What makes a motivating teacher? Teachers' motivation and beliefs as predictors of their autonomy-supportive style

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Abstract

Findings from several studies suggest that teachers who embrace an autonomy-supportive style vis-à-vis their students promote student motivation. However, the question of what makes teachers adopt this supportive style remains unanswered. Using Self-Determination Theory as a framework, we suggest that teachers' own motivation and their beliefs about student motivation are predictors of their tendency to opt for an autonomy-supportive rather than a controlling style. One hundred and fifty-four teachers completed a questionnaire designed to assess their type of motivation to teach, what they believe is desirable student motivation, and the level to which they opt for behaviors that support student autonomy. Our findings suggest: Firstly, that teachers who teach out of interest and enjoyment, and value their work (autonomous motivation), tend to believe that the learning of students who are autonomously motivated benefits more; secondly, that teachers who believe that autonomous motivation is desirable for their students' learning also tend to opt for an autonomy-supportive rather than a controlling style; thirdly, that teachers who are autonomously motivated themselves are more likely to adopt an autonomy-supportive style, especially when they also believe that autonomous motivation is desirable for their students' learning. The study's findings highlight the importance of a teacher's own motivation and beliefs as factors that promote autonomy-supportive behavior in the classroom.

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In 1996, the United Nations Educational, Scientific and Cultural Organization (UNESCO) published a book dealing with the question of *What Makes a Good Teacher*? (Carron & Chau, 1996). Over 500 students from 50 countries concluded that good teachers are those who support students emotionally and cognitively. Other studies have attempted to identify the qualities of effective teachers from the perspectives of both students and teachers, suggesting that good teachers are those who explain clearly, help students with their work, and are fair (Beishuizen, Hof, Putten, Bouwmeester, & Asscher, 2001). Students also placed high value on leadership, organization, empathy, understanding, and friendliness (Mullock, 2003).

When seen through the lens of Self-Determination Theory (SDT; Deci & Ryan, 2000), good teachers are those who support their students' needs for autonomy, competence and relatedness. Indeed, the extent to which teachers support students' needs, and specifically the need for autonomy, was found to have a major effect on the type of motivation students develop (Reeve, 2009). Students of autonomy-supportive teachers were found to have adopted a more autonomous type of motivation. They were more interested, placed a higher value on learning, were more engaged in their learning, had higher self-regulation, achieved more, and enjoyed a higher quality of well-being (Reeve, 2009). Students of controlling teachers were found to have a more controlled type of motivation. They experienced a higher sense of coercion, manifested poor engagement, possessed a lower ability to self-regulate their learning, achieved less, and suffered a lower sense of well-being (Shih, 2012; Soenens, Sierens, Vansteenkiste, Dochy, & Goossens, 2012; Studsrød & Bru, 2012). Although a teacher's autonomy-supportive style was found to be beneficial for motivating their students, and an autonomy-controlling style was found to have negative consequences, the question 'What makes a teacher behave in an autonomy-supportive or controlling way?' has received little attention, and its answer remains unclear.

In light of SDT's basic assumptions, we suggest two variables that can predict a teacher's preference for a supportive or controlling motivating style: A teacher's own motivation to teach, and their beliefs about desirable student motivation. A teacher's own motivation to teach means how much they teach for autonomous or intrinsic reasons (motivation), such as enjoyment, interest, and valuing their work, versus for controlled motivation such as lack of choice, external benefits, and a sense of coercion. A teacher's beliefs about desirable student motivation means how much teachers believe that students who learn from autonomous motivation such as interest and value, versus those who learn from controlled motivation such as fear, shame or striving for better grades, have a more desirable motivation.

In our investigation, we aim to better understand the various forces that affect student motivation, and specifically the role that teachers play in student

motivation. If our intention is to increase the number of teachers who support student autonomy, and thus enhance their motivation, we should better understand what makes teachers behave in this way.

The SDT's basic assumptions

SDT (Deci & Ryan, 2000) is a theory of human motivation that recognizes an external–internal continuum of motivational orientations. At one end of the continuum is behaving out of coercion or to achieve a reward (controlled/extrinsic motivation), and at the other end is behaving out of pleasure, interest, enjoyment, and understanding the rationale of behavior (autonomous/intrinsic motivation). The results of various studies of this theory suggest that people who are engaged as a result of autonomous motivation are more meaningfully engaged, experience a higher sense of well-being, and achieve more than those who are engaged as a result of controlled motivation (Jang, Reeve, & Deci, 2010; Katz, Madjar, & Harari, 2014). The satisfaction of three basic psychological needs – autonomy, relatedness, and competence – by significant others such as parents or teachers often leads to autonomous internalization of behaviors that are initially extrinsic in origin (Deci & Ryan, 2000).

SDT not only provides theoretical explanations of the relations between a teacher's behaviors and their students' outcomes, but also provides detailed practical descriptions of teachers' behaviors that support a student's autonomous-motivation to learn. Motivation-supportive behaviors in the classrooms include: Presenting interesting and relevant learning activities, providing optimal challenges, highlighting meaningful learning goals, supporting students' volitional endorsement of classroom behaviors, and allowing students to express negative emotions and criticism (Aelterman, Vansteenkiste, Van den Berghe, De Meyer, & Haerens, 2014; Katz, Kaplan, & Guetta, 2010). Jang et al. (2010) examined two particular engagement-promoting aspects of a teacher's motivating style: Provision of autonomy support (as opposed to controlling) and provision of structure (as opposed to chaos), and suggested that a combination of these behaviors is most beneficial for enhancing student motivation. In this study, we ask whether a teacher's own motivation to teach and their beliefs about student motivation can predict the level to which they tend to adopt the autonomy-supportive or the controlling motivating style.

A teacher's motivation to teach

There has been insufficient research into teachers' motivation, and the effect it might have on their students' learning and behavior (Butler, 2007; Janke, Nitsche, & Dickhäuser, 2015; Kaplan, 2014; Lam, Cheng, & Choy, 2010). The few studies that have investigated teachers' motivations have suggested that the types of motivation that drive teachers in their classrooms can influence various behaviors and practices (Roth, Assor, Kanat-Maymon, & Kaplan, 2007; Spittle,

Jackson, & Casey, 2009). For example, Roth et al. (2007) demonstrated that teachers who are autonomously motivated promote a student's autonomous motivation for learning by behaving in a supportive manner. Other studies on motivation in workplaces support the important effect that motivation has on the quality of work output and behavior (Ryan, Patrick, Deci, & Williams, 2008). Accordingly, we suggest that the type of motivation that teachers embrace is associated with their motivating style. That is, teachers who teach in favor of autonomous motivation will tend to be autonomy-supportive of their students (Roth et al., 2007). We assume that teachers' motivation is a key variable in predicting their motivating style; however, we also investigate the effect that this motivation has on a teacher's beliefs about student motivation, and the mechanism by which motivation and beliefs affect a teacher's motivating style.

Teachers' beliefs about motivation

Kagan (1992) defined teachers' beliefs to be their consciously or unconsciously held assumptions about themselves, their students, the classrooms, and the academic material that guides their decisions regarding the teaching process, and affects their teaching strategies and behaviors (Raths & McAninch, 2003). There has been relatively little research examining teachers' beliefs about motivation (Reeve et al., 2014; Roth & Weinstock, 2013). Some of the available information about how teachers' beliefs regarding motivation affect their motivating strategies and behaviors comes from research on managers' beliefs and behaviors regarding employee motivation (Facer, Galloway, Inoue, & Zigarmi, 2014). All these studies suggest that teachers' beliefs affect their classroom behavior, practices, and student outcomes (Grumm & Hein, 2013), and that a teacher's beliefs regarding motivation go some way towards explaining the variance in teachers' motivating styles (Reeve et al., 2014). Reeve et al. (2014) suggest that the reason why some teachers tend towards either an autonomous or a controlling style is because they believe that such a style is effective, or the other style is ineffective. Therefore, it is reasonable to assume that teachers who believe in the greater effectiveness of autonomous motivation will behave in ways that promote this motivation in their students and will, accordingly, be more supportive of their students' autonomy.

   The relationships hypothesized in the present study are based on the assumptions of the SDT that the type of motivation a person embraces not only affects their behavior, but also affects their emotions, insights and beliefs (Pelletier, Seguin-Levesque & Legault, 2002). Since we know that autonomous motivation is associated with positive emotional outcomes (Katz et al., 2014), we will consider whether the positive emotional experience of teachers who teach out of autonomous motivation might influence their beliefs about the desirability of such motivation for student learning. Moreover, a large body of research suggests that emotions have an impact on actions and, therefore, 'can awaken, intrude into, and shape beliefs by amplifying or alternating them' (Frijda, Manstead, & Bem,

2000, p. 5). Recent research investigating the role of emotion in teaching suggests that emotion may play a critical role in changing a teacher's beliefs (Ashton & Gregoire-Gill, 2003). If emotions have the power to change beliefs, a reasonable assumption is that the beliefs are dependent on emotions. Accordingly, it is reasonable to assume that teachers who feel autonomously motivated shape their beliefs about the way motivation works, and tend to believe that autonomous motivation is desirable in their students.

Hypotheses

In view of the above discussion, we formulated four hypotheses:

Hypothesis 1. There is a correlation between teachers' own motivation and their tendency to opt for a supportive or a controlling motivating style. We expect that teachers who teach out of enjoyment, interest, and valuing their work (autonomous motivation) will manifest a higher tendency to opt for an autonomy-supportive motivating style.

Hypothesis 2. There is a correlation between teachers' own motivation and their beliefs about desirable student motivation. We expect that teachers who teach out of enjoyment, interest, and valuing of their work (autonomous motivation) will express a stronger belief that students who learn out of autonomous motivation, such as interest and value, have a desirable motivation to learn.

Hypothesis 3. There is a correlation between teachers' beliefs about desirable student motivation and their tendency to opt for a supportive or a controlling motivating style. We expect that teachers who believe that students who learn out of autonomous motivation have a desirable motivation, will manifest a higher tendency to opt for an autonomy-supportive motivating style.

Hypothesis 4. The relationship between teachers' motivation and their tendency to opt for a supportive motivating style will be mediated by teachers' beliefs about desirable student motivation. Thus, teachers' autonomous motivation will be associated with their belief that students who learn out of autonomous motivation have a desirable motivation, which in turn be associated with their tendency to opt for a supportive motivating style.

Method

Participants

The study involved 154 female Israeli teachers (M age $= 40.3$, SD $= 10.55$; M years in teaching $= 14.7$, SD $= 10.52$). The teachers teach at various school levels (elementary, 57%; middle school, 14%; and high school, 29%). Furthermore, 55%

teach within the mainstream education system and 45% are special education teachers.

Procedure

The researchers distributed questionnaires to teachers at their schools during teachers' conferences, and collected them a few days later. Questionnaires were randomized to control for order effects.

Measures

All the scales used in this study are based on published scales that have been modified to fit the context of the current study. Participants indicated the extent to which they agreed with each item by using a five-point Likert scale, ranging from 1 (not at all) to 5 (very much).

A teacher's belief about desirable student motivation was assessed using a scale modified from Ryan and Connell's (1989) scale of perceived locus of causality in academic activity (Katz & Cohen, 2014). In the format developed by Ryan and Connell (1989), a list of reasons or motivations to learn is presented to the students. For example, in the original format, students were asked to assess the extent to which they study out of interest; in the adaptation, we asked the teachers to indicate how desirable it is for student learning if motivation is based on interest. Teachers responded to seven items ranging from those representing students who study for reasons of autonomous motivation ('A motivated student is a student who studies out of understanding the value of the subject he/she is studying') to those representing students who study for reasons of controlled motivation ('A motivated student is a student who studies in order to win a prize'). The teachers were asked to rate the level at which they believe each item represents a desirable motivation for learning.

We examined the construct validity of the controlled and autonomous motivation scales using separate factor analyses with varimax rotation. The factor analyses resulted in a two-factor solution. Every item was loaded on the appropriate domain factor and the loadings were all high and unique (above 0.66 for autonomous motivation, and above 0.57 for controlled motivation). The factors extracted for controlled motivation accounted for 35.22% of the variance, and those extracted for autonomous motivation accounted for 23.50%. We created an indicator of autonomous motivation as being desirable by taking an average of the scores on the seven items pertaining to autonomous motivation (Cronbach's α coefficient $= 0.81$), and likewise an indicator of controlled motivation as being desirable by taking an average of the scores on the items pertaining to controlled motivation (Cronbach's α coefficient $= 0.91$). The correlation between autonomous and controlled motivation items was not significant ($r = 0.03$). Based on previous studies that found negative or no correlation between the indicators for controlled and autonomous motivation, we created a global index of relative autonomous

beliefs about motivation by subtracting the controlled motivation scale from the autonomous motivation scale (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). Since people are generally motivated by both autonomous and controlled motivation, this relative autonomous index represents the relative proportion of each. Higher values of the global index represent a stronger belief that autonomous motivation is the desirable leaning motivation for students (Range = 0.86–3.75, $M = 1.76$, SD = 0.96).

A teacher's tendency to opt for an autonomy-supportive or a controlling motivating style was assessed using 'The Problem in School Questionnaire' (Deci, Schwartz, Sheinman, & Ryan, 1981). Teachers were presented with eight short 'school world' stories, and were asked to choose a preferred behavior out of various behaviors representing different levels of autonomy-supportive or controlling practices. We examined the construct validity of the autonomy-supportive and controlling practices scales using separate factor analyses with varimax rotation. The factor analyses resulted in a two-factor solution. Every item was loaded on the appropriate domain factor and the loadings were all high and unique (above 0.47 for autonomy-supportive practices and above 0.43 for controlling practices). The factors extracted for controlling practices accounted for 23.44% of the variance, while those extracted for autonomy-supportive practices accounted for 17.12%.

Higher values represent greater support for the autonomy-supportive motivating style, (Cronbach's α coefficient = 0.89, Range = 0.13–3.13, $M = 3.03$, SD = 1.15).

A teachers' own motivation to teach was assessed using a scale adopted from Ryan and Connell's (1989) scale of perceived locus of causality, and modified to the context of motivation for working as a teacher. We created an indicator of controlled motivation by averaging the scores on the items pertaining to controlled motivation to teach ('I am working as a teacher because of the salary and other benefits'; and 'I am working as a teacher in order to improve myself for a better position in school'), (Cronbach's α coefficient = 0.82). We examined the construct validity of the controlled and autonomous motivation scales using separate factor analyses with varimax rotation. The factor analyses resulted in a two-factor solution. Every item was loaded on the appropriate domain factor and the loadings were all high and unique (above 0.41 for autonomous motivation and above 0.51 for controlled motivation). The factors extracted for controlled motivation accounted for 26.1% of the variance, while those extracted for autonomous motivation accounted for 24.66%.

We created an indicator of autonomous motivation by averaging the scores on the items pertaining to autonomous motivation to teach ('I am working as a teacher because that way I can fulfil my values'; and 'I am working as a teacher because I enjoy it') (Cronbach's α coefficient = 0.79).

The correlation between autonomous and controlled motivation items was not significant, ($r = 0.06$). Based on previous studies that found negative or no correlation between the controlled motivation and autonomous motivation indicators, we created a global index of relative autonomous motivation to teach by subtracting

the controlled-motivation scale from the autonomous-motivation scale (Vansteenkiste et al., 2005). Higher scores of the global index represented an autonomous motivation to teach, (Range $= -0.57$–3.83, $M = 2.03$, SD $= 0.94$).

Results

In order to test the research hypotheses, we first analysed the correlation between the research components. As predicted (Hypothesis 1), we obtained a positive correlation between teachers' autonomous motivation and their tendency to opt for an autonomy-supportive motivating style, ($r = 0.49$, $p < 0.001$). Also as predicted (Hypothesis 2), we obtained a positive correlation between teachers' autonomous motivation and their belief that autonomous motivation is a desirable student motivation, ($r = 0.40$, $p < 0.001$). In support of Hypothesis 3, we obtained a positive correlation between teachers' belief that autonomous motivation is a desirable student motivation and their tendency to opt for a supportive rather than a controlling motivating style, ($r = 0.44$, $p < 0.001$).

We assessed Hypothesis 4, that a teacher's belief about desirable student motivation is a mediator of the relationship between teachers' autonomous motivation and their tendency to opt for a supportive motivating style, calculating the Bootstrap Confidence Interval with 5000 resampling (Preacher & Hayes, 2004). The 95% confidence Interval was [0.05, 0.21] with an indirect effect value of 0.12 ($p < 0.01$). Because these intervals did not contain zero, the conditional indirect effect significantly differed from zero, (Cronbach's α coefficient $= 0.05$, Sobel test $= 3.17$, $p < 0.01$). When performing a test of regression the beta coefficient for the relationship between a teacher's autonomous motivation to teach and a teacher's tendency to opt for a supportive motivating style is 0.37 ($t = 0.5.04$, $p < 0.001$, SE $= 1.32$), and the beta coefficient for the relationship between a teacher's belief that an autonomous motivation is a desirable student motivation and a teacher's tendency to opt for a supportive motivating-style is 0.29 ($t = 3.99$, $p < 0.001$, SE $= 1.28$) ($R^2 = 31.3$, $F(2,151) = 34.34$, $p < 0.001$, Cohen's effect size (f^2) $= 0.45$). Thus, a teacher's belief that an autonomous motivation is a desirable student motivation represents a partial mediator between teachers' motivation and their tendency to opt for a supportive motivating style. The results are presented in Figure 1.

Discussion

A central goal of educational practitioners and researchers has been to find ways to motivate students to learn. Research has focused mainly on what teachers can do in order to enhance student motivation, suggesting that teachers who embrace an autonomy-supportive style vis-à-vis their students better promote their motivation. However, only a few studies have assessed why some teachers adopt an autonomy-supportive rather than a controlling style. In the present study, we have addressed this gap in motivational research. We suggest that, in order to achieve a complete
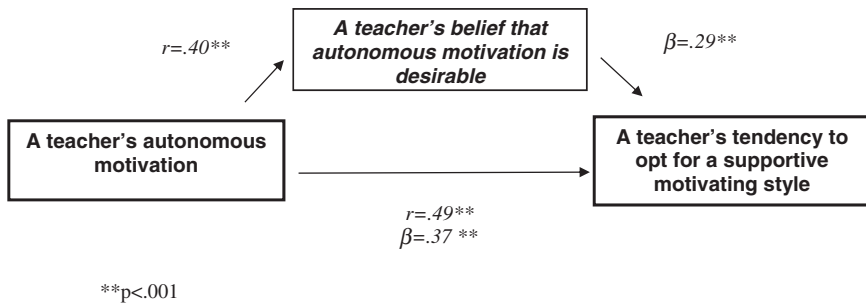
Figure 1. The mediating role of a teacher's belief that an autonomous motivation is a desirable student motivation.

picture of motivation in the classroom, it is not sufficient to study and understand teachers' practices in isolation; it is of no less importance to understand why teachers actually use or do not use these practices.

The results of the current study suggest that teachers' own motivation to teach is central to their motivating style. That is, teachers who teach out of interest, enjoyment, a sense of purpose, and an understanding of their importance and role in their students' lives tend to opt for a more autonomy-supportive motivating style. The results of this study also demonstrate that a teacher's beliefs about desirable motivation for students play a mediating role. Besides the direct association between teachers' motivation and their motivating style, teachers' motivation is also associated with their beliefs, which in turn are associated with their motivating style. This result suggests that those who are interested in helping teachers to adopt a more supportive style of behavior can make an effort to enhance a teacher's motivation to teach, inasmuch as the results of this study suggest that such motivation is associated with the teacher's motivating style. They can also help teachers to modify their beliefs towards the direction of the desirability of greater autonomous motivation, which is also associated with the teacher's motivating style.

Implications for school psychologists

A basic assumption of the SDT is that people whose needs have been satisfied will adopt an autonomous type of motivation. This has been found repeatedly in studies conducted in such varied contexts as students in schools (Katz & Cohen, 2014), patients and their doctors (Ryan et al., 2008), and workers in the workplace (Baard, Deci, & Ryan, 2004). Although teachers are usually depicted as supporters of students' needs, teachers are also workers in the school, and their needs also need satisfying. Like a worker in any workplace, teachers who feel supported adopt motivation that is more autonomous. Therefore, school psychologists who are interested in promoting students' effective motivation can educate teachers about the importance and effects of their beliefs and motivational tendencies, and ensure

that teachers' needs are supported. The principles of supporting teachers' needs are similar to those of supporting students' needs. School psychologists can support teachers by showing interest in them, and should welcome teachers' perspectives, and take into account their feelings. They can offer teachers meaningful choices that allow them to express their unique qualities, and encourage teachers to explore the rationale behind and the personal relevance of their actions. They can present clear expectations, provide positive informational feedback, and suggest directions to attain desired pedagogical or personal goals. They can also foster their bond with teachers by interacting with them in a warm fashion, and by showing a personal interest in them.

School psychologists can support teachers individually by providing a platform for teachers to share their emotions, concerns, and difficulties. They can support teachers as a group by establishing a positive staffroom climate (Grayson & Alvarez, 2008). This can be done in collaboration with the school principal in order to establish an environment that is sensitive to the teachers' needs, to provide emotional and pedagogical support, and to ascertain that good stable personal relationships exist among teachers and also between teachers and the school administration, thus enabling a sense of relatedness. Supported and thus satisfied, teachers will have higher autonomous motivation and, in line with the results of the present study, will better support their students.

Another way to influence a teacher's motivating style that has emerged from the results of this study is to help teachers to modify their beliefs about motivation in the direction of greater autonomy. Although some studies have suggested that beliefs are not easy to change, since they are formed over many years of experience and through a process of social construction (Pajares, 1992), some change can occur when using instructional approaches that challenge beliefs (Joram & Gabriele, 1998). For example, Kagan (1992) has argued that education or a professional development program can successfully create a belief change among teachers, by making their beliefs explicit, and then challenging their adequacy, and by providing opportunities to examine and integrate new information. School psychologists can target their intervention with teachers to address these steps while providing teachers with the platform to discuss and challenge their beliefs. This can be done in teachers' support groups conducted by the school psychologist that provide the opportunities for teachers to discuss emotional, motivational, and pedagogical conflicts, and these will also contribute to collaboration among teachers as suggested by various SDT-based interventions (Aelterman et al., 2014; Su & Reeve, 2011).

Limitations and future studies

This study has several important limitations. Firstly, all data were collected at the same time. Testing mediation using cross-sectional data may be misleading as it ignores the causal processes underlying mediation (Maxwell & Cole, 2007). Secondly, the sample in the current study was small and included only female

teachers. In future studies, a larger sample including male and female teachers from various backgrounds should be examined in order to make generalizations. We recommend that future studies should not just rely on teachers' self-reports, but assess the actual support teachers provide to students by using classroom observations or through students' reports. Moreover, collecting students' reports regarding variables of emotions, motivation, and learning can directly assess the beneficial or detrimental effects of teachers' motivating style on students' outcomes. We should also investigate teachers' other beliefs that could affect their behavior. Future studies can also address various ways of supporting teachers' needs, and offer help in modifying their beliefs.

Conclusions

The current study provides a preliminary look into the mechanisms underlying a teacher's motivating style. The novelty of this study is its attempt to highlight the need to focus on the teachers themselves in order to achieve a complete picture of the effect that teachers have on student motivation. The finding that teachers' motivation and beliefs are associated with their motivating style calls for further research that focuses on teachers not only as 'providers' of support, but also as 'consumers' of such support. School psychologists who are made aware of the mechanisms suggested in this study can support teachers so that they will be better motivated, attain a greater sense of well-being, and modify their beliefs together with their ability and strength to support their students.

Note

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