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10

Use of TIME: Time Perspective Intervention of Motivation Enhancement

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Introduction

Adolescence and school are not always a fruitful combination: students' declining motivation for school in their early adolescence has been observed for many years in different European countries and in the United States (Midgley, Feldlaufer, & Eccles, 1989; Peetsma, Hascher, van der Veen, & Roede, 2005). Some decline in motivation for school has also been found later in adolescence (Peetsma, 1997; Van der Veen, Peetsma, Triesscheijn, & Karssen, 2013). Adolescence is a very important life stage for learning; in many countries, youngsters have to stay in school until their late teens. Loss of motivation during adolescence can

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thus have undesirable consequences, such as having to attend a lower school level than appropriate for the student's age or having to leave school early.

As time perspectives on school and professional career have also been found to decline in the same stages of life (Van der Veen & Peetsma, 2009; Van der Veen et al., 2013) and students' present, short-term, and future time perspectives have proved to be a good predictor of their motivated learning behavior (Peetsma & Van der Veen, 2011), influencing the development of adolescents' time perspectives could be a fruitful approach to enhancing their motivation for learning. Furthermore, people's time perspectives develop from early adolescence on (Piaget, 1955) and so might still be amenable to influence during these early years. Awareness of this possibility, in addition to the motivational character of time perspectives, led us to take time perspective (TP) theory as the starting point for development of an intervention to increase early adolescent students' and, later on, also older Dutch students' motivation for school. The intervention is called TIME (Time perspective Intervention of Motivation Enhancement).

In our first study, TIME was used with students starting pre-vocational education at age 12. Pre-vocational education was chosen, as students' motivation in this type of education has been reported to be quite low and the percentage of early school leavers is relatively high. Students with less positive time perspectives on a school and professional career were selected for the study (Peetsma & Van der Veen, 2009). In a second study, a random sample of first-year students in two pre-vocational schools participated in the intervention (Peetsma & Van der Veen, 2015). In a third study, students in the first two years of all types of secondary education in the Netherlands were engaged in the intervention and, as TIME was designed for, trained teachers also performed the intervention with the students for the first time (Schuitema, Peetsma, & Van der Veen, 2014). In a fourth study, the intervention was tested with students in the first year of upper secondary vocational education. This is a type of education for older adolescents that has a drop-out rate over ten times higher than in secondary education in general in the Netherlands (http://www.vsvverkenner.nl/landelijk). The results of these studies with the TIME intervention are described

here, followed by a discussion of the usefulness of the intervention in educational practice, as well as implications for the theory of time perspective.

Future Time Perspective

Future time perspective is generally defined as a representation of a particular life domain in terms of time or the anticipation in the present of future events (Nuttin & Lens, 1985). Future time perspective is characterized by extension and valence (Gjesme, 1996; Husman & Lens, 1999). "Extension" refers to the period in the future in which an event or life domain is represented in someone's perspective. For students, the period after finishing school and the current school year seem to be meaningful terms with respect to time that is important for motivation (Peetsma & Van der Veen, 2011).

The valence of the future time perspective indicates a person's appreciation of a certain life domain in the future. Time perspective was conceptualized by Peetsma (1992) in terms of three components: affect, cognition, and behavioral intention aimed at a certain life domain. *Cognition* consists of ideas or expectations with regard to the future. *Behavioral intention* refers to the extent to which people are inclined to act in certain ways with a view toward achieving future goals. *Affect* is interpreted as an expression of feelings toward a particular life domain in the future. This conception of future time perspective is broader than most other concepts of future time perspective, which are mainly cognitive with a strong focus on perceived instrumentality of learning tasks. By adding an affective component to the concept, future time perspective represents students' internalization of valued goals in the present or in the future and the determination to reach those goals. In other words, future time perspective becomes a motivator.

As mentioned in the introduction to this chapter, positive correlations have been found between students' future time perspective and their motivation for learning and motivated learning behavior in the present. Several studies have found relationships between future time perspectives and present achievement goals (e.g., Phan, 2009; Simons, Dewitte, &

Lens, 2003). In addition, research has documented positive relationships between future time perspective and motivated learning behavior, such as school investment (e.g., De Bilde, Vansteenkiste, & Lens, 2011; Van der Veen & Peetsma, 2009) and delay of gratification or (meta) cognitive learning strategies (e.g., De Bilde et al., 2011). The motivational role of future time perspective for motivated learning behavior and achievement has been shown again in a recent metaanalysis (Andre, Van Vianen, Peetsma, & Oort, submitted). Peetsma (2000), which defined future time perspective as a conceptualization of a particular life domain. Future time perspectives have been found to differ within individuals when it comes to the life domain of school and professional career and other life domains, such as the life domain concerning leisure time (e.g., Peetsma & Van der Veen, 2011). The future time perspective on leisure had a negative correlation with motivation and development of motivated learning behavior, while the future time perspective on personal development, social relations, and in particular on a school and professional career appeared to predict developments in learning behavior (Peetsma, 2000; Peetsma & Van der Veen, 2011).

The development of TIME was based on the assumption that future time perspective in the domain of school and professional career is an important motivator for school students because TIME connects learning behavior in the present with the fulfilment of future goals. When students believe that learning tasks contribute to achieving important future goals, this may enhance the personal relevance of learning tasks in the present and may help them identify with the necessary learning activities (Husman & Lens, 1999). In this way, future goals can positively affect the internalization of present learning behavior.

Two aspects seem to be important in this process of internalization of present goals. First, it is important that the connection between future goals and present behavior is perceived as a contingent path consisting of several intermediate steps (Raynor & Entin, 1983). Oyserman, Bybee, Terry, and Hart Johnson (2004) investigated the role of possible selves (possible futures people can visualize for themselves) in student motivation. Possible selves appeared to guide behavior as a roadmap to the future. Their study showed that it is important that students have realistic ideas about the future and that the path to the future should be broken

down into small, manageable steps. Miller and Brickman (2004) also argued that to perceive present learning tasks as relevant for the future, students need to have a system of proximal or intermediate subgoals related to more distant goals. Students need to construct meaningful paths that guide their progress toward personal valued future goals. In addition, Oyserman et al. (2004) found that it is important for students not only to have a clear conception of the steps that should be taken to achieve the goals but also an idea of what should be avoided.

Another aspect that affects present goal striving is the degree to which future goals are personally valued and endorsed. When students feel that future goals are imposed by others, a stronger focus on future goals may contribute to a sense of inner pressure to achieve these future goals and lead to less adaptive learning behaviors. On the other hand, when future goals are personally endorsed, future time perspective may contribute to the internalization of present learning behavior. Research has indeed shown that highlighting the personal value of future goals can enhance mastery goals, motivated learning behavior, and achievement (e.g., Simons et al., 2003).

TIME

TIME is a person-centered intervention to enhance student motivation for learning based on future time perspective theories. The intervention was originally developed by Peetsma and Van der Veen (2009) for students in the first year of pre-vocational education, as motivation for school appeared to be most problematic in that particular level of secondary education.

The aim of TIME is to support students' future time perspective on school and professional career and to strengthen the connection between present behavior and future prospects. During the intervention, the personal relevance of future goals in the domain of school and professional career is emphasized in order to foster the internalization of these goals and the behavior required to achieve them.

The intervention is based on Peetsma's time perspective concept (Peetsma, 2000), and includes cognitive, intentional, and affective components with

regard to the domain of school and professional career. Students' future goals are discussed and why they consider them to be possible and important (cognition). In addition, attempts are made to arouse positive feelings toward these goals (affection) in order to stimulate internalization. Finally, the intervention aims to help students discuss what should be done and what should be avoided to achieve their goals for the future (behavioral intention). The design of TIME uses possible selves, whereby students have to visualize possible futures for themselves. The connection between present school work and future goals is broken down into smaller intermediate steps. In this way, the intervention aims to help students construct a pathway of contingent steps toward future goals. The intervention also incorporates motivation for potentially competing life domains, such as maintaining friendships and how the adolescents spend their free time. The idea of accepting "delay of gratification" was used for this.

It is important to talk about future goals in a way that supports students' autonomy instead of in a controlling way in which future goals are imposed upon them (Simons, Vansteenkiste, Lens, & Lacante, 2004). A mainly indirect intervention was chosen in order to avoid negative effects as far as possible. Students were approached indirectly through role-play involving a nonschool topic and an imaginary classmate. Only at the end were the students asked what this could mean for them.

TIME was developed to be applied in a school setting and consists of one-on-one talks of 30 to 45 minutes. The intervention involves an interviewer and a student. The interviewer can be a class mentor, a teacher, or a school coach. TIME consists of three parts. The interviewer makes sure that four aspects come up in the conversation in all three parts of the intervention:

- Cognition—knowledge about and opinions on reaching the goals
- Affect—feelings toward the goals and activity
- Behavioral intention—including small and big steps to be taken to reach the goals
- Distraction—how to deal with distractions (delay of gratification)

The first part of TIME is a role-play assignment about an imagined future in a nonschool domain (indirect intervention). Three different

versions have been developed for this part, covering different topics (high jump, music, and acting). Different version were developed in order be able to provide the intervention to the same student several times. In the high jump case, the students read a short text in which they are asked to imagine that they would like to participate in an athletics tournament set to take place in two years' time (long-term goal). For this they have to get through a selection procedure to be held in one year (intermediate goal); be good at high jump, even though practice is needed to be able to improve (cognition); like high jump, and dream about it a lot and have a good feeling about it (affect). They have to develop a training program with the trainer and not miss training sessions (behavioral intentions) and give high jump priority over other rewarding activities (distractions/ delay of gratification). The text was summarized for the students in our study, who were then interviewed and asked to take the role of the high jumper. Students were encouraged to contribute ideas of their own that did not emerge from the text, and the interviewer made sure that the four aspects (cognition, affect, behavioral intentions, and avoiding distractions) were discussed. The other two versions followed a similar pattern. The version for music was about playing in a band and being selected to play at a music festival; the version about acting was about taking acting lessons and auditioning for a play.

The second part of TIME also includes a role-play assignment. Students are asked to imagine a classmate who really wants to progress to the next year and get a diploma. Again, three versions have been developed. The classmate is described as either insecure, overconfident, or with a dislike of certain subjects. The students are asked what they would advise the imaginary classmate to do to reach the goals (move up to the next year and get the diploma), bearing in mind the things that had been discussed in the role-play in the first part of the intervention. Once again, the interviewer encourages the student to reflect on the four aspects (affect, cognition, behavioral intention, distraction).

The third part of the TIME intervention concerns the students themselves and takes the most time (20–30 minutes). The students are asked whether they recognize themselves in the imaginary classmate and then the school and their possible professional careers are discussed. Each student is asked about his or her future goals and about how these goals

could be achieved. Once again, the interviewer makes sure that the four aspects (affect, cognition, behavioral intentions, distractions) are covered. Multiple future goals are discussed with the student, highlighting the personal relevance for them by trying to make those goals more concrete and real. The affective component is particularly important for this process. By focusing on positive emotions that students may experience when thinking about those goals, we assume that they will feel more engaged with those goals and internalize the learning behavior required to achieve them. The interviewer encourages the student by, for example, giving compliments and suggesting alternatives. For example, when a student has problems with a classmate or with a teacher, we suggest he or she could go to the mentor or seek other help instead of just letting these troubles continue. The connection between future goals and school work in the present is highlighted by discussing the different steps that would have to be taken to achieve those future goals. This includes talking about learning behavior in school in the present and the near future, such as the use of learning strategies and investment in school.

Assumptions Underlying TIME

During the third part of TIME, students' desired future goals or study and professional career aspirations are discussed, including the usefulness and necessity of their present school career. We assumed that highlighting the importance of school for a desired future goal or study and professional career would enhance their motivated learning behavior, as previous research has always found positive correlations with time perspectives on a study and professional career. We expected that the commonly found decline in motivation and learning behavior over the school career would be reduced or even disappear as an effect of TIME. Early dropout should be reduced as an effect of TIME. Furthermore, because we focused on the personal relevance of school for the students' future goals, study, and professional career, and the steps in between, more internal regulation of learning behavior was expected and a positive effect on the quality of motivation, especially with regard to students' achievement goals (Dweck, 1986; Nicholls, 1984), was anticipated. Achievement goal

theory consists traditionally of two approach goal orientations: mastery and performance orientations. A mastery orientation focuses on attaining task-based competence while a performance orientation focuses on competence relative to others. High mastery-approach–oriented students have been found to be better self-regulated learners and to have higher achievements (Urdan & Midgley, 2000). Students' performance goals have been linked to less adaptive outcomes (Pintrich & Schunk, 1996), but high performance-approach orientations in combination with high-mastery approach goals showed even more positive correlations with students' learning behavior than high-mastery approach goals alone (Van der Veen & Peetsma, 2009). A positive effect on a mastery approach for learning was expected, possibly combined with a positive effect on a performance-approach goal. We expected that TIME could increase the importance students attached to the future time perspective in the domain of school and professional career itself, decreasing the commonly found decline over the school career. It could also be that making the student focus on necessary steps toward aspired goals for the future does not make the future time perspective itself more positive, but improves the student's motivated learning behavior, the first goal of TIME.

Effectiveness of Time: Four Studies

The effectiveness of TIME for students' motivation and motivated learning behavior was investigated in four studies.

All of the studies were conducted in the Netherlands. In the Dutch education system, children of approximately 12 years of age leave primary school and move on to different levels of secondary education. Students are selected for the different levels based on their primary education performance. The lowest level of secondary education is prevocational education, a four-year program of study preparing students for secondary vocational education. The latter is a form of upper secondary school and a one- to four-year program of study for students aged 16 and over. There are two types of general secondary education: lower secondary education is a four-year program that also prepares for secondary vocational education, and higher general secondary education is a

five-year program preparing for higher professional education. The highest academic level in secondary education is pre-university education: a six-year program that prepares students for university.

TIME, as explained, was developed for pre-vocational education and the first two studies were conducted with students in the first year of pre-vocational education (Peetsma & Van der Veen, 2009, 2015). Considering the promising results at this level, a third study investigated the effectiveness of TIME in all levels of secondary education (Schuitema et al., 2014). A fourth study examined the effects of TIME with older adolescents (16–20 years) at the start of upper secondary vocational education, as the dropout rate is relatively high in this type of school (Van der Veen et al., 2013).

All four studies adopted a longitudinal design in which the effects of TIME were investigated by administering the intervention to the same students two or three times over a period ranging from six months to two years. Self-report questionnaires were used to investigate the longitudinal effects of TIME on the development of students' motivated learning behavior, achievement goals, and future time perspective. Different aspects of motivated learning behavior were measured. First, we measured school investment using a scale developed by Roede (1989) measuring the onset of student action, the degree of intensity of action, and perseverance with action. With a view to possible differences in investment between subjects, we converted the scale to render it domain-specific. We chose mathematics because this is a subject all students take and it is usually considered to be an important subject. However, in upper secondary vocational education, math is not a mandatory subject for all students. For this reason we used the fourth study to measure general investment in school. A second aspect of motivated learning behavior that we investigated in the four studies was the use of metacognitive strategies such as planning and comprehension monitoring. To measure this we used a scale adapted from Pintrich and De Groot (1990) and Pintrich, Smith, Garcia, and McKeachie (1991). We assessed students' ability to delay gratification using a scale based on the Academic Delay of Gratification Scale of Bembenutty and Karabenick (1998). In addition, we examined the effects of TIME on the dropout rate of students in secondary vocational education in the fourth study.

To investigate whether TIME had an effect on the extent to which students attach importance to future goals we measured future time perspective on school and professional career using a questionnaire developed by Peetsma (1992, 2000). This questionnaire measures the attitudinal components of cognition, affect, and behavioral intentions toward school and professional career in the long term (after leaving school) and the short term (this school year). In all four studies, the effects of the intervention on students' achievement goals were examined. Achievement goal orientation theory attempts to explain why people engage in certain behavior (Kaplan & Maehr, 2007), and makes a distinction between mastery- or task-oriented goals and performance or ego goals (Ames, 1992; Nicholls, 1984), as described earlier in this chapter. Mastery goal-oriented students focus on mastering learning tasks and on developing competence. In contrast, performance-oriented students are concerned with demonstrating their ability to others. As mentioned, mastery approach goals have been associated with positive outcomes (Eccles & Wigfield, 2002; Kaplan & Maehr, 2007; Wolters, 2004), but a performance approach in combination with a mastery approach can also be beneficial for motivated learning behavior (Van der Veen & Peetsma, 2009). To measure mastery approach and performance approach, we used a scale from Seegers, van Putten, and de Brabander (2002).

In the first study, TIME was performed twice during the first year of secondary education and in the second study twice during the first half-year. In both studies, students filled in the self-report questionnaires on four measurement occasions. The third study extended the period of time in which the effectiveness of TIME was investigated: the intervention was performed three times in the first two years of secondary education and students filled in questionnaires on five occasions. In the fourth study, the intervention was performed twice and questionnaires were administered four times during one year. In the first two studies, researchers performed the intervention with the students. However, the intervention was developed to be eventually used by school staff, and so in the third and fourth study teachers were trained to perform TIME with their students. We then investigated whether the effects of the intervention performed by teachers differed from the effects of the interventions performed by researchers.

In all four studies, students were randomly selected for the intervention. In the first study only, a random selection was made from the students with lower average scores (≤ 4; maximum was 5) on both short- and long-term future time perspective on school and professional career at the first measurement. For the other studies, there were no such score restrictions. In each study, the effectiveness of the intervention was studied by comparing questionnaire results on students who participated in the intervention with those who did not. In every study, we made a second comparison between students who participated in the intervention and students who were interviewed about their motivation for school. This comparison allowed us to investigate to what extent simply focusing attention on motivational aspects had a positive effect. If, for instance, we found that both the intervention and the interview had a positive effect on motivation, this would permit the conclusion that it was simply giving attention to motivational aspects in a talk or interview with a student and not the specific TIME intervention itself that was effective.

Table 10.1 shows the results for every study on the key concepts the intervention focused on. Two columns are presented for each study. The left column shows the results for the first comparison (students who took part in the intervention versus students who did not) and the right column indicates whether results found in the left column could indeed be ascribed to the TIME intervention (and not merely to giving positive attention to motivational aspects, such as in an interview).

The main purpose of TIME was to connect present learning behavior with meaningful future goals in order to enhance students' motivated learning behavior. Indeed, the most consistent finding across the four studies was the effect of the intervention on students' motivated learning behavior. In three of the four studies, we found that TIME had positive effects on investment in mathematics. Only in study 4, which concerned students in upper secondary vocational education, did we not find any effect on investment. TIME also seemed to influence students' academic delay of gratification in a positive way. We found positive effects in all four studies. However, in studies 1 and 2, the effects of TIME on delay of gratification could simply have been caused by giving attention to motivational aspects while talking to the student, as these positive effects were also found with students who were only interviewed about their

Table 10.1 Results of intervention for four studies on key concepts

	Study 1 n=765 (interventi on: n=30) prevocational education		Study 2 n=224 (interventi on: n=40) prevocational education		Study 3 n=766 (interventi on: n=65) All secondary school levels		Study 4 n=835 (interventi on: n=182) Secondary vocational education	
	first year		first 6 months		First 2 years		First year	
	Interventi on (<4) compariso n (<4)	Does result 'remain' after interview comparison?	interventi on comparison	Does main effect 'remain' after interview comparison?*	interventi on comparison	Interventi on interview	interventi on compariso n**	Does effect 'remain' after interview comparison?
Maths investment***	+	Yes	+	Yes	+	Yes	ns	
Metacognition	Ethn. minority +	No	+ Boys +	No	+	No	ns	
Academic delay of gratification	Ethn. minority + Girls +	No	Boys +		+	Yes	+	yes
Course drop out							+	yes
TP school short	Girls +	Yes	ns		ns		Students with low educated parents +	yes
TP school long	ns		ns		ns		ns	
Mast approach	Girls +	Yes	ns		ns		ns	
Perf approach	+ Ethn. minority +	Only ethn. minority +	ns		+	Yes	ns	

*Not tested for interaction effects by gender and ethnic background
**Only study that tested for interaction effects by parental education
***For study 4, this concerned general school investment
Shaded gray means not applicable (e.g., data not gathered in that study) and for
 second column not mentioned as there were no significant effects to test for.
ns = not significant

motivation for school ("interview effect"). Positive effects of TIME on the use of metacognitive strategies were also found in three of the four studies, but in all three these effects seemed to be "interview effects," as they were also found for students who were only interviewed about their motivation for school. Interviewing students and talking about learning behavior in school seemed to be equally effective for enhancing metacognitive strategy use as the intervention itself. Only in study 4 did we investigate the effects of TIME on course dropout, and we found that fewer

students who participated in the intervention dropped out of their course than did students who did not participate in the intervention or who were interviewed on their motivation for school. TIME seemed to reduce the risk of course dropout in secondary vocational education.

We expected that influencing the students' future time perspective would influence their goals, which in turn would increase their motivated learning behavior. We did indeed find that TIME had an effect on motivated learning behavior, but the effects on students' achievement goals and on future time perspective were less clear. As Table 10.1 shows, the intervention did not have an effect on the long-term future time perspective on school and professional career itself. In two studies, we found that the intervention had a positive effect on the short-term future time perspective on school and professional career, but only for certain groups of students. In the first study, we found a positive effect for girls and in the fourth study, there was a positive effect for students in upper secondary vocational education whose parents had a low level of education. With respect to achievement goals, we expected that highlighting the importance of school for a future career would increase achievement motivation in general. However, because we focused on the personal relevance of future goals and attempted to enhance internal regulation of behavior, we also anticipated an effect on the quality of motivation. We expected a stronger effect on mastery goals, but we did not find consistent evidence that the intervention had an effect on mastery approach goals. Only in the first study, in which students with lower scores on future time perspective participated in the intervention, did we find an effect on mastery goals, and only for girls. There were some indications that the intervention had an effect on performance goals. In two of the four studies, we found positive effects on performance goals.

To summarize, TIME seemed to influence the students' motivated learning behavior in school directly without increasing their future time perspectives and without influencing their achievement goals. This raises questions about what makes TIME effective for the learning behavior of students. It may have strengthened the connection between learning in school and future goals by helping students to construct a contingent path of intermediate steps. The intervention might have made the necessary steps to reach possible futures for themselves more clear for the

students. This might have helped them to attach more importance to motivated learning behavior in school without necessarily increasing the future time perspectives on a school and professional career in the present or the long-term future and without making those future goals more positive.

TIME Administered by Teachers

TIME was developed to be eventually used by school staff. We, therefore, investigated the possibility of implementing TIME in school settings. In studies 3 and 4, teachers were trained to use TIME with their students. They were trained in groups or individually. A leaflet with information on the background of the intervention and the intervention itself was sent to them before the training. The purpose of the intervention and how it should be administered were explained during the training. Teachers were then given the opportunity to practice the intervention on each other or on a researcher. Each training took approximately two hours. The results showed that with relatively little training teachers were able to produce the same results as researchers.

What is important in this respect is the pleasure teachers often showed after having used TIME with their students. The information they received from their students was new to them. When teachers or other school staff have to use an intervention, it is important that they feel good about it. Indeed, from their perspective, administering the intervention proved to be useful to them.

Further Research Directions and Recommendations

As the TIME intervention seems to be effective in enhancing the motivated learning behavior of both young and older adolescents, further and deeper study of the intervention is to be recommended. The researchers who developed TIME also see benefits to be gained from handing the intervention over to the schools and anticipate that this intervention

could be studied by other researchers. There is much still to be done. For research purposes, some questions remain to be answered. For instance, is it possible to use TIME at a group (class) level, as well as with individual students? Could an electronic version of the school staff training or the intervention itself be designed? Obviously, these new versions would have to be tested for effectiveness.

Focusing on the theory used in TIME, it would be interesting and worthwhile to study which of the four components in the intervention (affect, cognition, behavioral intentions, or distractions) is the most effective. Or, it might be that the whole of the three components of the time perspective concept (affect, cognition, behavioral intentions), possibly together with the distractions component, lead to an internalization of learning goals that motivates students to learn.

This kind of research could also provide information on the process by which TIME influences motivated learning behavior. Further study of the process is needed to gain a better understanding of the working of the intervention. Furthermore, an understanding of how TIME exerts an influence could be very useful for other interventions yet to be developed.

It would be worthwhile focusing on the usefulness of TIME and on possible differences in effectiveness for students from different backgrounds. Do gender, age, and school level, for instance, affect the intervention's effectiveness? The effectiveness of TIME for students with different social and ethnic backgrounds, parental educational level, or mother tongue could be studied in more detail, as we found differences in effectiveness in some of our studies for students with different individual and social backgrounds. Research focusing on these differences would be a good next step to take.

In addition to its usefulness for students from different backgrounds, the effectiveness of TIME in schools with different educational concepts could be interesting line of investigation for both learning practice and theory. Many schools nowadays work with innovative educational concepts, where students have more choice about what they learn and how, where the usefulness of what they learn, for now and for later, is incorporated in the educational concept. It is possible that TIME would be less useful at such schools than at schools with a rather traditional educational

philosophy. After all, students at schools adopting such innovative approaches might already see more clearly the connection between their school work and benefits to them now and later.

The four studies found little effect on achievement goals or on the time perspective itself. It could be that TIME did not make achievement goal orientations and future time perspectives on school and a professional career more positive, but only made the students show more motivated learning behavior, as mentioned in the last paragraph. It could also be that effects of TIME could be found if other measures of achievement goals or of future time perspectives, such as observations or student essays, had been used. Such measures might also provide information on the process behind the found effects on motivated learning behavior.

Conclusion

The results of our study affirm that the TIME intervention is a practical and effective intervention to stimulate students' motivated learning behavior in school. The intervention seems to strengthen the connection between learning in school and future goals by helping students to construct a contingent path of intermediate steps. TIME is easily implemented and can be used by teachers with a relatively short training of about two hours, which makes the intervention very user friendly. In addition, positive reactions of teachers after they used the intervention with their students are very important for the use of TIME in schools. Teachers told us that they learned things from their students that they had never heard before, so what they experienced was useful.

We conclude by arguing that it is at least worthwhile for schools to consider paying attention in some way to the motivation for school of individual students. The TIME intervention is of course only one of many possibilities for schools to provide care and guidance for their students. For example, the results of our studies also indicated that only interviewing students about their motivation for school had some positive effects on students' motivated learning behavior. Also, in our study with TIME in upper secondary vocational education, we found that the interviews significantly reduced dropouts from the course after the first

year, although the effect of TIME on the dropout rate was stronger. The results from the four studies with TIME and the interviews provide enough reason to recommend that schools pay attention to individual students' motivation.

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