## No deed goes unnoticed? Associations between teachers' noticing academic procrastination and individual differences in students

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## **Summary**

Academic procrastination - delaying studying or leaving schoolwork to the very last minute – is regarded as a self-regulation failure (Steel, 2007) that will most likely interfere with learning success earlier than previous studies suggest. It is reasonable to assume that procrastination behaviour will already be acquired along with other study habits during middle school, although most research on academic procrastination has been carried out among college students. Academic procrastination differs from time management or simple delaying, as the definition of procrastination is wider, explicitly incorporating some sort of motivational conflict (Paulitzki, 2010). Procrastinators have difficulties carrying out their plans and intentions, on account of which procrastination can in general be characterised as an irrational and unintentional self-defeating behaviour that can be regarded as a typical self-regulation failure (Steel, 2007). It has been shown that procrastination occurs more frequently with boring, complicated or unpleasant (aversive) tasks (Milgram et al., 1995), and that academic contexts can induce procrastination even for people who usually do not delay their everyday tasks (Moon & Illingworth, 2005).

The transition from primary to middle school entails learning material that is more complex and abstract as well as students being held more responsible for their own learning. That means that self-regulatory skills become increasingly important and academic success is associated more and more with the use of adaptive study skills. Teachers can support students in mastering the necessary study skills as long as they are able to recognise the skills that need supporting. Many teachers make the mistake of assuming that most of their students acquire necessary cognitive and metacognitive study strategies without explicit guidance (Pintrich, 2002) and it is likely that in some cases it is difficult for the teachers to even recognise the skills that would need supporting.

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To some extent, recognising ineffective study strategies might be tricky, as they might not be directly visible in learning results. For example, a student might always present his/her schoolwork on time, while having done all the work at the last possible moment and hence not realizing his full potential. Procrastination in academic contexts occurs mostly in the private home environment, and in middle school, and the time that different teachers spend with each and every student is inevitably restricted. Consequently, teachers have trouble noticing problems with procrastination without specifically probing the students about it. Teachers are trained to recognise clinically relevant learning difficulties, but noticing, assessing and correcting ineffective study strategies is problematic because of the lack of valid and easy-to-use methods, not only in Estonia, but also elsewhere (Liu, 2009).

Based on the above, we asked whether eighth grade teachers (N=118) can spot difficulties with students' study strategies in the context of procrastination. We were interested to see whether eighth grade students' (N=551) evaluations of their procrastination would coincide with teachers' evaluations of the child's behaviour. To that end, we formed three groups of children based on their own assessment of their procrastination frequency and compared their self-assessment results to the evaluations of their teachers. The results point to the fact that children's and teachers' evaluations do not always overlap. For example, we found a group of children who consider themselves frequent procrastinators, but are not considered as such by their teachers.

In order to understand what possible factors might play a role in the mismatch between teachers' and students' evaluations, or in other words, what might be the factors that mask students' procrastination tendencies from the eyes of the teachers, we analysed the effect of the different cognitive and personality indicators in students. The students belonging to the current sample have participated in longitudinal educational studies since they were in the third grade. Hence, we could assess their general ability measured by Raven Progressive Matrixes from grades three, four, five, seven and eight and their extraversion and conscientiousness scores from grade seven in order to see whether those factors differ among procrastinators and non-procrastinators whom teachers either recognise or do not recognise as procrastinators. We used ANOVA and logistic regression analyses and found that teachers are more likely to report students who have a relatively low general mental ability as procrastinators, regardless of whether the students consider themselves as procrastinators or not. The trend was consistent and apparent for abilitylevels from the third to the eighth grade. Teachers also were more likely to report students who were more extraverted (or less introverted) than their peers as procrastinators.

As the association between procrastination and general cognitive abilities has been found to be almost non-existent in cross-sectional studies (Ferrari et al., 1995, pp. 41) – procrastinators can be found among low and high ability students (Ferrari, 2000) – and as more frequent procrastination has been reported among more able students only very casually in a few studies (i.e. Aitken, 1982), the results are intriguing and suggest giving further attention to discovering trends in the development of procrastination.

For practical matters, the current results refer to the possibility that when assessing the quality of such hidden and complex phenomena as homework related study strategies, teachers tend to base their conclusions on student strengths and weaknesses and on information that is easily attainable, i.e., students' temperament or academic and graded performance. We assume that teachers have difficulties in recognising self-regulatory problems, especially among more able students, as they might not be reflected in school performance. One of the teachers' main responsibilities in school should be supporting the development of the students' learning strategies, which on the one hand, implies the ability to recognise deficient strategies and also knowledge about attributes or skills that could be the prerequisites for the development of effective learning strategies. In addition to skills and methods for assessing students' subject knowledge, teachers would also benefit from knowledge and valid instruments for assessing and supporting students' more hidden and implicit learning strategies.

In conclusion, learning and using adequate learning strategies can pose difficulties for students who explicitly struggle in academic contexts, but also for students whose deficient study habits, masked by high general cognitive ability, do not explicitly point to the relevance of any learning difficulties. Our results show that there is a group of able students admitting to the vice of procrastination, who are not perceived as problematic by their teachers. We conclude that although cognitive abilities might not show straightforward associations with procrastination, the mediating effect of cognitive abilities can have detrimental effects on the development of adaptive study habits.

*Keywords:* academic procrastination, learning strategies, teacher evaluations of learning strategies, general cognitive ability, personality