Original Research

SAGE Open
April-June 2021: 1–14
© The Author(s) 2021
DOI: 10.1177/21582440211015680
journals.sagepub.com/home/sgo
SAGE

Promoting Optimal Induction to Beginning Teachers Using Self-Determination Theory

Haya Kaplan[1]

Abstract

Reports on drop-out rates and difficulties experienced by beginning teachers require an examination of the motivational processes that characterize teachers at this stage. Support systems for beginning teachers in the induction period in Israel include a workshop and a mentoring process. This study examined how support in beginning teachers' psychological needs by workshop facilitators and teacher-mentors in schools contributed to their optimal functioning in workshops, schools, and in teaching. Questionnaires were administered to 261 Bedouin Arab and Jewish beginning teachers. Based on structural equation modeling analysis, results indicated that support in teachers' needs by workshop facilitators predicted a sense of competence and autonomous motivation in the workshops, which in turn predicted autonomous motivation in teaching. Autonomous motivation in teaching was also predicted by the teacher-mentors' support and in turn predicted teachers' sense of competence, investment in the school, and sense of self-actualization. The findings have implications regarding the conditions needed to improve the functioning of beginning teachers of various cultural groups and highlight the importance of an environment that supports teachers' needs during their induction.

Keywords

self-determination theory, induction, beginning teachers, psychological needs, autonomous motivation

Introduction

Self-determination theory (SDT) emphasizes the importance of an environment that supports basic psychological needs: relatedness, competence, and autonomy (Ryan & Deci, 2017). Studies indicate that the experience of psychological need satisfaction leads to autonomous motivation and optimal functioning (Deci & Ryan, 2000; Ryan & Deci, 2017).

The SDT approach underlies "Growth Resources Induction Unit," at Kaye Academic College of Education in Israel. As part of the unit's activities, intern teachers and beginning teachers participate in workshops designed to address their psychological needs. Each beginning teacher is additionally followed by an experienced teacher, who serves as a mentor at school. The decision to establish an SDT-based unit led to the need to examine the theory's applicability to beginning teachers who participated in the workshops.

In recent decades, there has been an increase in studies exploring the motivational world of teachers (Richardson et al., 2014). However, little is known about beginning teachers' experiences of psychological need satisfaction from the perspective of the SDT. It is only in recent years that this field has begun to receive research attention, particularly with regard to in-service teachers (Roth et al., 2007; Roth, 2014).

Based on the SDT, the present study examined the unique contributions of supporting teachers' needs by the facilitator of the workshop held at the college and by the teacher-mentor at the school in predicting outcomes that reflect optimal integration, both in the workshop and at school. In addition, the correlation between motivational processes in workshops and motivational processes at school was examined. This study also compared beginning teachers from different cultures (i.e., individualistic and collectivist cultures). The basic premise is that an in-depth understanding of beginning teachers' emotional-motivational processes can lead to intervention programs that promote their optimal integration into schools and to positive functioning in teaching.

[1]Kaye Academic College of Education, Beer Sheva, Israel

Corresponding Author:
Haya Kaplan, Kaye Academic College of Education, Azriel Nizani 6, Beer Sheva, Israel.
Email: kaplanh@kaye.ac.il

Theoretical Background

SDT

According to the SDT (Deci & Ryan, 2000; Ryan & Deci, 2017), every individual has three basic and universal psychological needs: relatedness, competence, and autonomy, which when satisfied contribute to optimal development, autonomous motivation, well-being, high-quality engagement, and social adjustment, as well as to internalization processes (i.e., identity construction processes; Deci & Ryan, 2000; Kaplan, 2018; La Guardia, 2009).

The need for relatedness is an individual's desire to maintain close, secure, and satisfying relationships with others in social environments (Deci & Ryan, 2000). Teachers' relatedness supported by the principal or by the mentor-teacher, for example, might include showing affection, devoting resources and time, willingness to help, and a non-competitive structure of social relationships among teachers.

The need for competence refers to individuals' aspiration to feel effective and experience themselves as capable of realizing intentions, plans, and objectives (Deci & Ryan, 2000). Competence support by the teacher-mentor, for example, might include providing optimal challenges, a clearly structured work plan, feedback, assistance in coping with failure, and communicating a message of faith in the teacher's ability to succeed.

The need for autonomy is the desire for self-determination, authentic self-expression, meaning, independence, and freedom of choice (Deci & Ryan, 2000). This is the individual's need to realize abilities and inclinations, and actively and exploratively formulate goals, attitudes, values, and authentic interests (i.e., to construct their identity; Reeve & Assor, 2011). Teachers' autonomy support might include a range of behaviors, such as providing choices (Assor et al., 2002) or providing a rationale and enhancing relevance (Reeve, 2009). Autonomy suppression is reflected in pressuring the teacher to think, feel, and perform in certain ways (Grolnick et al., 2002); imposing demands; and employing extrinsic motivation factors (Reeve, 1998).

Types of Motivations According to the SDT

The SDT emphasizes the quality of motivation and therefore refers to different types of motivation, which are classified according to the individual's level of self-determination. The SDT distinguishes between intrinsic and different types of extrinsic motivation (Deci & Ryan, 2000). Intrinsic motivation is when an individual performs an activity for inner satisfaction inherent in the activity itself. However, many actions are carried out due to extrinsic or intrinsic coercion (Deci & Ryan, 2000). The SDT distinguishes between different types of extrinsic motivations along a continuum of internalization:

- *Extrinsic motivation*: The activity is performed due to external pressures (e.g., hope for material rewards or desire to avoid punishment).
- *Introjected motivation*: The activity is performed due to internal pressure (e.g., the desire to win love or appreciation, or to avoid rejection, feelings of guilt or shame, or the desire to preserve self-worth).
- *Identified motivation*: The individual acts out of identification with the value or behavior, recognizing the importance of the activity or understanding its connection to his or her goals.
- *Integrative motivation*: The result of the full internalization of extrinsic motivation. The individual perceives the activity as congruent with his or her identity and as relatively important for other activities.

According to the SDT, intrinsic motivation and well-internalized motivation (i.e., identified motivation and integrative motivation) are all considered autonomous motivation and characterized by high levels of self-determination. In contrast, extrinsic motivation and introjected motivation are considered to be controlled motivations (Deci & Ryan, 2000). Substantial research indicates the advantages of autonomous motivation over controlled motivation for the individual's optimal functioning in various domains (Roth, 2014; Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013).

Teachers' Motivation

Extensive SDT-based research in the domain of education has largely focused on the effects of teachers' teaching practices and behaviors in supporting or suppressing students' needs, and on students' experiences of need satisfaction, rather than those of the teachers themselves (Klassen et al., 2012). Research in education across various educational frameworks shows that need-supportive environments and perceived need satisfaction contribute to students' positive outcomes (e.g., higher autonomous motivation, greater engagement, and optimal emotional and social functioning; Assor et al., 2002; Assor et al., 2018; Jang et al., 2009; Roth et al., 2007).

Studies on teachers' motivation can be generally classified by three populations: in-service teachers, pre-service teachers, and beginning teachers—this study's focus. Studies on in-service teachers focused on school environments as either supporting or frustrating teachers' needs (Ryan & Deci, 2017), and on the connection between teacher's need satisfaction and autonomous motivation, and a range of outcomes associated with the teacher's functioning (Aelterman et al., 2016; Klassen et al., 2012). In various studies, autonomous motivation in teaching has been linked to a sense of self-accomplishment (Roth et al., 2007), job satisfaction and well-being (Nie et al., 2015), occupational commitment (Fernet et al., 2016), and to teachers' support for students' autonomy (Pelletier et al., 2002; Roth et al., 2007).

School pressures such as curriculum-related demands, pressure from principals, or negative student behaviors frustrate teachers' needs, adversely impact autonomous

motivation, and heighten controlled motivation in teaching (Pelletier et al., 2002). Teachers' controlled motivation was found to predict teachers' autonomy-suppressive behaviors (Soenens et al., 2012).

Other SDT-based studies have focused on pre-service teachers. Some qualitative studies examined pre-service teachers' experience of psychological need satisfaction or frustration (Bouwma-Gearhart, 2010; Evelein et al., 2008). Other laboratory studies or educational intervention studies aimed at developing or examining teacher behaviors that support pre-service teachers' needs, such as providing feedback and rationale, and encouraging relevance (Reeve, 1998; Wang & Liu, 2008). These studies indicated that pre-service teachers can be taught how to support students' autonomy and that this support leads to positive outcomes (Reeve, 1998). In a quantitative study, Kaplan & Madjar, (2017) found that supporting the needs of Jewish and Bedouin pre-service teachers contributed positively to predicting a sense of relatedness, a sense of competence, and autonomous motivation, while autonomous motivation contributed positively to predicting self-actualization, investment and self-exploration, and controlled motivation predicted emotional burnout.

SDT-based studies on beginning teachers are comparatively lower in number (Fernet et al., 2016; Kaplan et al., 2016). For example, Fernet et al. (2016) found that factors in the school environment affect beginning teachers' motivation type, which in turn affects teachers' functioning. Likewise, workload was found to predict controlled motivation, which in turn predicts emotional burnout, while receiving a positive work evaluation is associated with autonomous motivation, which in turn predicts commitment to work, positive relationships with students, and reduced emotional burnout.

A review of the literature indicates the need for research on a population of beginning teachers. Given the many difficulties encountered by teachers in the induction stage as reported in numerous studies (see below), and the paucity of SDT-based research in this area, research on beginning teachers may contribute to an understanding of the motivational processes that characterize teachers at this stage.

Characteristics of Induction Into the Teaching Stage

For many years, there has been an awareness of the complexity of the induction processes and the difficulties faced by beginning teachers (Abu Ras, 2010; Flores, 2017; Schatz-Oppenheimer, 2012). Encounters at school often involve negative experiences (Watad-Khoury, 2013). Circumstances at school are often incongruent with professional knowledge, vision, and values that beginning teachers have acquired in the teacher-training program, and they experience pedagogical, social, and emotional difficulties, and find it difficult to adjust to school culture (Orland-Barak & Maskit, 2011).

The phenomenon of teacher dropout occurs globally (Sperling, 2015). According to data from various countries, the drop-out rate of beginning teachers reaches as high as 50% during the first 5 years of teaching (Barber & Mourshed, 2007; The European Commission Staff Working Document-SEC, 2010). Over the years, Israel has seen a dramatic decline in drop-out rates of teachers who have participated in support workshops (Central Bureau of Statistics, 2019). It seems that difficulties experienced by teachers—especially high-quality teachers—cause burnout and result in them exiting the profession (Arviv-Elyashiv & Zimmerman, 2012).

Along with extensive information on the numerous difficulties experienced by teachers, information on the motivational processes from the SDT perspective that affect teachers' desire to remain in teaching is scant (Fernet et al., 2016; Neve & Devos, 2017; Neve et al., 2015). Only a handful of studies have focused on the effects of the school environment on beginning teachers' motivation types (Fernet et al., 2016). For example, Neve and Devos (2017) found that beginning teachers' autonomy support predicted their self-efficacy and emotional commitment to the profession, which in turn predicted fewer intentions to leave the profession.

Induction into teaching is a complex process influenced both by contextual and individual factors. There is scant research that combines these two aspects (Ingersoll & Smith, 2004; Neve & Devos, 2017). The SDT facilitates an examination of the connection between contextual factors and self-motivational processes. In the context of beginning teachers, their teaching experiences are affected by self-perceptions regarding the support or suppression of their needs, both in schools and in workshops designed for beginning teachers (Author et al., 2016). Thus, when teachers' needs are frustrated by the environment, as reflected by numerous difficulties encountered, their inner experience is characterized by burnout, loneliness, and coercion.

The present study examines the world of beginning teachers from a motivational–psychological perspective (Ryan & Deci, 2017). Seemingly, a significant share of difficulties identified in studies over the years might indicate teachers' psychological need frustration. While the present study does not focus on difficulties, but rather on conditions that promote optimal integration into school and teaching, it facilitates an understanding of teachers' difficulties from this new perspective.

Support Systems for Beginning Teachers

In Israel, the induction stage consists of a 3-year period. In light of difficulties faced by beginning teachers, the Israel Ministry of Education built a support framework for teacher interns and beginning teachers which comprises two main components: participation in an intern support workshop and a workshop for beginning teachers (2 years), and a mentoring process with an experienced teacher.

In support workshops, teachers participate in a reflective-collegial group. These workshops enable participants to bring up dilemmas, discuss teaching events, formulate ways of coping with difficulties, receive support from the facilitator and colleagues, and bridge theory with practice (Lazovsky & Zeiger, 2004).

Research has shown the efficacy of programs to support teachers in their induction into teaching in aspects such as emotional, professional, and organizational adjustment (Abu Ras, 2010); improving teaching methods (Ingersoll & Strong, 2011); and help in coping with students (Arviv-Elyashiv & Lederer, 2011). Studies have focused primarily on intern workshops rather than beginning teacher workshops in the year after internship, which also heightens the need to examine these workshops, as reported in the present article.

A qualitative study by Kaplan et al. (2016) reported that the workshop experience of beginning teachers engendered an exploratory process which aided the development of reflective ability and promoted examination and construction of a professional identity. This process was accompanied by the development of a higher sense of competence and autonomy, and the workshop was experienced as supporting teachers' needs, both by the facilitator and colleagues.

Another significant supporting component is the teacher-mentor. The role of teacher-mentors and their positive effects on beginning teachers have been widely studied and reported (Hennissen et al., 2008; Ingersoll & Strong, 2011). These studies indicate that teachers perceive the teacher-mentor as a major source of support in the first year of teaching (Lazovsky & Zeiger, 2004). Teacher-mentors' support was found to be associated with beginning teachers' professional competence (LoCasale-Crouch et al., 2012), sense of optimal functioning and enthusiasm for teaching (Richter et al., 2013), improving teaching practices (Ingersoll & Strong, 2011), job satisfaction and reducing emotional exhaustion (Richter et al., 2013), and commitment to teaching and perseverance in the profession (Rots et al., 2007).

These studies demonstrate the positive effects of the mentoring process; yet, research on mentoring of beginning teachers in the SDT framework is still lacking. Studies on SDT-based mentoring focus mainly on three contexts: the school, in which students are the mentees (e.g., Dantzer, 2017); higher education (e.g., Lechuga, 2014); and the workplace (e.g., Janssen et al., 2013). Additional research in this domain is needed.

Cultural Context

The participants in the present study were beginning teachers from two cultural groups: Bedouin Arab teachers (collectivist culture) and Jewish teachers (individualistic culture). This multicultural profile can be found in teacher education colleges in Israel, and therefore it is important to investigate whether there are differences in motivational processes between these cultural groups.

The Bedouin society is collectivist-hierarchical (Hofstede et al., 2010) and patriarchal (Arar & Masry-Harzallah, 2016; Sharabi, 2014). Its social structure is unique and is based on tribalism, characterized by loyalty to the membership group (family, tribe), adherence to honor values, rigid hierarchical structures, and a high level of obedience to male-parental authority (Alsayed, 2015). In recent years, the Bedouins have transitioned rapidly from a traditional society into modernization and urban life (Al-Krenawi, 2010). Despite these changes, their lifestyle is still characterized by a cultural orientation that is collectivist, hierarchical, and patriarchal, in comparison with the secular Jewish population (Sharabi, 2014).

In addition to contending with challenges of induction into teaching, Arab beginning teachers also have to contend with the complex reality of the Arab education system and with the centralized educational climate in many schools (Watad-Khoury, 2013). According to the studies conducted among Bedouin teachers and Arab teachers from the north of Israel who teach in the south (Schatz-Oppenheimer, 2012), there are difficulties at the professional–pedagogical and organizational levels, including difficulties in communicating with teachers and parents, workload, lack of subject knowledge, and difficulties in adapting to the organizational climate. These difficulties create negative outcomes.

Researchers with a cultural-relativist orientation challenge the universality of the SDT (Iyengar & DeVoe, 2003; Triandis, 1999). They claim that the need for autonomy is a Western ideal and is not important in traditional-Eastern cultures (Iyengar & DeVoe, 2003). According to the SDT, psychological needs are universal and innate, although there are cultural differences in how need satisfaction or frustration is expressed. It is therefore expected that need support will lead to autonomous motivation in diverse cultural groups (Deci & Ryan, 2000) despite possible differences in the level of need satisfaction (Chirkov et al., 2003). Studies have shown that the SDT is also applicable to collectivist cultures such as South Korea (Jang et al., 2009), Japan (Yamauchi & Tanaka, 1998), Turkey (Chirkov et al., 2003), and others. Very few studies have proven the applicability of the theory in Bedouin society (Kaplan et al., 2014; Kaplan, 2018; Kaplan & Madjar, 2015; 2017). The present study thus enables a closer investigation of the theory's applicability to the Arab society in Israel.

The Present Study

This study focused on the motivation of beginning teachers who participated in a workshop process at an academic college of education. The teachers were also observed by teacher-mentors at their schools. The study is based on an SDT model (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013) and previous studies that have demonstrated the positive effects of a need-supportive environment on teachers' motivational outcomes such as autonomous motivation

Table 1. Research Variables.

In teaching/at the school	In the workshop
Facilitator's need support	Teacher-mentor's need support
Autonomous motivation in the workshop	Autonomous motivation in teaching
Sense of competence in the workshop	Self-actualization in teaching
	Investment in work
	Sense of competence in school

(Fernet et al., 2016), behavioral outcomes such as work engagement (Klassen et al., 2012), and identity-based outcomes such as sense of self-accomplishment (Roth et al., 2007).

The study focused only on the "bright side" of teachers' functioning (Ryan & Deci, 2000) and examined the joint effect of need support by the workshop facilitator and the teacher-mentors at the school on beginning teachers' functioning and integration in the workshop and the school.

The research questions were as follows:

Research Question 1: What are the connections between need support by the workshop facilitator and motivational outcomes in the workshop?

The motivational outcomes examined were participants' autonomous motivation and sense of competence.

Research Question 2: What are the unique contributions of the support provided in the workshop and by the teacher-mentors to the optimal integration of beginning teachers into school and teaching?

Optimal integration into the school and teaching includes motivational aspects (autonomous motivation in teaching and a sense of competence in schoolwork), behavioral aspects (investment in schoolwork), and identity-based aspects (a sense of self-actualization).

Research Question 3: What are the differences in motivational processes between teachers from different cultures?

For the reader's convenience, the studied variables are presented in Table 1.

Hypotheses

Hypothesis A: The workshop facilitator's support in teachers' needs will predict autonomous motivation and a sense of competence in the workshop, which will in turn predict autonomous motivation in teaching.

Hypothesis B: The teacher-mentors' support will predict teachers' autonomous motivation in teaching.

Hypothesis C: Autonomous motivation in teaching will in turn predict competence in schoolwork, investment in schoolwork, and a sense of self-actualization.

Hypothesis D: Hypotheses A to C (the structural model) will be confirmed among beginning teachers from different cultures, although cultural differences are expected in the ways their needs are expressed.

The hypothesized structural model is presented in Figure 1.

Method

Participants

The participants were beginning teachers in the first year after internship who took part in workshops for beginning teachers in the college (10 sessions, 40 hr). The college is attended by students from different cultures, including Jews and Bedouin-Arab pre-service teachers training to become teachers in a range of specialties, such as special education, Arabic, literature, mathematics, and physical education. They participate in intern workshops, and most go on to participate in beginning teacher workshops. Thus, students from all subjects taught at the college participated in the workshops.

The sample consisted of 261 beginning teachers, of whom 189 (72%) were female and 72 (28%) were male; 200 (77%) were Bedouin Arabs and 61 (23%) were Jews. They taught in a variety of educational settings: kindergarten (15%), elementary school (61%), middle school, and high school (24%).

Israel's education system structures schools mainly in relation to age: preschool (up to age 6), elementary school (ages 6–12), middle school (ages 12–15), and high school (ages 15-18). There are separate schools for Jews and Arab-Bedouins (as well as for other sectors). Thus, the sample reflects the Israeli educational system.

Research Tools

The research tools were validated in previous studies with teacher populations (Kaplan & Madjar, 2017; Roth et al., 2007). All the reliability coefficients were found to be adequate, ranging between .67 and .95 (see Table 2). The responses in the various questionnaires ranged from "strongly agree" (5) to "don't agree at all" (1).

Reporting About the Workshop

Need support by the workshop facilitator. To evaluate perceptions of need-supportive behaviors by the workshop facilitator, a scale based on previous studies (Assor et al., 2002; Kaplan et al., 2014) was developed and validated for a population of teachers (Kaplan & Madjar, 2017; Roth et al., 2007). The questionnaire comprised 14 items, which included support for relatedness, competence, and autonomy (e.g., "It is important for the facilitator to hear what each person in the

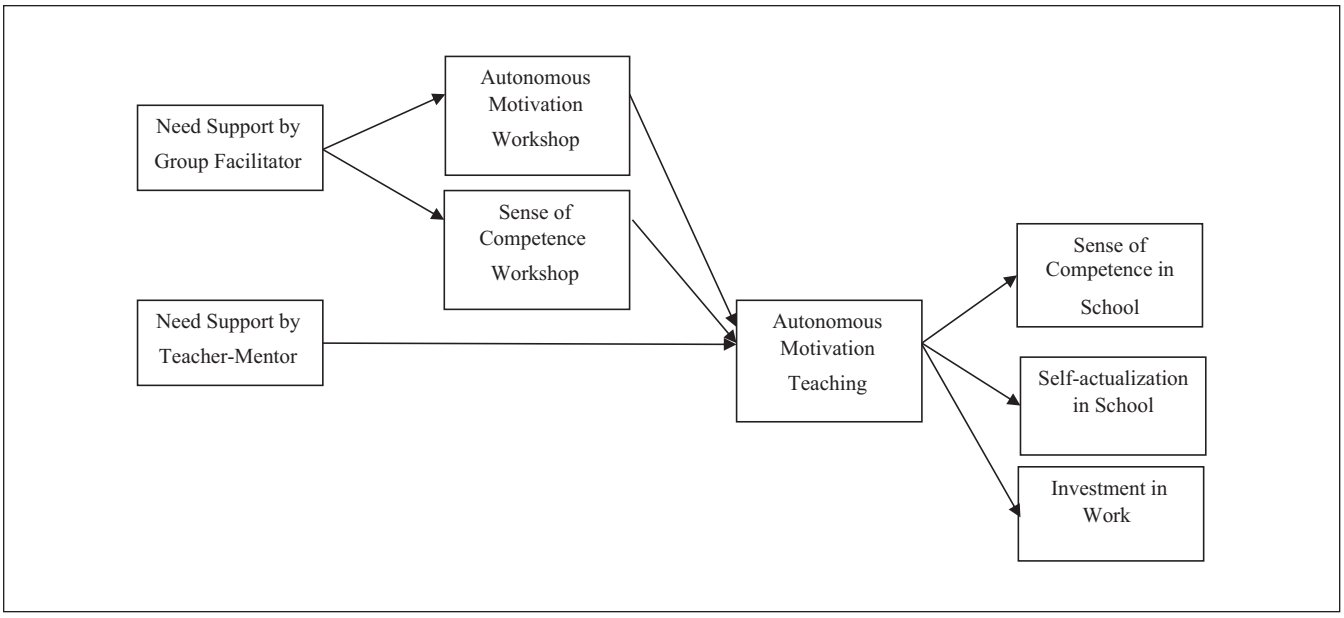

Figure 1. The hypothesized structural model.

Table 2. Means and Standard Deviations and Internal Reliability of the Research Variables.

	M	*SD*	Reliability
Teacher-mentor's need support	4.38	.46	.92
Facilitator's need support	4.43	.47	.91
Autonomous motivation in workshop	4.22	.67	.95
Sense of competence in workshop	4.29	.53	.75
Autonomous motivation at work	4.36	.44	.91
Self-actualization	4.07	.54	.70
Sense of competence in school	4.47	.47	.67
Investment in work	4.18	.54	.73

group thinks, even if it is different from other opinions or their own opinion").

Autonomous motivation in the workshop. A questionnaire was developed and validated by Ryan and Connell (1989), applied in numerous educational studies (Assor et al., 2002), and adapted to teachers (Roth et al., 2007). It comprised 14 items and included subscales of identified motivation (including "I invest efforts in the workshop because in the sessions I learn what it is to be a teacher") and intrinsic motivation (including "I invest efforts in the workshop because the subjects we talk about interest me").

Sense of competence in the workshop. The questionnaire refers to self-perceptions of the ability to cope with tasks and challenges in the workshop and is based on previous research (Assor & Kaplan, 2001; Kaplan & Madjar, 2017). The questionnaire comprised four items (including "I feel that I can perform all the required assignments in the workshop if I want").

Reporting About School and Teaching

Need support—Teacher-mentor. The scale is based on previous studies with teachers (Kaplan & Madjar, 2017; Roth et al., 2007) and was adapted to teacher-mentors. The questionnaire comprised 18 items, including support for relatedness, competence, and autonomy (which includes encouraging choice, relevance, and criticism). For example, "I have a relationship of trust and openness with the teacher-mentor" (relatedness support).

Autonomous motivation in teaching. The questionnaire was adapted to teaching at a school comprising 18 items that include identified motivation, integrative motivation, and intrinsic motivation (e.g., "I invest effort in teaching, because that way I can achieve better results as a teacher").

Sense of competence in school. The questionnaire examines self-perceptions of coping with challenges and difficulties in the schoolwork. Based on previous studies (Assor & Kaplan,

Table 3. Correlations Between the Research Variables.

Variable	2	3	4	5	6	7	8
Facilitator's need support	**49.	.21**	.18**	.47**	.35**	**.34	.36**
Teacher-mentor's need support		.50**	.48**	.51**	.37**	.38**	.42**
Autonomous motivation in workshop			.44**	.33**	.21**	.24**	.26**
Sense of competence in workshop				.29**	.26**	.25**	.25**
Autonomous motivation in teaching					.57**	.62**	.59**
Self-actualization						.54**	.53**
Sense of competence in school							.59**
Investment in work							

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

2001; Kaplan & Madjar, 2017), the questionnaire comprised five items (including "When I decide to perform a difficult task related to my work at school, I can do it").

Self-actualization in teaching. This scale is based on an abbreviated version of a scale used by Friedman and Farber (1992). The self-actualization variable reflects satisfaction with teaching, vitality and energy, and the sense that teaching enables actualization of individual abilities. According to the SDT, satisfying the need for autonomy entails authentic self-actualization (Deci & Ryan, 2000). The scale was validated in previous studies with teachers (Roth et al., 2007). The questionnaire comprises six items (including "I feel that teaching allows me to realize my full potential").

Investment in work. This questionnaire self-reported on investing time and effort in work, preparing subjects related to teaching, keeping abreast of new teaching methods, devoting time at home, and so on. The scale was validated in previous studies with teachers (Assor et al., 2002). The questionnaire comprised five items (including "I do a lot more at school than I am required to").

Procedure

Participants completed questionnaires in the eighth session (out of 10 sessions). Questionnaires were written in Hebrew (since the workshop was conducted in Hebrew) and administered by Hebrew- and Arabic-speaking research assistants without the presence of workshop facilitators. Participants were given an explanation of the study's goals and could choose not to complete the questionnaires. Confidentiality was guaranteed, and no identifying details were recorded on the questionnaires. It took approximately 1 hr to complete the questionnaire.

Results

First, the means, standard deviations, and reliability coefficients of the research variables were examined. Then, the connections between the research variables were examined. In addition, eight one-way analyses of variance (ANOVAs) were performed to examine whether there are differences between the different populations in the research variables. The hypothesized mediation model was analyzed using structural equation modeling (SEM). Table 2 presents descriptive statistics of the research variables.

Table 3 presents the correlations between the research variables.

The analysis indicates significant positive correlations between the workshop facilitator's need support and autonomous motivation in the workshop, a sense of competence in the workshop, and participants' autonomous motivation in teaching. Significant positive correlations were found between teacher-mentors' need support and autonomous motivation in teaching, self-actualization, a sense of competence at school, and investment in work. There were also significant positive links between autonomous motivation in teaching and a sense of competence in school, investment in work, and self-actualization.

To examine differences in the experiences of induction into teaching between Jews and Bedouin Arab teachers, both in the workshop and at school, differences were examined between different research variables. Eight one-way ANOVAs were performed with "sector" as an independent variable and research variables as demand variables. Analyses revealed five significant main effects for the sector, while there were no sector differences in teachers' sense of competence in workshops and at school, and a similar finding was observed for investment in work. Table 4 presents the variables in which a significant main effect was found for the independent variable "sector."

In the context of the workshop, differences were found between Jews and Bedouin Arab teachers in the *variables*—perception of the facilitator's support in needs and autonomous motivation in the workshop. Compared with the Bedouin Arab beginning teachers, the Jewish beginning teachers perceived the workshop facilitator as more need supportive. However, the Jewish beginning teachers expressed less autonomous motivation in the

Table 4. One-Way ANOVA Results for the Study Variables.

Variable	*M*s and *SD*s		Results of one-way ANOVAs
	Bedouin Arab	Jews	
Facilitator's need support in workshop	$M = 4.39$, $SD = .46$	$M = 4.62$, $SD = 41$	$F(2, 248) = 6.50$, $p < .01$
Autonomous motivation in workshop	$M = 4.32$, $SD = .52$	$M = 3.91$, $SD = .98$	$F(2, 248) = 7.61$, $p < .001$
Teacher-mentor's need support	$M = 4.33$, $SD = .45$	$M = 4.60$, $SD = .45$	$F(2, 248) = 9.05$, $p < .000$
Autonomous motivation in teaching	$M = 4.33$, $SD = .42$	$M = 4.48$, $SD = .4$	$F(2, 248) = 3.09$, $p < .05$
Self-actualization in teaching	$M = 4.27$, $SD = .51$	$M = 4.53$, $SD = .53$	$F(2, 248) = 8.76$, $p < .000$

Note. ANOVA = analysis of variance.

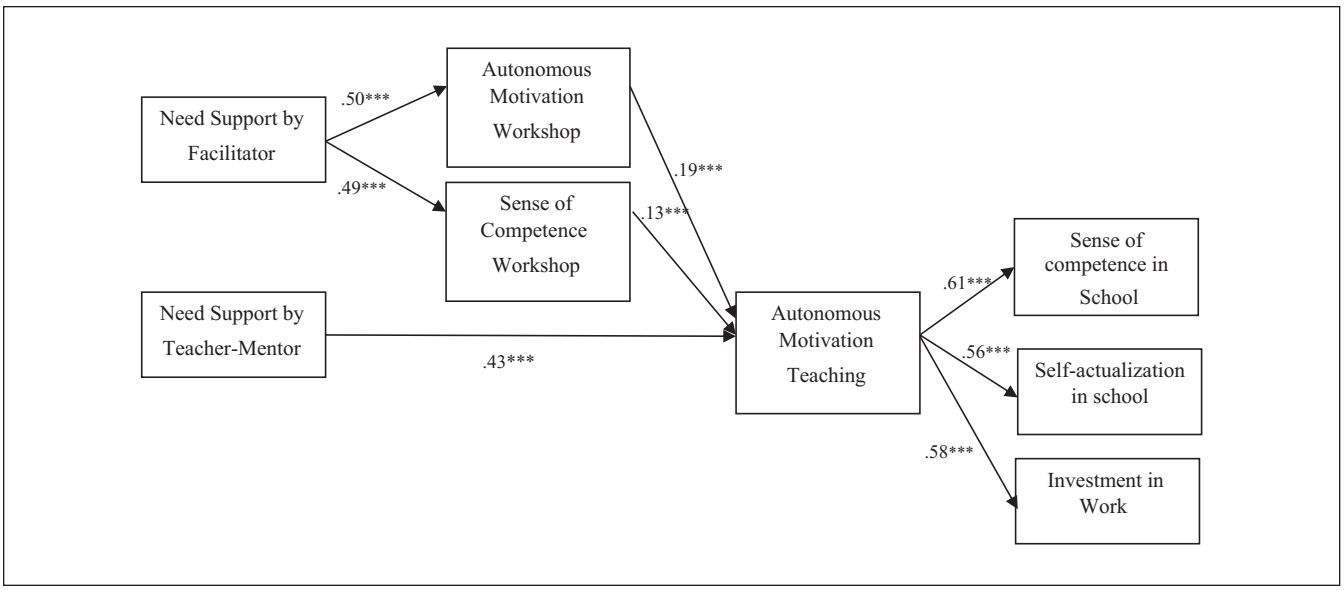

Figure 2. Results of the SEM analysis.
Note. The outcome variables were controlled with "sector." SEM = structural equation modeling.
***$p < .001$.

workshop compared with the Bedouin Arab beginning teachers.

In the context of school, significant differences were found in the variables of teacher-mentors' need support, autonomous motivation in teaching, and self-actualization in teaching. Compared with Bedouin Arab beginning teachers, Jewish beginning teachers perceived the teacher-mentors as more need supportive and expressed higher levels of autonomous motivation in teaching and self-actualization in teaching.

The hypothesized structural model was analyzed using SEM. The model included variables of the facilitator's support and the mentors' support as exogenous variables. A sense of competence in the workshop, autonomous motivation in the workshop, and autonomous motivation in teaching were mediating variables, whereas a sense of competence in school, self-actualization, and investment in work were dependent variables. To understand the unique contribution of facilitators' need support and mentors' need support to teachers' outcomes in school, the author controlled the outcome variables with "sector" (the cultural aspect).

The results of the model goodness-of-fit indices for the data show that the hypothesized model fits the data and is a good fit. The values are as follows: $\chi^2 = 73.48$, $df = 20$, $p = .00$; normed fit index (NFI) = .93; incremental fit index (IFI) = .96; comparative fit index (CFI) = .95; root mean square error of approximation (RMSEA) = .08. Subsequently, connections in the hypothesized model were examined. Figure 2 shows results for the hypothesized structural model.

The structural model and the expected connections were clearly confirmed. The facilitator's need support predicted the beginning teachers' sense of competence in the workshop ($\beta = .49$, CR (Critical Ratio) = 8.96, $p < .001$) and beginning teachers' autonomous motivation in the workshop ($\beta = .50$, CR = 9.29, $p < .001$). The beginning teachers' sense of competence in the workshop predicted their autonomous motivation in teaching ($\beta = .13$, CR = 2.40, $p = .01$). The beginning teachers' autonomous motivation in the workshop

predicted their autonomous motivation at teaching (β = .19, CR = 3.35, $p < .001$). Furthermore, teacher-mentors' need support predicted autonomous motivation in teaching (at school) (β = .43, CR = 7.87, $p < .001$), which in turn predicted sense of competence in school (β = .61, CR = 12.40, $p < .001$), investment in work (β = .58, CR = 11.26, $p < .001$), and sense of self-actualization (β = .56, CR = 10.68, $p < .001$). In addition, this sector had no significant association with teachers' sense of competence in school, investment, or self-actualization.

Discussion

The study examined the unique contributions of supporting beginning teachers' needs, both by the workshop facilitator at college and teacher-mentors at schools, to predict outcomes related to optimal functioning and integration in the workshop and the school. The findings indicate that the more beginning teachers perceived the facilitator and the teacher-mentor as need supportive, the more they expressed better integration into schools and better functioning as teachers.

The results show that facilitator's need support predicted the beginning teachers' sense of competence and autonomous motivation in the workshop, which in turn predicted autonomous motivation in teaching. Autonomous motivation in teaching was also predicted by teacher-mentors' need support and in turn predicted various outcomes that reflect optimal integration into the school: a sense of competence in school (motivational aspect), investment in work (behavioral aspect), and a sense of self-actualization (identity construction aspect).

These findings confirm previous studies demonstrating the effectiveness of support workshops for beginning teachers (Ingersoll & Strong, 2011; Kaplan et al., 2016) and the positive outcomes of the mentoring process (e.g., Ingersoll & Strong, 2011; Richter et al., 2013). The findings indicate the unique contributions of the workshop facilitator and the teacher-mentor and their joint effect on beginning teachers' autonomous motivation in teaching. In other words, the outcomes attesting to optimal integration into the school were predicted both by the facilitator's need support in the college workshop and by teacher-mentors' support in the school. In addition, it seems that need support in one context (the workshop) affects motivational processes that are related to another context (the school). These findings are unique to the present study.

Importance of Supporting Beginning Teachers' Needs During Induction Period

The findings indicate that a need-supportive environment promotes optimal integration of beginning teachers into the school. Reports on teacher dropout and various findings regarding difficulties experienced by beginning teachers (Pritzker & Chen, 2010) suggest that they experience need frustration. It emerged that the motivational mechanism identified in the study can be employed a means to contend with difficulties experienced by beginning teachers.

Studies focusing on choosing teaching as a career have found that reasons for this career choice are usually autonomous, but teachers also choose the profession for extrinsic reasons (Richardson et al., 2014). Thus, in workshops designed for beginning teachers, we may find teachers with extrinsic motivation or teachers whose motivation is transitioning from autonomous to controlled motivation due to difficulties experienced. Accordingly, supporting teachers' needs, both in the workshop and at school, may help preserve the autonomous motivation that many teachers arrive with and prevent its erosion and, on the contrary, create the conditions to promote internalization of the teaching profession and its demands. The key to these processes is a need-supportive environment (Ryan & Deci, 2017).

The negative consequences of suppressing teachers' needs for their autonomous motivation and functioning are now recognized in the literature (Vansteenkiste & Ryan, 2013), hence the need to create a support network for teachers at the induction stage. According to SDT, two types of support resources—an external and an internal one—can be used to help teachers (Vansteenkiste & Ryan, 2013). The external support comes from various individuals with whom the teacher interacts (e.g., the principal, the teacher-mentor, or other teachers). In the present study, this resource is represented by the support of the workshop facilitator and the teacher-mentors. The internal resources are the motivational self-processes that develop when teachers experience support in their needs, which serve as resilience factors mitigating their difficult experiences as beginning teachers.

Vansteenkiste and Ryan (2013) contend that people who act autonomously are equipped with internal resilience that may help them in their personal and professional lives. Thus, the processes that teachers experience in the workshop may have an impact that moderates the negative implications of difficulties encountered by beginning teachers for their integration into the school and teaching. The present study did not explore the experience of need suppression, which is an aspect that merits further study.

The research findings also indicate a possible link between experiencing support in psychological needs and identity construction. Assor (2012) conceptualizes the need for autonomy as a need to realize and form authentic values, goals, and interests that will chart the teacher's professional path. This is an identity construction process that requires a need-supportive environment to progress (La Guardia, 2009).

According to La Guardia (2009), life transitions may present individuals with new challenges as they confront the need to incorporate new activities, relationships, and roles that are ultimately congruent with the way they perceive

themselves. Furthermore, the induction phase is a normative professional developmental stage that may lead to essential questions of identity (Kaplan et al., 2016). Teachers' difficulties may raise questions concerning their suitability for the profession and their desire to remain in it. A need-supportive environment that promotes explorative processes (Kaplan et al., 2016) also enables identity construction processes that reinforce teachers' autonomous motivation in teaching (i.e., their identification with the profession, its values, and the requirements involved).

The Cultural Perspective

The findings support the applicability of SDT in different cultural groups (Ryan & Deci, 2017) and add to previous studies indicating the importance of the need for autonomy in diverse societies (Chirkov et al., 2003; Jang et al., 2009). Nonetheless, differences were found between the groups, indicating that the motivational experience of Jewish teachers was more positive than that of their Bedouin Arab counterparts.

According to the SDT, there will still be differences between cultural groups in how need satisfaction is expressed (Deci & Ryan, 2000). The present study found that the Jewish beginning teachers perceived the workshop facilitator as more need supportive than their Bedouin Arab counterparts. However, the Jewish teachers expressed less autonomous motivation in the workshop than the Arab teachers. The Jewish teachers perceived their teacher-mentor as more need supportive and expressed higher levels of autonomous motivation and self-actualization than their Arab counterparts.

Including both support environments—the workshop and the school—in one study enables us to offer a possible explanation for the findings, which should be examined in future research. The findings indicate that the Bedouin Arab beginning teachers' mentoring experience was less satisfactory than that of their Jewish counterparts. This raises questions concerning the nature of teacher-mentors' support for beginning teachers in the Bedouin schools. A follow-up study should examine whether the school's support system is structured and consistent, and also examine the quality of the mentoring. In terms of SDT, the follow-up research should assess the extent to which the teacher-mentors support the autonomy of beginning teachers, as the idea of autonomy may be disharmonious with the collectivist Bedouin culture.

As noted, according to SDT, the need for autonomy is universal. Thus, as this study found, teachers in all cultures respond positively to need support. However, the characteristics of need support as perceived by the beginning teachers in the present study concerning the quality of mentoring may reflect the characteristics of the specific social context. This claim is supported in works by Chirkov and his colleagues (Chirkov et al., 2003; Chirkov & Ryan, 2001). Chirkov and Ryan (2001) compared Russian and American participants and found that Russian adolescents perceived their parents and teachers as more autonomy suppressive than their American counterparts, but in both samples, autonomy support predicted academic motivation and well-being. Consequently, there may be differences related to the nature of mentoring offered by teachers in the schools in different population sectors.

Studies show that there may be different perceptions of mentoring. For example, a review conducted by Hennissen et al. (2008) found that the dominant mentoring style was a directive style. The researchers claim that beginning teachers' learning improves if the mentors relate to individual differences between teachers and the specific nature of the school. It seems that need-supportive mentoring can lead to more quality outcomes. The mentoring style may reflect cultural differences. Thus, teacher-mentors in the Bedouin sector may be less autonomy supportive, a style that reflects a collectivist culture. This mentoring style may explain why the Bedouin Arab beginning teachers have lower levels of autonomous motivation and self-actualization compared with their Jewish counterparts.

Recommendations for Beginning Teacher Workshops

Growth Resources Induction Unit at Kaye Academic College of Education is SDT-based. To implement such an approach, several measures must be undertaken. First, the humanistic approach focusing on creating a need-supportive environment should be promoted among workshop facilitators. To do this, facilitators should be invited to clarify their views of ways to motivate schools and university/college students and their guiding approaches, for example, by holding a dialogue with facilitators around the following questions: What is autonomy? What is the importance of the need for autonomy in different cultures? Once the guiding concept has been established and agreed on, processes supporting teachers' psychological needs in the workshops may be carried out.

The principles of the SDT include three core practices: support for autonomy, support for competence, and support for relatedness (Assor et al., 2002; Kaplan & Madjar, 2017). Kaye College has developed indicators for need support, which are presented in Table 5 and include some of the core principles of group processes.

Limitations and Recommendations for Future Research

The present study has several limitations from which recommendations for follow-up studies are derived.

The first limitation pertains to the research tools, which are based on self-report questionnaires as the sole source of information. Some question the reliability of respondents' self-perceptions (Fulmer & Frijters, 2009), while others claim that

Table 5. SDT-Based Group Work Practices.

Support for relatedness
• The group as a safe place, rules of safe dialogue
• Supportive environment, non-judgmental and non-competitive
• Experiences that enhance familiarity among the group members
• Reflective dialogue, developing an emotional language, sharing experiences and feelings
Support for competence
• Focusing on personal strengths
• Framing a problem or difficulty as a challenge for growth
• Developing need-supportive communication skills
• Giving and receiving feedback (specific, non-judgmental)
Support for autonomy
• Discussing authentic and relevant cases from the school and the classroom
• Allowing free expression, self-representation (teacher's voice at the center)
• Partnering in making decisions related to the group
• Discussing parallel processes between the workshop and the classroom or school—supporting relevance
• Encouraging initiative in the classroom and the school based on personal strengths and interests
• Adapting the skills learned to the culture or the unique context of the school

Note. SDT = self-determination theory.

in the educational context, what influences outcomes are participants' subjective perceptions (Madjar et al., 2013). In addition, self-reports can reflect a response bias (e.g., in situations of social desirability) which may be characteristic of beginning teachers from a collectivist culture (Al-Krenawi, 2010). In future studies, it is recommended that a number of research tools be employed to collect data (e.g., incorporating observations from the beginning teachers' workshops such as those developed by Reeve et al., 2004).

The second limitation pertains to the study participants. Most participants were women and Bedouin Arab beginning teachers. In future research, it is advisable to study more representative sample and include more men and more Jewish beginning teachers.

The third limitation is the type of study (i.e., cross-sectional). This does not enable an examination of causality, and directions of the influences cannot be deduced from the study. Future research should also address the issue of causality. For example, a number of measurements can be made during the school year, or the motivational variables could be studied in a longitudinal study that would begin in the internship year and continue into the first year of teaching.

In conclusion, this study reinforces the findings of previous research, indicating the contribution of a need-supportive environment to a variety of positive outcomes in various cultures. The study focused on a unique population of beginning teachers, showing that supporting their psychological needs has led to optimal teaching functioning, in addition to an identity-related aspect of self-actualization. The study also makes a contribution to the knowledge on mentoring in different cultures from a perspective of SDT-based mentoring of beginning teachers; this is a new angle of research which has not yet been reported in the literature. Additional innovation in this study is the examination of the effects of supporting beginning teachers' needs in a college-located workshop; as the study shows, these effects extended beyond the workshop and were demonstrated in the school.

The new knowledge revealed by the study may assist policy makers in their efforts to counter induction hardships and high drop-out rates among new teachers. The findings highlight the importance of SDT-based intervention at the induction stage. The study offers a unique approach that can be applied to teachers at various stages of their professional development, from the training stage, through the induction into teaching stage, and continuing into years of in-service teaching.

Acknowledgments

I would like to thank Editage (www.editage.com) for English language editing.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Haya Kaplan https://orcid.org/0000-0001-5376-6892

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