Studying against your will: Motivational interference in action

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ABSTRACT

Motivational interference refers to affective, cognitive, and behavioral impairments during a focal activity due to conflicting action tendencies. In the present study, we focused on antecedents and domain-specific consequences of motivational interference during everyday study activities using an experience sampling approach. Fifty-eight university students provided real-time reports on their daily studying activities ($N = 672$) over the course of one week. They reported on their momentary affect, whether they experienced motivational conflict during their study activities, and, if so, indicated when this feeling emerged. After the experience sampling period, they reported on their academic and social adaptation as well as their study satisfaction, and rated their relative performance. Compared with non-conflicted studying activities, we found considerably lower positive affect during conflicted studying. Conflicts that existed before the initiation of the study activity, and conflicts that emerged during studying, yielded affective impairments. As expected, aggregated conflict experiences negatively predicted measures of academic functioning, but not students' social adaptation. The discussion focuses on motivational antecedents of interference effects during self-regulated learning.

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1. Introduction

When it comes to the explanation of learning behavior, most theories of academic motivation focus on the motivational characteristics of the learning activity itself. For example, Self-Determination Theory (e.g., Deci & Ryan, 2000) proposes that sustained learning depends on whether the learning activity provides opportunities to feel autonomous, competent, and related to significant others. Expectancy-Value Theory (e.g., Eccles & Wigfield, 2002) proposes that sustained learning depends on expectations and value beliefs associated with the learning activity. Achievement Goal Theory (e.g., Kaplan & Maehr, 2007) proposes that with regard to academic activities, students who pursue mastery and performance-approach goals rather than performance-avoidance goals show better learning outcomes.

In the current research, we investigate another motivational explanation for the understanding of learning behavior in everyday life that may complement these well-established theories. Essentially, we propose that when it comes to motivation, learning behavior must not be viewed in isolation, but rather in the context of student's multiple intentions. For all students, there is life outside of studying and achievement that may be regarded by them as

equally, or even more, important. They pursue many non-academic goals (Brint & Cantwell, 2008) that sometimes may replace or interfere with their academic pursuits. In the following, we refer to the consequences of these conflict constellations as *motivational interference*. Applying an experience sampling approach, we focus on motivational conflicts during daily studying activities: how often they occur, how they impair ongoing action, and how they relate to different measures of academic functioning. Of course, motivational conflicts may also be experienced in other life domains (e.g., leisure time; see Ratelle, Vallerand, Senécal, & Provencher, 2005). In another paper drawing on the same sample, we investigated in how far so-called want and should conflicts (i.e., feelings that one wants to vs. should do something else) show differential relationships with different self-regulatory styles, and with different facets of well-being (Grund, Grunschel, Bruhn, & Fries, 2015). Hence, the present study is unique in that we perform an in-depth analysis of specific difficulties in self-regulated learning.

Concurring action alternatives are seldom explicitly considered in theories on (learning) motivation. Two approaches that acknowledge the multiplicity of action tendencies in everyday life are the Rubicon Model of Action Phases (e.g., Heckhausen, 1991) and the concept of motivational interference (e.g., Fries, Dietz, & Schmid, 2008). In brief, the Rubicon Model proposes that a potential conflict between competing action tendencies should be settled with the decision for a specific alternative, hence promoting a relatively smooth course of action. By contrast, motivational interference theory proposes that neglected alternatives retain their motivational power and impair ongoing self-regulation. In the following,

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we illustrate both approaches before we derive the research questions for the present article.

1.1. The Rubicon Model of Action Phases

An integrative framework of motivation during the course of action is provided by the Rubicon Model of Action Phases (Gollwitzer, 1990; Heckhausen, 1991). In this model, goal-directed behavior is broken down into four action phases. In the first, pre-decisional phase, individuals choose which of their several current "wishes" they prefer to pursue. The weighing that happens at this point is considered to follow the mechanism of expectancy-value theories (e.g., Eccles & Wigfield, 2002; Feather, 1982); that is, the more likely the successful attainment of an alternative and the higher the value attributed to it, the higher its preference. Due to its evaluative character, this phase is considered to be motivational in nature. Then, one of these many wishes is transformed into an intention, characterized by a feeling of determination with regard to the desired end state. This deliberate intention building constitutes the eponymous step in the model and an important qualitative transition. Metaphorically, one has crossed the Rubicon and there is no way back in terms of motivational dithering. One enters the second (planning) phase which—together with the third (action) phase—is characterized by a volitional mindset that operates in a partisan fashion and stops the "bubble of competing inner voices" (Gollwitzer, 1990, p. 62) in favor of the focal intention. This includes, for example, specific plans in the form of implementation intentions, which also promote the suppression of goal-irrelevant distractions via goal shielding in the action phase (Gollwitzer, 1999). In between the two phases of planning and action, the initiation of an intended course of action takes place. Finally, the fourth (evaluation) phase is again considered to be motivational in nature. After reaching a designated goal, one evaluates whether the actual outcome state matches the expected outcome state, and future considerations for action are derived.

An important merit of the model lies in the description of the temporal dynamics of action, delineating motivational and volitional processes. Despite its highly integrative power, only a few empirical studies have been conducted on the model (for an important exception, see Heckhausen & Gollwitzer, 1987), especially in learning contexts.

1.2. Motivational interference in learning

The Rubicon Model ideally depicts a course of action and is therefore extremely helpful in explaining successful action regulation. However, from everyday life, we know that not all of our goals are pursued so smoothly, particularly when it comes to learning behavior. It is here that the notion of motivational interference comes into play. Unlike cognitive interference, motivational interference—as a basic motivational mechanism—refers to the assumption that experience and performance in everyday action not only depend on the motivational characteristics of a given focal activity (i.e., what one is currently doing), but simultaneously on the motivational characteristics of alternative action tendencies (Fries & Dietz, 2007; Fries et al., 2008). In line with Atkinson and Birch's (1970) dynamic action theory, it is assumed that at any given time, multiple action tendencies are active and compete for implementation. Furthermore, it is assumed that this competition leads to impairments in ongoing self-regulation. On the experience level, these impairments are expressed in a clouded mood (i.e., lower positive affect and higher negative affect, cf. Watson, Clark, & Tellegen, 1988), whereas on the behavioral level, they are expressed in a reduced persistence and with switching between alternatives (Schmid, Hofer, Dietz, Reinders, & Fries, 2005).

Hence, somewhat in contrast to the assumptions of the Rubicon Model and research on automatic goal shielding (e.g., Fishbach, Friedman, & Kruglanski, 2003; Shah, Friedman, & Kruglanski, 2002), it is assumed that pre-decisional pondering between competing motivational tendencies is not necessarily settled with the overt decision for a specific action. Rather, it is assumed that this conflict can outlast the action phase and impair ongoing experience and performance. To borrow a term from economics, incentives that are tied to these currently dismissed action tendencies are seen to represent *opportunity costs* of ongoing action because they cannot be realized, at least not at the moment (Grund & Fries, 2012).

The idea of opportunity costs is also compatible with Eccles and Wigfield's elaboration of the value component in modern expectancy-value theory (2002). Beside the intrinsic, attainment, and utility value associated with certain achievement-related tasks, they identified the costs of engagement as another relevant factor, defined as "what is lost, given up, or suffered as a consequence of engaging in a particular activity" (Eccles & Wigfield, 1995, p. 216). However, this cost component has seldom been empirically addressed within this theoretical framework, especially when it comes to the indirect costs that result from dismissed action alternatives.

Previous research has indicated that conflicting motivational tendencies may be especially relevant during academic activities (cf., Lens, Lacante, Vansteenkiste, & Herrera, 2005). Even though learning is typically considered to be important in the long run, it is often experienced as momentarily tedious (cf., Galla et al., 2014). Hence, it is not surprising that students not only frequently report motivational conflicts during daily school- or study-related activities, such as homework (Riediger & Freund, 2008; Schmid et al., 2005), but additionally, that motivational interference effects have been demonstrated in this context (Fries & Dietz, 2007; Fries et al., 2008; Grund, Brassler, & Fries, 2014). For example, in an experimental setting, Fries and Dietz (2007) showed that students who were told of an attractive task (i.e., evaluating video clips) waiting for them after an initial learning task (i.e., reading medical texts) reported a worsened mood and higher distractibility during learning, and performed worse, compared to students who watched the videos first. Importantly, the action alternative in this scenario could not be realized, but rather, the mental activation of an attractive action alternative sufficed to impair ongoing self-regulation.

In a questionnaire study using vignettes, Fries et al. (2008) confronted sixth to eighth grade students with conflict scenarios typical of their daily lives (e.g., doing homework vs. watching television). Participants were asked to imagine themselves in these situations and to report how they would feel and act. Notably, their reports on mood, distractibility, and switching behavior in such conflicts between the study and leisure domains did not only depend on their motivation to study, but incrementally on their motivation for the leisure alternative. More specifically, as reported by Grund and Fries (2012) in a similar study among university students, the overall strength of these opportunity costs—that is, the total sum of those leisure incentives that are currently postponed with the decision for a focal studying activity—served as an incremental predictor for ongoing self-regulation above and beyond the quality of motivation for the focal activity. Hence, whereas self-regulation during studying was mostly explained by whether extrinsic or intrinsic reasons for the focal studying were indicated, the overall amount of incentives for the conflicting leisure alternatives served as the strongest incremental predictor. Finally, Hofer et al. (2007) demonstrated that the situation-specific impairments reported in conflict scenarios transfer to more global indicators of academic functioning. The more distraction students reported and the worse their mood in situations when school-related activities were in conflict with leisure-related activities, the less time they reported to generally invest in studying, and the worse were their grades. Along this line, similar negative relationships recently have been found