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**Theoretical Perspectives on Paired Mentoring in Science:
Experiences from involvement in multiple interventions**

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Paired Mentoring: What is it all about?

A 15 or 16 years old who are studying for their General Certificate in Secondary Education (GCSE) in Science during their secondary school education in England...

The Mentee

And pairing them with...

An Undergraduate Mentor who is studying a science related undergraduate degree in England at a UK Higher Education Institution...

The Mentor

20 Weeks of one to one science related mentoring

Supporting the mentee through their GCSE Science course



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The Effectiveness of Paired-Mentoring

1. Academic benefits:

- Improvement in academic performance (DuBois & Silverthorn, 2005).
- Increases academic motivation and focus on tasks like that of homework and exam revision, and helps mentees set achievable goals and realize personally relevant outcomes (Eby et al., 2008).

2. Attitudinal benefits:

- Fosters the development of mentee's positive attitudes towards learning (Eby et al., 2008).
- Increases attachment to the learning environment like school and classroom in which the mentoring is being embedded (Payne & Huffman, 2005).

3. Emotional and social benefits:

- Reduced stress, especially during exams (Eby et al., 2008).
- Improved self-esteem and social skills that are then further related to academic competence (Valiente et al., 2012).

Theoretical Underpinnings of Paired-Mentoring Effectiveness

1. Social Cognitive Theory (Bandura, 1997):

- Mentees observe and imitate mentors' behaviours, attitudes, and strategies.
- Mentors provide social persuasion and encouragement, boosting self-efficacy and beliefs in mentees' ability and skills.

2. Self-Determination Theory (Deci & Ryan, 2000):

- Mentors foster autonomy, competence, and relatedness, supporting their intrinsic motivation.
- Mentor-mentee interactions enhance psychological well-being and academic engagement thus further supporting mentees to be self-determined to be and do academically well.

3. Attachment Theory (Bowlby, 1982):

- Secure attachment to, and emotional support from, the mentors reduce mentees' stress and anxiety, facilitating learning, growth, and personality development.

Strategies for Enhancing the Effectiveness of Paired-Mentoring Programs

Program structure and duration:

- Provide a clear and structured program curriculum (Tyler & McMullan, 1987)
- Extend the program duration to a full year or longer (Reisner et al., 1989).
- Establish a centralized administrative structure (Tyler & McMullan, 1987; Reisner et al., 1989).

Strategies for Enhancing the Effectiveness of Paired-Mentoring Programs

Matching mentors and mentees:

- Consider similarities in age, sex, race, cultural similarity, interests and career aspirations (Flaxman et al., 1988; Reisner et al., 1989).
- Encourage both mentor and mentee choice in the matching process (Flaxman et al., 1988).
- Utilize personal familiarization techniques like mentor-mentee interviews, fill out self-profiles, and playing games as icebreakers and to foster mentor-mentee contact (Tyler et al., 1987; Gregory & Burley-Mellits, 1988).

Strategies for Enhancing the Effectiveness of Paired-Mentoring Programs

Mentor and mentee training and support:

- Provide beforehand training on child development, socio-cultural sensitivity, and relationship building (Reisner et al., 1988)
- Offer ongoing support and training to the mentors and employ monitoring techniques (Green & Cohen, 1979), continuous supervision and regular meetings with the programme coordinators (Reisner et al., 1988)

Publications

- Sharpe, R., Abrahams, I. and Fotou, N. (2018). Does paired mentoring work? A study of the effectiveness and affective value of academically asymmetrical peer mentoring in supporting disadvantaged students in school science. *Research in Science & Technological Education*, 36 (2). pp. 205-222. ISSN 0263-5143

- Details of the ASCENTS 1-2-1 can be found here:

[ASCENTS 121 Support for Science \(2023/24 trial\) | EEF \(educationendowmentfoundation.org.uk\)](#)



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Thank you

Please do contact us if you are interested in working collaboratively on a paired mentoring project and share further insights and knowledge together...

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