The consequences of job-related pressure for self-determined teaching

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Abstract

In education, there is a common understanding that teachers contribute significantly to the motivation of their pupils. However, the instructors' own psychological needs in the tradition of the Self-determination Theory (Ryan and Deci Self-determination theory: basic psychological needs in motivation, development, and wellness, Guilford Press, New York, 2017) are often overshadowed and undermined by external as well as internal processes. Present research so far has solely focused on the scientific perception of this problem, neglecting the viewpoint of the subjects—the teachers. In this paper, 732 secondary school teachers in Austria were surveyed; data were assessed through questionnaires regarding basic psychological needs, perceived job-related pressure, team orientation as well as self-efficacy and proactive attitude. The results emphasize the impact of job-related pressure on the motivation of teachers and the importance of psychological needs satisfaction in teaching with special focus on autonomy. Yet, it is this feature that is often neglected in Austrian educational politics. Consequently, students' motivation can be improved through the enhancement of teachers' occupational psychological needs, which in turn relies on the reduction of unnecessary controlling elements and strengthens their work-related autonomy.

Keywords Psychological needs satisfaction · Teaching profession · Job-related pressure · Self-efficacy · Autonomy

1 Introduction

Teachers have a significant impact on the motivation of their pupils (Deci and Ryan 2008a; Reeve 2006). Motivational styles of teachers can be linked to the academic self-regulation of learners (Ryan et al. 1985) and influence learning processes,

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achievements and well-being (Grolnick et al. 2007; Miquelon and Vallerand 2006; Reeve et al. 2008). Research in classrooms often focuses on different motivational approaches of teachers (Deci and Ryan 2012; Reeve and Assor 2011) and offers a variety of empirically tested motivational strategies or recommendations for teacher training courses (Katz and Assor 2007; Martinek 2012; Reeve et al. 2004; Reeve and Jang 2006). Consequently, it has been shown that teachers can acquire autonomy supportive strategies successfully (Reeve et al. 2004; Reeve and Halusic 2009). Although there is convincing evidence that teachers' occupational motivation plays an important role too regarding this issue (Pelletier et al. 2002; Pelletier and Sharp 2009), empirical research paid little attention to teachers' perceptions in this respect so far. The study at hand tries to close this gap by concentrating on teachers' occupational basic psychological needs as well as on perceived job-related pressure. It accomplishes this through linking these variables to important aspects in teaching, namely team orientation, self-efficacy and proactive attitude.

2 Theoretical background

2.1 Work-related basic psychological needs of teachers

Deci and Ryan's Self-Determination Theory (Deci and Ryan 2008b; Ryan and Deci 2017) defines three basic psychological needs, which are considered to be innate and universal: the needs for autonomy, competence and relatedness. The degree of satisfaction affects optimal functioning, organismic integration and well-being (Deci and Ryan 2000; Niemiec et al. 2009; Reeve 2009a). The need for autonomy refers to perceiving oneself as the origin of one's behaviour (Deci and Ryan 2008a). Although intrinsic motivation is the prototype of autonomous behaviour, external impulses can be recognised as self-determined as long as individuals agree with the requested behaviour (Chirkov et al. 2003). It is beneficial for teachers' need for autonomy if they can carry out their work in a way meaningful to them, and if they are able to identify with external regulations and demands in schools.

The need for competence refers to feeling effective when interacting with the environment and experiencing situations that allow proving one's capabilities (Ryan and Deci 2000, 2002). The need for competence is an individual sense of confidence and effectance in action, which drives teachers to seek for optimal challenges. In teaching the need for competence can e.g. be related to pupils' progress or constructive feedback from colleagues or parents. The need for relatedness is reflected by the desire to look after someone or to be looked after by significant others (Deci and Ryan 2008a; Reeve 2009a). Teachers can experience a sense of belongingness at work and feel connected to their pupils, their colleagues, the parents or even the community. Thus, work environments in schools can either be conducive to the satisfaction of teachers' psychological needs or they can be need thwarting (Bartholomew et al. 2011; Jang et al. 2009; Ryan and Deci 2011; Vansteenkiste et al. 2010; Van den Broeck et al. 2016). The latter contributes to compensatory motives, more controlled self-regulation, defensive or rigid behaviour of teachers and has serious consequences for their health and well-being (Deci and Ryan 2011; Van den

Broeck et al. 2008). Moreover, Pelletier and Sharp (2009) displayed that pressure in the teaching profession reduces teachers' perception of work-related autonomy and increases their controlling strategies in class, which in turn has negative consequences for their pupils' motivation. On the other hand, teachers experiencing self-determination themselves are more open and capable to foster autonomous learning in class (Pelletier et al. 2002; Ryan and Deci 2001; Van den Broeck et al. 2010). Subsequently, we will analyse job-related constraints as from a theoretical point of view it seems plausible that these have a serious impact on the basic psychological needs satisfaction of teachers.

2.2 Occupational pressure in the teaching profession

Many pre- and in-service teachers state that they are attracted to teaching because they are able to work rather autonomously. Whereas many teachers are able to preserve their sense of work-related autonomy, some perceive the (often changing) job-related regulations in teaching as pressurizing (Schröder 2006). Teachers can feel pressurized or controlled in their profession if their natural tendencies are restricted and they feel that their thoughts, behaviour and emotions are directed in a predetermined way without acknowledging their individual perspectives (Reeve and Assor 2011). Constraints in the teaching profession can be connected to different levels as documented in Table 1.

Table 1 Potential pressure inducing sources in the teaching profession

System level

- System school (e.g. curricula demands, contradictory job requirements, administrative tasks)
- Educational policy (e.g. reforms, innovation pressure, external evaluations, educational standards)
- Authorities (e.g. education authority, school supervisors, school psychology)
- Public (e.g. recognition of the teaching profession, feedback)

Institutional level

- School (e.g. type and focus of school, size, structural and material resources)
- Classes (e.g. subject, heterogeneous groups, group sizes, spatial resources, noise)
- Principal (e.g. (participative) leadership, transparency of decisions, support)
- Colleagues (e.g. communication, support, rivalry, mobbing)

Individual level

- Teachers (e.g. gender, age, (excessive) demands on oneself, time constraints, private problems)
- Pupils (e.g. discipline, motivation, conflicts amongst and with learners, bullying, mobbing)
- Parents (e.g. conflicts, complaints, very high or no engagement)
- Individual colleagues (e.g. conflicts, mobbing)

Kramis-Aebischer (1996), Leroy et al. (2007), Pelletier et al. (2002), Van Dick (2006)

Research results indicate that high pressure has a negative impact on psychological needs satisfaction (Pelletier et al. 2002; Pelletier and Sharp 2009; Reeve 2009a; Taylor et al. 2008); yet at the very same time it seems possible that if teachers manage to find ways to satisfy their job-related psychological needs, it can make them more resilient against pressure at work (Roth et al. 2007). Based on these studies our aim is to analyse teachers' perception of job-related pressure—referring to the different sources as well as to individually perceived intensity—and to clarify the interaction between psychological needs satisfaction, perceived pressure at work and the impact on specific beliefs and orientations, which will be discussed in the following paragraph.

2.3 Teachers' self-determined motivation in connection with self-efficacy, proactive attitude and team orientation

This research also aims to connect self-efficacy and proactive attitude in the tradition of Bandura's Social Learning Theory (1997) with psychological need satisfaction as both have an impact on proactive behaviour. Thus, self-efficacy refers to beliefs in one's capabilities to carry out actions required to produce given attainments. Teachers can experience self-efficacy if they trust in their capabilities to manage their job despite challenging circumstances successfully (Tschannen-Moran and Hoy 2007; Tschannen-Moran et al. 1998). Though the psychological need for competence and self-efficacy are distinct constructs, their theoretical closeness and interferences suggest an empirical correlation. Self-efficacy is based on acquired cognitions, concentrates on specific tasks and highlights the importance of the outcome of one's actions and the support by reinforcement (Bandura 1997). On the other hand, Self-Determination Theory defines the psychological need for competence as an innate need connected to well-being, referring to a rather general experience of effectiveness that is satisfied primarily by the experience of competence regardless of what the outcome is (Deci and Ryan 2000; Van den Broeck et al. 2010). Whereas the psychological need for relatedness might rather be linked to team orientation than self-efficacy, Jerusalem et al. (2007) state that the need for autonomy can be connected to self-efficacy. A high satisfaction of the need for autonomy can be less threat to self-efficacy beliefs and high self-efficacy could support teachers' need for autonomy because they feel they are capable and have more options to solve difficult tasks. Comparably, a proactive attitude, defined as a concept of response explaining internally driven behaviour of teachers (Schwarzer and Schmitz 1999), should be linked to team orientation, as these teachers might seek cooperative ways to develop new strategies (Schmitz and Schwarzer 1999). The following study seeks to provide empirical evidence to clarify these relations.

2.4 The present research

The aim of the study at hand was to analyse the interaction between psychological needs satisfaction and perceived pressure in the teaching profession and to link these influential variables to self-efficacy, proactive attitude and team orientation.

As psychological needs satisfaction should make teachers more resilient against job constraints (Roth et al. 2007) and considering that high perceived pressure reduces the satisfaction of the needs for autonomy, competence and maybe even relatedness (Reeve and Assor 2011), we expected a reciprocal relation between basic psychological needs satisfaction and pressure in the teaching profession. Although we assumed that the relation between psychological needs satisfaction and pressure will be stronger, we tested if there is a similar reciprocal relation between perceived pressure and self-efficacy, as Schmitz and Schwarzer (2002) consider self-efficacy in teaching as a preventive factor concerning job-related stress. Pressure in turn would be expected to have a negative impact on proactive attitude. Psychological needs satisfaction, on the other hand, should have a positive impact on teachers' self-efficacy, their proactive attitude and team orientation. In line with Bandura's Social Learning Theory (1997), self-efficacy should be linked to proactive attitude and proactive attitude should lead to more team orientation (Schwarzer and Schmitz 1999).

3 Methods

3.1 Participants and procedure

The sample consisted of 732 secondary school teachers from various types of secondary schools in Austria. Seventy percent of the participants were female teachers. The age ranged from 21 to 65 years and participants had 1–40 years of experience in schools. Sixty percent of the teachers worked in schools in rural areas and the number of pupils taught per teacher and week varied from 5 to 500. Seventy-one percent worked full time. Although only 33% were trained for more than two subjects, 50% of the participating educators stated that they taught more than two subjects. Of all the participants 73% would choose teaching as a career again, 20% were unsure and 7% would not become teachers again.

3.2 Measures and analysis

Data were assessed by using a questionnaire in German and analysed using SPSS 24, AMOS 24 and M PLUS 8. As Chi square statistics are dependent on sample size and correlation sizes (Kline 2011), we followed the suggestions of Weiber and Mühnhaus (2010) using the following estimates for model fit: CFI (.90 or more; Homburg and Baumgartner 1995), the RMSEA (smaller than .08; Browne and Cudeck 1993) and the SRMR (smaller than .08; Hu and Bentler 1999).

3.2.1 Basic psychological needs

To assess psychological needs satisfaction we used the Work-related Basic Psychological Need Satisfaction Scale from Van den Broeck et al. (2008). Answers for the

18-item-scale were given on a 5-point-Likert-scale ranging from “totally disagree” (1) to “totally agree” (5). Exploratory (EFA: 48% of explained variance) and confirmatory factor analysis (CFA: CFI=.90, RMSEA=.07; SRMR=.06) led to satisfying results, although one item had to be removed. The respective reliabilities in this sample were $\alpha=.83$.

3.2.2 Pressure in the teaching profession

For pressure in the teaching profession a new scale was created comprising 40 items related to 9 subscales: (1) statutory and public influences (2) workload and time constraints; (3) work with pupils; (4) demands of the curriculum and individual aims; (5) continuing education; (6) school projects; (7) collaboration with colleagues; (8) work with parents; and (9) supervision. Participants responded on a 5-point-Likert-scale ranging from “no perceived pressure” (1) to “very high perceived pressure” (5). Factor analyses (EFA: 64% of explained variance; CFA: CFI=.93, RMSEA=.05; SRMR=.05) and reliabilities (overall scale: $\alpha=.92$; subscales: α =between .90 and .65) were satisfactory.

3.2.3 Self-efficacy and proactive attitude

The scales for self-efficacy (Schwarzer and Schmitz 1999) and proactive attitude (Schmitz and Schwarzer 1999) consisted of 10 and 8 items respectively followed by a 4-point-Likert-scale ranging from “totally disagree” (1) to “totally agree” (4). Exploratory factor analyses supported unidimensionality; confirmatory factor analyses (CFA self-efficacy: CFI=.95, RMSEA=.07; SRMR=.05; CFA proactive attitude: CFI=.93, RMSEA=.07; SRMR=.05) and reliabilities (self-efficacy: $\alpha=.78$; proactive attitude: $\alpha=.73$) were satisfactory.

3.2.4 Team orientation

Team orientation was measured with a subscale from the Autonomy-Parity-Cooperation-pattern from Eder and Hörl (2010). The 9 items were followed by a 5-point-Likert-scale ranging from “totally disagree” (1) to “totally agree” (5). Factor analyses (EFA: 30% of explained variance; CFA: CFI=.93, RMSEA=.08; SRMR=.05) and reliabilities ($\alpha=.80$) were acceptable.

4 Results

As can be seen in Table 2, psychological needs satisfaction correlated negatively with perceived pressure and positively with self-efficacy and proactive attitude but hardly with team orientation. Self-efficacy and proactive attitude correlated negatively with perceived pressure. Positive correlations were found between self-efficacy and proactive attitude and between proactive attitude and team orientation.

In the overall sample, team orientation ($M=3.22$, $SD=.75$) and self-efficacy ($M=2.96$, $SD=.51$; range 1–4) were moderate, but proactive attitude was rather

Table 2 Correlations of (sub)scales

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
Basic psychological needs satisfaction															
1. Autonomy	–														
2. Competence	.33**	–													
3. Relatedness	.39**	.20**	–												
Perceived job-related pressure															
4. Statutory/public influences	–.49**	–.15**	–.21**												
5. Workload/time	–.26**	–.15**	–.12**	.39**											
6. Pupils	–.31**	–.27**	–.09*	.46**	.26**										
7. Curricula/aims	–.33**	–.27**	–.09*	.45**	.49**	.35**									
8. Continuing education	–.30**	–.20**	–.16**	.47**	.33**	.24**	.38**								
9. School projects	–.38**	–.17**	–.33**	.49**	.40**	.30**	.39**	.43**							
10. Colleagues	–.34**	–.14**	–.44**	.35**	.17**	.24**	.20**	.23**	.42**						
11. Parents	–.31**	–.19**	–.09*	.55**	.36**	.57**	.41**	.33**	.37**	.30**					
12. Supervision	–.17**	–.15**	–.16**	.22**	.20**	.16**	.19**	.23**	.30**	.34**	.24**				
13. Self-efficacy	.28**	.47**	.15**	–.16**	–.13**	–.37**	–.23**	–.12**	–.21**	–.12**	–.23**	–.11**			
14. Proactive attitude	.34**	.39**	.23**	–.29**	–.21**	–.24**	–.30**	–.33**	–.32**	–.22**	–.25**	–.17**	.46**		
15. Team orientation	.12**	.00	.16**	–.20**	–.01	–.07	–.01	–.25**	–.14**	–.06	–.09*	–.08*	.10**	.21**	–

Spearman; * $p < .05$; ** $p < .001$

high by trend ($M=3.27$, $SD=.44$; range 1–4). Teachers reported a high satisfaction (range for needs: 1–5) of the need for competence ($M=4.32$, $SD=.78$) and for relatedness ($M=3.90$, $SD=.77$) and a moderate satisfaction of the need for autonomy ($M=3.52$, $SD=.78$). Cluster analysis revealed that 21.3% of the participating teachers hardly experienced any pressure in their profession; 45.8% stated that they felt under pressure up to some extent and 32.9% reported that they experienced a lot of pressure in their job. The most influential pressure inducing sources (range 1–5) were statutory/public influences ($M=3.07$, $SD=.99$) and the work with pupils ($M=3.07$, $SD=1.08$); followed by the workload/time ($M=2.65$, $SD=.91$) and the demands of the curriculum/individual aims ($M=2.65$, $SD=.87$). Some pressure was associated with parents ($M=2.41$, $SD=.97$) and school projects ($M=2.12$, $SD=.91$), whereas collaboration with colleagues ($M=1.88$, $SD=.88$), continuing education ($M=1.86$, $SD=.81$) and supervision ($M=1.42$, $SD=.66$) barely contributed to perceived job-related pressure. Female teachers felt more pressurized by the workload than their male colleagues ($p < .00$), but there were hardly any correlations ($-.02$ bis $.17^{**}$, $p < .01$) with the age of teachers.

To reduce the complexity of the model, when analysing the relations amongst the variables with structural equation modelling, the 85 items of the latent constructs were parcelled (Little et al. 2002) and, in order to get evidence for reciprocal relations, two models with acceptable fit to the data were calculated (both models: $RMSEA = .07$; $SRMR = .06$; $CFI = .91$). As Fig. 1 demonstrates, a reciprocal relation between basic psychological needs satisfaction and perceived pressure in the teaching profession could be found. In other words, the higher the needs for autonomy, competence and relatedness were satisfied, the less teachers felt under pressure in their job ($\beta = -.57^{**}$); yet at the same time high perceived pressure reduced psychological needs satisfaction ($\beta = -.64^{**}$). Pressure had an

Fig. 1 The impact of psychological needs satisfaction and perceived pressure on self-efficacy, proactive attitude and team orientation ($^{**}p < .01$)

impact on proactive attitude ($\beta = -.24^{**}$; $-.25^{**}$), but there was no significant reciprocal relation between perceived pressure and self-efficacy. Psychological needs satisfaction had an impact on self-efficacy ($\beta = .31^{**}$; $.38^{**}$), self-efficacy was related to proactive attitude ($\beta = .49^{**}$; $.50^{**}$), which in turn had an impact on team orientation ($\beta = .24^{**}$; $.25^{**}$).

5 Discussion

The present research highlights the importance of the needs for autonomy, competence and relatedness in teaching as well as the impact of job-related pressure on psychological needs satisfaction of educators (Van den Broeck et al. 2010; Ryan and Deci 2017). Figure 2 summarises the key findings of the present research, showing a reciprocal relation between the satisfaction of the needs for autonomy, competence and relatedness and perceived pressure in the teaching profession and the impact of psychological needs satisfaction on self-efficacy. Perceived pressure and self-efficacy influence proactive attitude, which in turn is related to team orientation. Teachers feel under pressure if their thoughts, actions and feelings are directed in a desired way without acknowledging individual perspectives and through the use of vigour, incentives or coercion (Deci and Ryan 2012). The study provides empirical evidence that job-related pressure has a negative impact on the psychological needs of teachers (Taylor et al. 2008), yet, at the same time, the higher the psychological needs of teachers are satisfied at work, the more resilient they are towards occupational pressure (Roth et al. 2007). Psychological needs satisfaction also fosters teachers' self-efficacy, which is considered to be an influential aspect in successful teaching (Tschannen-Moran and Hoy 2007). Perceived pressure and self-efficacy beliefs influence proactive attitude of teachers, which in turn has an impact on their team orientation.

According to these results and in line with corresponding research (Taylor et al. 2008; Pelletier and Sharp 2009), it seems worthwhile to carefully consider teachers' basic psychological needs and especially their need for autonomy. In Austria, teachers' autonomy seems to be limited (Eurydice 2008), which is also reflected in the data of this research as will be discussed in the following. In an autonomy

Fig. 2 Relations between psychological needs satisfaction, perceived pressure in the teaching profession, self-efficacy, proactive attitude and team orientation—a summary of key findings

supportive environment, teachers' motivational resources are stimulated, they can fulfil their occupational tasks conforming to their self-concepts and act intrinsically or autonomously motivated (Deci and Ryan 2012). One important aspect when acknowledging psychological needs of teachers is the style of leadership (Hetland et al. 2011) and communication (Markland et al. 2005; Stone et al. 2009) amongst colleagues, principals, supervisors, experts and politicians. In Austria, one way to improve teachers' need for autonomy would be to clearly communicate and discuss the aims and relevance of educational standards by using informational, non-controlling language and acknowledging different perspectives amongst all parties involved. Autonomy supportive work environments offer choices for teachers within a clear structure and, thus, enable educators to experience self-determination in their job (Pelletier et al. 2002; Deci and Ryan 2008a). In other words, teachers are best motivated to participate in change processes, if they can individually organize their work in a way that is meaningful for them. Participating teachers criticized that these aspects, which are important for an autonomy supportive work environment, are neglected in Austria.

To foster the satisfaction of the need for autonomy of teachers and to provide a more suitable environment for autonomy support in class, it is important to identify what puts teachers under pressure to be able to debate ways how to deal with this pressure in the teaching profession. Forty-six percent of the participating teachers felt under some pressure, whereas one third felt very pressurised and only every fifth teacher considered job-related pressure in teaching to be low. Considering one of the most influential sources for pressure in teaching in the Austrian sample, it seems obvious that teachers would profit from more support when working with pupils (Schröder 2006). According to the statistics, there is one teacher for ten pupils in the Austrian average (Vogtenhuber et al. 2013). However, among Austrian teachers this relation varies immensely. In our study only 11% of the educators worked with less than 50 pupils a week, 39% taught up to 100 pupils, 30% up to 150 pupils and 20% reported they had 200 or more learners in their classes every week, which proves the insignificance of above mentioned statistics. In addition, the majority of teachers felt they could hardly rely on supportive experts when faced with challenging pupils (Suchan et al. 2009) because there are only a few psychologists, social workers or specially trained staff available; therefore, teachers' options for action and support are limited.

Concerning educational politics, Austrian teachers felt that regulations are constantly changing and they desired opportunities to participate in change processes. Currently a range of reforms (e.g. the development of a new type of secondary school; establishing compulsory testing according to national standards; standardized A-levels) are implemented in Austria, but the impact of these reforms on the autonomy of teachers has hardly been measured (cp. Krause et al. 2013). To increase the motivation of teachers to proactively engage in these reform processes (Reeve 2009a), teachers most notably need reliable and supportive legal structures, well-considered communication to stimulate teachers' identification with reforms and

official acknowledgements of their efforts. Media seems to play an important role when it comes to social influences on perceived pressure as well. Austrian teachers think that they do not have a good reputation and often consider press reports concerning teachers and their occupation to be manipulative and untrustworthy (Steininger 2010). It seems worthwhile to reconsider the impact of media reports and to consciously highlight the importance of teaching and the work of teachers for society with the help of media (Mayr 2012). Social media, if carefully moderated, offers interesting ways to connect policy makers, experts and practitioners and therefore could be used to transport the interests in educational leadership by allowing multiple ways of participation in the conceptualization and implementation of educational reforms. Beyond that the results offer manifold ways to amend teachers' self-management and to improve the work climate in schools, which could be useful for school development projects.

5.1 Limitations and future research

Data were obtained using a cross-sectional design and, therefore, causality cannot be inferred. Moreover, the selectivity of the sample was based on voluntary participation and the fact that self-reports were used needs to be considered, although, especially for needs satisfaction and motivation, these measures seem particularly appropriate (Chan 2009). To limit selective distortion reformulated items to measure constructs and scales with varying ranges were used, but to clarify causality longitudinal studies with cross-correlations are required. In addition, future research could analyse the relations between basic psychological needs satisfaction and job-related pressure with other relevant aspects in teaching, like self-management skills or teaching strategies (e.g. classroom management or adaptive teaching skills) to broaden the understanding of the impact of self-determined teaching.

6 Conclusion

In summary, the study at hand reveals, in line with research in the tradition of the Self-Determination Theory, that an autonomy supportive work environment is conducive for teachers (Reeve 2009b). The results extend the findings of Pelletier and Sharp (2009) concerning perceived pressure in the teaching profession by linking job-related constraints and basic psychological needs to other important aspects in teaching like self-efficacy, proactive attitude and team orientation. Considering complementing research (Stone et al. 2009; Reeve 2011), it is likely that experiencing self-determination in teaching is not only positive for the individual teacher but goes hand in hand with preferable consequences on institutional and system levels as well, as depicted in Fig. 3. Taken together, it seems worthwhile to consider the

Fig. 3 Influences on and consequences of psychological needs satisfaction and job-related pressure in teaching on the system, institutional and individual level (cp. Stone et al. 2009; Reeve 2011)

influence of various levels in education on teachers' needs satisfaction and to reduce unnecessary pressure in teaching. To pursue improvements in schools, it is important to consider what teachers need and to preserve and strengthen sources for job-related self-determination, so that educators will willingly and proactively participate in future developments (Ryan and Deci 2017).

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