Why students become more engaged or more disengaged during the semester: A self-determination theory dual-process model

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ABSTRACT

We adopted a dual-process model within a self-determination theory framework to investigate why students sometimes veer toward a longitudinal trajectory of rising classroom engagement during the semester and why they other times tend toward a trajectory of rising disengagement. Measures of perceived autonomy support, perceived teacher control, need satisfaction, need frustration, engagement, and disengagement were collected from 366 (174 females, 192 males) Korean high-school students using a three-wave longitudinal research design. Multi-level structural equation modeling analyses found that perceived autonomy support predicted longitudinal changes need satisfaction which predicted changes in engagement and also that perceived teacher control predicted longitudinal changes need frustration which predicted changes disengagement. Reciprocal effects also emerged in that extent of disengagement predicted both longitudinal increases in students' perceptions of teacher control and decreases in perceptions of teacher autonomy support. We conclude that students tend toward a semester-long trajectory of rising engagement when they perceive their teachers to be autonomy supportive and need satisfying while they tend toward a trajectory of rising disengagement when they perceive their teachers to be controlling and need frustrating.

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Over the course of a semester, students' classroom experience can veer toward a productive trajectory of rising perceived teacher support, motivational satisfaction, and classroom engagement, or it can veer off on a counter-productive trajectory of rising perceived teacher control, motivational frustration, and classroom disengagement. The direction such a trajectory takes depends a good deal on how supportive *vs.* conflictual students perceive the classroom teacher to be toward them (Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015), but this perception of teacher support *vs.* conflict itself depends on how engaged *vs.* disengaged students are during classroom instruction (Sarrazin, Tessier, Pelletier, Trouilloud, & Chanal, 2006). In the present paper, our goal was to utilize a self-determination theory framework to understand the complex and potentially reciprocal classroom dynamics that explain why students might veer either toward a longitudinal trajectory of rising engagement and greater teacher support or toward a trajectory of rising disengagement and greater teacher control.

1. Self-determination theory

Self-determination theory (SDT) is an approach to motivation that highlights people's psychological needs (autonomy, competence, and relatedness) as inherent motivational assets that, when supported, facilitate optimal functioning and psychological well-being (Ryan & Deci, 2000a). When applied to the classroom context, the source of students' need support is often the teacher's motivating style (Reeve, 2009). When need supportive, the teacher acts as a social-contextual facilitator of students' need satisfaction and optimal functioning; but when controlling, the teacher acts as a social-contextual thwart of these same processes. Within such a theoretical framework, a teacher's motivating style is understood in terms of autonomy support *vs.* teacher control; student motivation is understood in terms of need satisfaction *vs.* need frustration; and student functioning is often understood in terms of engagement *vs.*

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disengagement (Reeve, Deci, & Ryan, 2004; Ryan & Deci, 2000a, 2000b; Skinner, Kindermann, & Furrer, 2009).

As evidenced by both experimental manipulations (Cheon, Reeve, & Moon, 2012) and longitudinal surveys (Jang, Kim, & Reeve, 2012), autonomy-supportive teaching (the delivery of instruction through an interpersonal tone of support and understanding; e.g., perspective taking, creating opportunities for initiative) enhances students' positive classroom functioning (e.g., engagement, conceptual learning, well-being), and it does so because it nurtures and supports students' autonomy, competence, and relatedness need satisfaction during instruction. Hence, the primary reason students show robust classroom engagement is because they first experience engagement-energizing psychological need satisfaction (Cheon et al., 2012; Jang et al., 2012), and the primary reason why students experience need satisfaction in the first place is because their teachers adopt an autonomy-supportive style toward them (Cheon & Reeve, 2013; Reeve & Jang, 2006). These processes are represented by SDT's motivation mediation model: Teachers' motivating style → students' need satisfaction → students' positive outcomes (Cheon et al., 2012; Deci et al., 2001; Jang, 2008; Jang et al., 2012; Jang, Reeve, Ryan, & Kim, 2009).

One shortcoming of the motivation mediation model is that it features only unilateral and not reciprocal effects. This is a shortcoming because teachers do tend to respond to displays of students' engagement–disengagement with changes in their motivating style. For instance, one investigation showed that teachers become more controlling when students show behavioral disengagement (e.g., minimal or no effort; Sarrazin et al., 2006), a second investigation showed that students perceived their teachers as becoming increasingly autonomy supportive following student displays of agentic engagement (e.g., show initiative, ask questions; Reeve, 2013), and a third investigation showed how these reciprocal teacher-student relations unfold longitudinally in naturally-occurring classrooms over the course of a semester (Jang et al., 2012).

SDT's motivation mediation model explains students' positive classroom functioning rather well. As researchers turned their attention to understanding students' non-optimal and even maladaptive classroom functioning, however, they found that the primary reason students experienced disengagement, amotivation, negative affect, intentional non-participation, exhaustion-burnout, bullying, anti-social behavior, adverse physical symptoms, and various dysfunctional behaviors (e.g., disordered eating, depression) was not so much because of low need satisfaction during instruction but rather because of high need frustration (Bartholomew, Ntoumanis, Ryan, Bosch, & Thogersen-Ntoumani, 2011a; Gunnell, Crocker, Wilson, Mack, & Zumbo, 2013; Hein, Koka, & Hagger, 2015; Unanue, Dittmar, Vignoles, & Vansteenkiste, 2014). An experience of need frustration tends to thwart autonomous motivation and task-involvement (i.e., intrinsic goals, immersed attention in the activity) and to replace them with compensatory controlled motivation and ego-involvement (extrinsic goals, redirected attention toward outperforming others; Vansteenkiste, Matos, Lens, & Soenens, 2007). And, the primary reason why students experience need frustration is because their teachers adopt a controlling motivating style toward them (De Meyer et al., 2014; Standage, Duda, & Ntoumanis, 2005).

To explain both optimal and non-optimal functioning, self-determination theorists now highlight two differentiated explanatory processes (Haerens et al., 2015; Ryan & Deci, 2000b; Vansteenkiste & Ryan, 2013). On the one hand, autonomy-supportive teaching vitalizes the "brighter" side of students' motivation and functioning: Autonomy-support → increased need satisfaction → increased engagement. On the other hand, teacher control rouses the "darker" side of students' motivation and

functioning: Teacher control → increased need frustration → increased disengagement. This distinction has led SDT researchers to propose a dual-process model, and empirical research on this model has shown that autonomy support is one distinct pathway to facilitate students' need satisfaction and optimal functioning while teacher control is a second distinct pathway to promote students' need frustration and non-optimal functioning (Bartholomew, Ntoumanis, Ryan, & Thogersen-Ntoumani, 2011a; Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011b; Gunnell et al., 2013; Haerens et al., 2015; Ng, Ntoumanis, Thogersen-Ntoumani, Stott, & Hindle, 2013; Unanue et al., 2014).

2. Dual-process model

The dual-process model within a self-determination theory framework is built on a differentiated view of the social-contextual environment, of student motivation, and of student outcomes. That is, teachers' perceived motivating style is differentiated into the distinct processes of perceived autonomy support and perceived teacher control, student motivation is differentiated into the distinct processes of need satisfaction and need frustration, and student outcomes are differentiated into those that are adaptive and optimal (e.g., engagement) and those that are maladaptive and non-optimal (e.g., disengagement). Further, these differentiated processes are not only conceptually distinct, but each has its own unique set of antecedents and outcomes. The aim of the dual-process model, at least relative to the traditional motivational mediation model, is to better explain students' experience of need frustration and non-optimal functioning. The dual-process model acknowledges the bright side aspects that explain the conditions under which students tend toward a semester-long trajectory of greater support, motivational satisfaction, and engagement, but is ads a new emphasis on the dark side aspects that further explain the conditions under which students tend toward a semester-long trajectory of greater control, motivational frustration, and disengagement.

As to the distinction within students' perceptions of their teacher's motivating style, several classroom-based studies find that autonomy-supportive and controlling teaching are negatively correlated but only mildly so ($r = -.15$ in Haerens et al., 2015) or only moderately so ($r = -.38$ in Cheon & Reeve, 2013; $r = -.49$ in Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011b). SDT researchers now make the distinction between these two aspects of motivating style because the absence of autonomy support is not necessarily the presence of teacher control, just as the absence of teacher control is not necessarily the presence of autonomy support.

As to the distinction within students' psychological needs, newly developed questionnaire measures now assess not only need satisfaction (e.g., "I feel free.") but also need frustration (e.g., "I have to do things against my will."), and these investigations find that need frustration is not just the opposite of need satisfaction but instead is a separate motivational experience (Chen et al., 2015; Sheldon & Hilpert, 2012). The opposite of need satisfaction is not need frustration (e.g., "I feel rejected by those around me") but, rather, is need dissatisfaction (e.g., "I don't have opportunities to interact with others"), which is an experience of need neglect or a lacking of opportunities for need satisfaction (Costa, Ntoumanis, & Bartholomew, 2015). Need frustration, in contrast, is closely linked to active need thwarting. When need satisfaction and need frustration are assessed together, researchers find that they are only moderately negatively correlated ($r = -.39$ in Bartholomew, Ntoumanis, Ryan, Bosch, et al., 2011b; $r = -.40$ in Cheon & Reeve, 2015; $r = -.47$ in Unanue et al., 2014). Further, these investigations find that need satisfaction tends to predict one class of