meyers & Houssemand, 2013; van Nieuwerburgh, 2012). The non-directed approach to coaching supports the development of responsibility, confidence and self-esteem in the learner (van Nieuwerburgh, 2012). According to Campbell (2015), many schools are looking to establish a “coaching culture”: this is a fundamental way of working, relating and talking throughout the school community.

When teachers receive coaching, the benefits extend to their students through an increase in achievement and because teachers are encouraged to reflect on their practice (van Nieuwerburgh, 2012). Although coaching was originally teacher-focused, it has developed to play a significant role in supporting, encouraging and challenging students to enjoy their educational experiences and be more likely to achieve their potential (van Nieuwerburgh, 2012). Students adapt well to coaching, with a study investigating coaching with primary school students (Madden et al., 2011) finding that students were able to identify their strengths and weaknesses. The ability to identify these especially supports the use of the GROW coaching

model (Whitmore, 2010). Coaching has also been found to be directly linked to exam progress (Passmore & Brown, 2009).

Peer-to-peer coaching is traditionally two (or more) colleagues who collaborate in order to achieve a coaching goal (Becker, 1996). Previous research has shown that peer coaching benefits the coach as well as the coachee, with the coach experiencing a range of benefits through exposure to a different method of problem solving and approaching difficult situations (van Nieuwerburgh, 2012). Peer coaching in secondary schools has been found to impact positively on emotional intelligence, academic achievement and attitudes to learning for both parties (Leach & Green, 2015). For students, peer-to-peer coaching brings benefits to both coaches and coachees, including improvements to grades and attitudes to learning (van Nieuwerburgh & Passmore, 2012), developing new communication skills and problem-solving skills and an increase in confidence (Passmore & Brown, 2009)

Self-esteem

Rosenberg (1965a) defines self-esteem as a positive or negative attitude towards the self which varies across situations and contexts. High self-esteem occurs when a person perceives themselves to be competent in areas where they aspire to do well (James, 1890). If they fall short of their ideal by being unsuccessful in areas where they aim to be competent, low self-esteem results. In order to increase self-esteem, the individual needs to either increase the level of competency or decrease their aspirations (Harter, 1993). This can be a challenge for adolescents: not only do natural limits on competencies exist but also academic and athletic ability, physical attractiveness, and social acceptance. All of these are highly valued

to the individual and it becomes difficult to decrease personal aspirations (Harter, 1993).

Self-esteem can be influenced by social support in the form of positive regard from significant others (Cooley, 1902). Older children and adolescents often seek support from a classmate or parent: the higher the social support the higher the self-esteem (Harter, 1993). High self-esteem increases the likelihood that adolescents in the school environment will build positive relationships with peers and teachers, while developing effective coping skills and resisting peer pressure (DuBois et al., 2002; King, Vidourek, Davis & McClellan, 2002). Walker and Greene (1986) found that peers influenced self-esteem for females but not for males, suggesting that this may be because females have a larger number of peers and confide in them more, compared to males. This implies that support from peers has an influential impact on levels of adolescent self-esteem.

Self-esteem influences how an individual responds to different situations, with high self-esteem increasing an individual's effectiveness, happiness, success and confidence when interacting with their environment (Arslan, 2009). Positive self-esteem and supportive relationships with others are resources that adolescents can use to help them navigate challenges, with peer support linked to an increased ability and willingness to discuss problems (DuBois et al., 2002). This demonstrates that positive interactions with peers has the potential to increase self-esteem in adolescents due to the value placed on these relationships. Thus, the current study seeks to investigate whether peer-to-peer coaching will lead to an increase in self-esteem.

Test Anxiety

Test anxiety is a special case of general anxiety; it refers to those physical and behavioural responses that accompany concern surrounding possible failure in test or exam conditions (Sieber, 1980). Spielberger (1972) defined test anxiety as an unpleasant state characterised by feelings of tension and doubt, worrisome thoughts and the triggering of the autonomic nervous system when an individual faces an evaluation of their achievement. Effects of test anxiety can impact on student concentration and performance prior to and during examinations, with this phenomenon often peaking in higher education (Quinn & Peters, 2017). 72% of UK students reported feeling very anxious before a test, even though they were well prepared, with females reporting higher levels of anxiety than males (NAHT, 2017).

A consistent finding is that females report higher levels of overall test anxiety than males (Aydin, 2017; Hembree, 1988; Lowe & Lee, 2008; Neuderth, Jabs and Schmidtke, 2009; Putwain, 2007). These gender differences may be due to females being more comfortable expressing their emotions openly whereas males exhibit defensiveness about admitting their emotions (Hembree, 1988).

Secondary school is also a challenging time for many students. They regularly feel under considerable pressure to perform well academically as this performance impacts on university acceptance and future career aspirations (Green, Grant & Rynsaardt, 2007). However, there is currently a lack of research on test anxiety reduction programmes for secondary school students (Ergene, 2003).

Social support from teachers and peers reduces the level of stress during examinations for students. This social support needs to allow for open communication (Thomas & Choi, 2006). In an investigation into the effects of cognitive, behavioural and cognitive behavioural coaching in a sample of students,

all three approaches significantly reduced test anxiety (Grant, 2001). Coaching can increase quality of life and reduce depression, anxiety, and stress. Effects of coaching on high school students' personal and academic development found that coaching had the potential to also increase resilience and well-being in young people (Campbell & Gardner, 2005; Green et al., 2007).

As large numbers of students experience test anxiety in schools it is important to explore how this can be reduced as it can negatively impact exam performance. Secondary school is a challenging time for many students, they regularly feel under considerable pressure to perform well academically, as this performance impacts on university acceptance and future career aspirations (Green et al., 2007). As peer tutoring has been demonstrated to be successful in reducing test anxiety (Fantuzzo, Riggio, Connelly & Dimeff, 1989) it is proposed that peer-to-peer coaching will also lead to a reduction in test anxiety.

Perceived Stress

Stress is described as a state characterised by higher than normal levels of arousal and distress accompanied by a feeling of not being able to cope (Gyllenstein & Palmer, 2005). Interpersonal stressors increase during adolescence and these have been shown to be associated more strongly with emotional and behavioural problems than with academic problems, especially in females (Hampel, Meier & Kümmel, 2008). Three quarters of college students perceive themselves as experiencing stress and 12% as highly stressed (Pierceall & Keim, 2007). It was found that future-related stress for females also increased during late adolescence, and this may demonstrate that females experience developmental milestones earlier than males (Seiffge-Krenke, Aunola & Nurmi, 2009). It is suggested that females

place more importance on developing intimacy, emotional disclosure and empathy in interpersonal relationships than males. It follows that, when faced with the same stress situations, females may be more likely than males to seek support from others and may then go on to establish good relationships with these people (Bi, Ma, Yuan, & Zhang, 2016). Students naturally seek social support from friends and family when facing stress (Çivitci, 2015). This support can have a protective function against stress alongside increasing their ability to cope. When support is offered by teachers who have been trained, perceived stress decreases and self-efficacy improves (Hampel et al., 2008).

The learning experiences from coaching may reduce stress as the coachees benefit from increased insight and planning skills, alongside developing better coping resources (Ladegård, 2011). Coachees may also develop a more objective view of stressors, perceiving their environment to be less demanding after coaching, with more awareness of their own strengths and coping capability (Ladegård, 2011). Coaching by students' peers has been shown to have the potential to enhance skills, stress management and personal development (Devine et al., 2013). It has been suggested that coaching could help to reduce stress indirectly, as an individual may seek coaching for a variety of reasons. When the coachee experiences improvements in the area being targeted, it is possible that they will experience less stress or pressure as a result (Grant, 2003; Gyllensten & Palmer, 2005a). This leads to a final prediction that peer coaching will lead to a reduction in perceived stress.

Therefore, this study seeks to investigate whether a structured peer coaching programme in a sixth form environment can support students to increase their self-esteem whilst decreasing test anxiety and perceived stress.

The following three hypothesis are proposed:

1. Self-esteem will increase for participants in the peer-to-peer coaching condition.
2. Test anxiety will reduce for participants in the peer-to-peer coaching condition.
3. Perceived stress will reduce for participants in the peer-to-peer coaching condition.

Method

Participants

Fifty six 'Year 13' (aged 17-18) students were recruited from a secondary school in Greater London, UK. Students were selected through tutor groups, with twenty eight students from one tutor group allocated to the coaching condition (mean age = 17.37 years, SD = 0.49 years, male = 50%) and twenty eight students from the second tutor group allocated to the control condition (mean age 17.18 years, SD = 0.39 years, male = 56%). Tutor groups were selected to simplify the delivery of coaching so that designated tutor time could be used. The two tutor groups had similar profiles of students in terms of the mix of vocational and academic subjects studied, post-secondary destinations and ABC1 demographic backgrounds.

Design

This was a quasi-experimental between-participant design, working with extant groups rather than randomly allocating participants to conditions. There were two independent variables. 'Exposure to peer coaching' had two levels (a control condition (non-coached) and an experimental condition (peer-to-peer coached)). The other, pre-existing, independent variable was gender, with two levels ('male' and

'female'). There were three dependent variables in this design: self-esteem, test anxiety and perceived stress

Measures

'Perceived Stress' was measured using the Perceived Stress Scale (Cohen, Kamarck & Mermelstein, 1983) containing 10 items, with 4 that need reverse scoring. Items were rated on a 0 to 4 scale, ranging from Never to Very Often. A typical item is "In the last month how often have you been upset by something that happened unexpectedly" ($\alpha = 0.83$).

Test anxiety was measured using the Westside Test Anxiety Scale (Driscoll, 2007) containing 10 items. Items were rated on a 5 to 1 scale, ranging from Extremely or Always True (5) to Not at all or Never True (1), with no reverse scoring. A typical item is "The closer I am to an exam the harder it is for me to concentrate on the material" ($\alpha = 0.90$).

Self-esteem was measured using the Rosenberg Self-esteem scale (Rosenberg, 1965b) containing 10 items, with 5 reverse scored. Items were rated on a 5-point scale from Strongly Agree to Strongly Disagree. A typical item is "On the whole I am satisfied with myself" ($\alpha = 0.87$).

Procedure

Prior to the coaching intervention all participants completed the three questionnaires through an online survey (Qualtrics, Provo, UT). Two weeks of coaching skills training were put in place for the experimental condition participants. This training was given to both the coach and coachees so that all participants were familiar with the process, this training was delivered by the teacher who supervised the coaching sessions. This teacher had taken part in coaching previously and had

training in coaching through a school based programme. The coaching training was 4 hours and run over a two week period. The training involves an explanation of the process, a video illustrating successful coaching as well as a chance for students to role play different coaching scenarios and gain advice from the teacher on managing these scenarios. Peer-to-peer coaching took place weekly, with participants completing an IGROW coaching sheet at the end of each session. Each student took part in ten supervised sessions: five as the coach and five as the coachee. The IGROW model was used for the intervention, this is an adaptation of the GROW model of coaching, originally designed by Graham Alexander and then further developed by John Whitmore (Whitmore, 2010). With IGROW the process of setting the goal is supported by the addition of 'I' for 'Issue'. Sessions began with the coachee stating the issue they were looking to explore and then setting a goal in relation to this issue. They then explored the current reality of their situation, before developing a range of options for action and then finishing the session by looking at the steps and actions to take. A coaching promise was also included: a commitment from the coachee as to what they would put into action prior to the next session.

Following the coaching intervention, students from both the experimental and control conditions repeated the completion of the three measures online and on completion of the study, the control group received coaching in the same way as the experimental group did in the study so they were not disadvantaged in any way.

Results

One participant from the coaching condition was removed due to missing data from incomplete questionnaires. Pre- and post- intervention data from the three dependent measures (self-esteem, test anxiety, and perceived stress) were scored

according to the scales' scoring instructions. Total scores were found to be normally distributed, with means and standard deviations shown in table 1.

[INSERT TABLE 1 HERE]

To investigate any differences between the conditions before the intervention, a two-way ANOVA (gender and condition) was carried out on pre-scores for each of the dependent variables. There was no main effect of gender nor condition nor any significant interaction between gender and condition for self-esteem ($p > 0.05$). For test anxiety, however, there was a significant interaction between gender and condition [$F_{(1, 51)} = 10.86, p = 0.002$], with males showing lower test anxiety on pre-intervention scores in the control condition compared with the coaching condition and females showing higher test anxiety on the pre-intervention scores in the control condition compared with the coaching condition. The differences in pre-intervention scores were controlled for by using these pre-intervention scores as a covariate in the subsequent analysis. There was a main effect of gender on the pre-intervention scores for perceived stress [$F_{(1, 51)} = 5.05, p = 0.03$], with females having a significantly higher perceived stress than males but no main effect of condition, and no significant interaction between condition and gender.

There was an increase in self-esteem between pre- and post-intervention for males and females in both conditions. Test anxiety remains consistent for males for both the experimental and the control condition. However, for females, test anxiety was reduced post-intervention in the experimental condition but increased post-intervention for the control condition. Perceived stress reduced between pre- and post-scores except for males in the control condition, where there was an increase in perceived stress.

A two-way ANOVA (gender and condition) was carried out on each of the three dependent variables at post-intervention using the pre-intervention score as a covariate (Dancey & Reidy, 2017).

To investigate whether the peer-to-peer coaching intervention led to an increase in self-esteem, the two-way ANOVA (gender and condition) with self-esteem as the dependent variable was carried out. The results showed a significant main effect of gender with males having a higher self-esteem ($M = 32.48$) than females ($M = 27.08$) regardless of whether they were coached or not coached [$F_{(1, 51)} = 20.54, p < .001$] with a large effect size ($\eta = 0.291$). However, there was no main effect for condition ($p = .168$) and no interaction between gender and coaching on self-esteem ($p = .783$).

To investigate whether the peer-to-peer coaching intervention led to a decrease in test-anxiety, a two-way ANOVA (gender and condition) with test-anxiety as the dependent variable was carried out. The results showed a significant main effect of condition [$F_{(1, 51)} = 6.28, p = .016$] with the coached condition having lower test anxiety ($M = 27.89$) than the control condition ($M = 32.79$) with a medium to large effect size ($\eta = 0.112$). There was no significant main effect of gender ($p = .322$) and no interaction between gender and coaching on test anxiety ($p = .536$).

To investigate whether the peer-to-peer coaching intervention led to a decrease in perceived stress, a two-way ANOVA (gender and condition) with perceived stress as the dependent variable was carried out. The results showed no significant main

effect for condition ($p = .199$), no significant main effect of gender ($p = .914$), and no significant interaction between gender and coaching ($p = .494$).

In summary, post- coaching intervention significant differences were only found in self-esteem between males and females and in test anxiety between coaching and the control condition.

Discussion

This study investigated the effect of peer coaching on three psychological constructs: self-esteem, test anxiety and perceived stress. There was a significant improvement in self-esteem pre- and post-intervention for only males regardless of condition, thus the null hypothesis could not be rejected for the first hypothesis. For test anxiety there was a significant decrease for the coaching condition compared to the control condition but no interaction with gender, thus supporting the second hypothesis. There was no statistically significant change in scores for perceived stress in either group, thus the third null hypothesis could not be rejected. The findings will be discussed in the following sections.

Coaching and self-esteem

These findings indicate that self-esteem in males increased regardless of whether they were coached or not and, although this does not support the first hypothesis, it is consistent with other research that states that males have a higher self-esteem than females and that self-esteem increases without intervention (McCarthy & Hoge, 1982; Moksnes & Espnes, 2013). Wigfield and Eccles (1994) suggest that females have lower self-esteem as they are more vulnerable to the physical changes at puberty. Therefore, their self-concepts are more volatile and

intrinsic and they may be experiencing more deep seated issues with their self-esteem.

According to previous research girls report decreases and fluctuations in self-esteem to a greater extent than boys (Moksnes & Espnes, 2013). Therefore, if there is a focus to increase self-esteem during the coaching process, perhaps this should be directed at females rather than males. Relationships with peers have been found to be predictive of self-esteem for girls but not for boys, and perceived peer support makes a significant additional contribution to the fluctuations in girl's self-esteem (Walker and Greene, 1986). Adolescent girls are thought to confide in their peers about a wider range of issues than boys (Walker and Greene, 1986) and this suggests that girls might be more comfortable and familiar with the process of coaching, even if it is in a more informal nature. If the coaching is to be targeted at improving self-esteem in girls it is suggested that this is set as a coaching goal.

However, high self-esteem may inhibit the coaching relationship for males (Maxwell & Bachkirova, 2010). If the coachee has high self-esteem they are unable to engage in the coaching relationship to its full extent as they may find it more difficult to identify issues that need coaching. Therefore the coaching intervention will have limited further effect on their measure of self-esteem. Males often challenge feedback rather than accepting it, often by stating that they have already attempted to make those changes and explaining why those approaches do not work for them: this may have an impact on the efficacy of peer-to-peer coaching for males (Erlandson, 2013).

Coaching and test anxiety

These findings suggest that test anxiety decreased at a significantly greater rate in the coaching intervention condition than in the control condition, supporting hypothesis two. Thus, short programmes of peer coaching might be beneficial for students at stressful times (Short, Kinman & Baker, 2010). Although there was no significant interaction between gender and condition, the mean scores for test anxiety are stable pre- and post-intervention for males whereas for females, test anxiety decreases post-intervention.

There is also an increase in test anxiety in the females in the control condition post-intervention, a finding supported by Hembree (1988) who suggested that test anxiety scores would not show a decrease when the stakes were high due to the nature of the examinations being taken for the students. The second set of data was collected close to students' final A-level examinations and this may be why females in the control group showed an increase in test anxiety. Again, the finding from this study suggests that it may be more beneficial for females than males to take part in peer-to-peer coaching depending on the goals set. If test anxiety was the focus of the coaching intervention schools may see an impact in test results as effects of test anxiety can impact on student concentration and performance prior to and during examinations, with this phenomenon often peaking in higher education (Quinn & Peters, 2017).

Coaching and perceived stress

These findings show that there are no differences in perceived stress between the two conditions or genders, meaning that the null hypothesis of the third hypothesis cannot be rejected. Previous studies investigating coaching and stress reduction show inconsistent findings, with some suggesting that coaching can reduce stress either when it is directly targeted (Gyllensten & Palmer, 2005b), or indirectly

targeted, when the coachee improves in the area focused on through the coaching intervention (Grant, 2003; Gyllensten & Palmer, 2005a). However Green, Grant and Rynsaardt (2007) also found that stress did not reduce after coaching and they suggested that this may be linked to the focus of the coaching. They had focused on helping participants find ways to enhance their life experience and increase hope and resilience. As the focus in the current study was targeting either an area of academic weakness or a study skill rather than stress, this may explain why a reduction in stress may not have been found. It is suggested that in future coaching programmes 'reduction in stress' could be set as a specific coaching goal.

Future Considerations

Post-intervention testing was done after a duration of six weeks of coaching with no follow-up testing. Future research may be able to give an indication of whether there are long-term benefits to coaching by conducting longer-term post-intervention evaluation.

There may be gender differences in the ability to engage with the coaching process. Gender differences in help-seeking might be related to male's preferred ways of coping styles, with males generally being less likely than females to want to seek help from therapists or explore other methods of emotional support (Russ, Ellam-Dyson, Seager & Barry, 2015). Those peers who are going to be coaching males could be given specific training in future studies in order to better engage males in the process.

Both males and females may need a coach with increased experience to see a benefit from the intervention. This does not necessarily need to be a professionally trained coach but a peer who has more expertise than the person who is being

coached, as this may give the peer more credibility (Sue-Chan & Latham, 2004) However, Spence and Grant (2007) found that coaching is more effective when it is directed by a professional coach who possesses the skills needed to develop successful coaching relationships. They suggest that future research would be enhanced by capturing data on the experience of coachees during coaching. Future research employing a mixed methods approach could explore further gender differences and coach experience. The benefit of this would be the potential to adapt coaching programmes so that they are more suitable for the gender of the participants.

Limitations

The current study did not explore the link between coaching and student achievement. It may also be valuable to explore this in future research to see if coaching creates more visible benefits for schools, such as improved performance in exams such as A-levels and GCSEs. It is also suggested that a third condition is included where either a teacher or professional coach is used to see whether this increases the benefit of coaching.

In this study coaching was carried out in tutor time, which is only a twenty-minute time period: this may limit the ability of the coaches and coachees to fully explore any issues. In future it is suggested that the time dedicated to coaching is increased. In Passmore and Brown's (2009) research sessions of 60 minutes in length were seen to benefit both coaches and coachees.

Conclusion

The findings from this current study indicate that an IGROW coaching intervention reduces test anxiety in adolescents. However, self-esteem and perceived

stress were not influenced by the intervention. The approach to mental health in schools tends to be reactive rather than proactive with resources only being made available to students when students demonstrate difficulties (Madden, Green & Grant, 2011). Peer coaching may be a beneficial, low cost, proactive method to support students during stressful periods. However, it is suggested further research is carried out focusing on goals related to stress by, for example, including 'stress reduction' as a goal in the model. It is also suggested that further work is also needed to look into the benefits of peer coaching to student well-being and academic performance, and whether these continue over time. Different approaches to coaching for males and females may be necessary to achieve a beneficial impact of peer-to-peer coaching.

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Table 1: Means and standard deviations for the pre- and post- intervention scores (N=55)

		Self-esteem		Test Anxiety		Perceived stress	
		Pre	Post-	Pre-	Post-	Pre-	Post-
		M (sd)	M (sd)	M (sd)	M (sd)	M (sd)	M (sd)
Coaching	Male	25.33 (1.59)	33.27 (3.95)	25.40 (7.98)	25.40 (8.02)	26.93 (6.24)	25.80 (5.75)
	Female	26.25 (1.48)	28.17 (6.28)	35.83 (8.81)	31.00 (10.33)	32.75 (8.23)	29.50 (10.66)
Control	Male	25.93 (2.30)	31.64 (3.65)	32.07 (7.76)	32.93 (3.95)	28.93 (7.66)	30.14 (4.72)
	Female	25.07 (1.86)	26.14 (3.70)	28.07 (7.91)	32.64 (4.88)	31.79 (6.45)	30.21 (6.66)