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Examining Self-Determination Theory in the Context of Higher Education and Distance Education

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Abstract

Self-determination theory (SDT) offers a conceptual framework and practice for more successful and highly motivated university students in distance education. In the context of distance education, SDT has been examined from the perspective of students, academicians and system administrators. In this study, it is aimed to evaluate the distance education processes of university students within the scope of SDT, to determine the current situation and to obtain suggestions for high success and motivation. In the study conducted in a phenomenological framework, the questions “What is being done?” and “What can be done?” were answered by university students, academics and system administrators regarding the dimensions of autonomy, competence and relatedness. 89 university students, 17 academicians and 12 system administrators were interviewed and inductive analysis was performed. As a result of the analysis, stakeholder views on how autonomy, competence and relatedness needs are met and how they can be met are given in themes and sub-themes. In addition to the findings supported by the literature, new findings are also noteworthy. Implications for future higher education, distance education and SDT research and practice are discussed.

Introduction

SDT is recognized as a universal macro theory that emphasizes that high achievement in the learning process is associated with high motivation (Vansteenkiste et al., 2018). SDT is an approach that supports and promotes personal development and well-being, motivation, competence and sustainability of well-being in multiple contexts (Gagné & Deci, 2014). SDT is a theory that aims to increase well-being, protect mental health, and improve the relationship and harmony with the environment in which the individual interacts in order to sustain the development of the individual in a healthier way (Akyürek, 2019). Moreover, SDT is a theory of motivation that has been applied in many fields such as business, commerce, health, and education and is empirically supported by evidence (Sun et al., 2019). SDT provides an evidence-based framework for real-world applications and interventions. It is important to examine the propositions and hypotheses of SDT in different contexts and to access theoretical and practical evidence. This is because each field of application involves unique arrangements of SDT variables and challenges to the application of theory (Van den Broeck et al., 2016). Practices for the reflection of SDT in learning mechanisms are only possible by reporting and exemplifying the results in different contexts.

SDT focuses on the need for autonomy, competence and relatedness for an effective and efficient learning process (Ryan & Deci, 2000b). While the fulfillment of these three universal and intrinsic basic psychological needs (Ryan & Deci, 2019) within the scope of SDT makes it possible to achieve high motivation and high academic achievement; in cases where these feelings cannot be satisfied, the learning process can be characterized as inefficient and the student as a failure. Thanks to the three psychological needs that are met in social and academic processes, individuals experience well-being, internalization and psychological growth (Deci & Ryan, 2000; Van den Broeck et al., 2016). Satisfying basic psychological needs also affects the development and well-being of the person in basic areas of life (Chiu, 2022; Luarn et al., 2023; Rosli et al., 2022; Slemp et al., 2018; Siacor & Ng, 2024; Standage & Ryan 2020).

It is stated that meeting the basic psychological needs of students increases their school success, their likelihood of attending school, their tendency to learn and apply what they have learned, their intrinsic motivation and psychological well-being (Ahmadi et al., 2023). Satisfying these three needs at the same time is necessary for psychological health and subjective well-being (Deci & Ryan, 2000). It is also known that when the three psychological needs are satisfied, the anxiety levels of the individual decrease (Kasser & Ryan, 1999). Inhibition or insufficient satisfaction of basic psychological needs has a negative impact on people's social relationships, performance and psychological well-being (Jeno et al., 2022; Ryan & Deci 2017; Wang et al., 2022). After unmet needs, it is inevitable to reach undesirable learning performance.

When the psychological needs that constitute the three pillars of SDT are examined in order; Autonomy refers to the fact that a behavior exhibited is completely dependent on one's own will (Deci, 1975) and its effect on psychological well-being is emphasized (Ryan & Deci, 2000b). The autonomous emergence of behavior without any suppressive and controlling external factors on the individual explains this need (Ryan & Deci, 2020). In the presence of autonomy, the individual shows high interest in the behavior and attributes personal value to it (Ryan & Deci 2020). This can provide success and motivation to the individual. When there is an external motivation (reward-punishment), the behavior loses its meaning and importance (Ryan & Deci 2020). This situation is far from real success and motivation. Autonomy is the experience of using one's free will, making self-determination and taking initiative in behavior (Brown & Ryan, 2004). The need for competence is related to the individual's feeling of being capable in its activities (Ryan & Deci, 2000b).

Competence, which explains the individual's interaction with its environment, learning and adaptation (Deci & Ryan, 1985), brings development and success over time (Harter, 1978). Meeting the need for efficacy can also be explained as the individual's feeling sufficient in the process of producing the desired results (Milyavskaya et al., 2009; Nunes et al., 2024; Chiu et al., 2024; Ojo et al., 2024; Siacor & Ng, 2024). Relatedness is defined as being in a relationship with one's environment, establishing a connection, belonging to this environment, having the sensitivities and common culture required by belonging (Cihangir Çankaya, 2009). The individual whose need for relatedness is met is supported in social relationships and feels fulfilled (Alamer et al., 2023; Sheldon & Titova, 2023; Shin & Johnson, 2021; Ingledew et al., 2004). It is possible to compare theory and practice by evaluating these three basic needs in different learning contexts. Within the scope of this study, it has been possible to evaluate distance education and higher education contexts, which are not often addressed, with SDT components.

SDT, Higher Education and Distance Education

Universities offer a variety of social and academic contexts in which social interactions and community spirit are formed and students can feel themselves as members of a community. The individual in university life faces many responsibilities, makes many decisions and faces the positive or negative consequences of its decisions. Effective, productive, enjoyable and socially structured experiences are very important for the university period, which is characterized as the transition point between student and working life. Individuals are expected to approach the university willingly, accept it and establish their relationships in line with their academic and social expectations. Universities are committed to providing an appropriate environment for students with learning mechanisms that will meet these expectations.

The autonomy, competence, and relatedness components of SDT have a significant impact on students' learning. Students with high levels of self-determination (SD) can struggle against difficulties, set difficult goals for themselves and employ deep learning strategies. Thus, their achievement levels increase (Niemic & Ryan, 2009; Deci & Ryan, 2000). When the literature is examined, it is seen that the SD status of many university students is related to their academic achievement and academic motivation, which supports this view (Pelikan et al., 2021a, 2021b; Jeno et al., 2019; Hagenauer et al., 2018; Zhou, 2016; Reka et al., 2015; Köseoğlu, 2013). One of the important elements of this harmony is that in a structure where autonomy is supported, students' intrinsic motivation increases and success is triggered by ensuring their ownership of the process (Reeve, 2009). For university students, their education at university and this whole process has a critical role. In this process, making students feel that they are autonomous and encouraging this will help them to struggle against difficulties and adapt to the situations they face. Therefore, when considered holistically, their personal development will also be supported (Black & Deci, 2000). Throughout their university life, students will explore their own interests and aspirations. In this context, SD is important in terms of contributing to the development of individuals' identity formation, emotional well-being and decision-making competencies.

Chen et al. (2015) stated that students' feeling autonomous in academic processes improves their motivation and sense of commitment, and contributes to them to know themselves better. In some studies, it has been concluded that students who believe that they can determine their academic education or interests outside the university have higher self-efficacy and well-being than others (Vallerand, 1997; Vansteenkiste et al., 2004). Supporting students' autonomy in universities not only provides them with a good learning environment, but also ensures their well-being and satisfaction with the process. Because autonomy, competence and relatedness are recognized as psychological needs that help individuals increase their intrinsic motivation (Deci & Ryan, 2008). In negative and oppressive conditions where these components are not supported, students' feelings of autonomy will be damaged, their motivation will decrease and their negative moods will increase (Ryan & Deci, 2017).

Although SDT is the most frequently used theory in the university context (Blanco-Novoa et al., 2023; Rosli & Saleh, 2023; Sanchez-De Miguel et al., 2023; Zhou & Li, 2023), the preponderance of quantitative studies raises the suspicion that the relationship between SDT and the university is not sufficiently explored from a qualitative perspective. It is also important to employ various research paradigms to recognize the rapid diffusion of SDT as

well as its future direction, potentials and gaps in practice. In this way, the position of SDT within online learning ecosystems will be examined from different cultures, perspectives and methodological approaches. In addition to the intense interest in SDT, it will help students, academics and instructional designers for real “motivation” and “success” in terms of what can be done in practice in the context of online education. What solutions do or can online learning environments contain for university students in order to meet the three psychological needs emphasized within the scope of SDT in educational environments? This question helped to shape this research. While the incredible contribution of SDT to the learning process in digital environments and materials has been proven by many studies (Alturki & Aldraiweesh, 2023; Bergdahl et al., 2023; Chiu et al., 2022; Luarn et al., 2023; Soltani Nejad et al., 2022; Zhou & Li, 2023), the effort to understand and solve basic psychological needs from the primary data source should not be ignored. SDT can be considered as a framework that integrates the problems experienced in distance education processes (Chen & Jang, 2010).

In distance education processes, students need more intrinsic motivation and autonomy skills such as decision-making compared to face-to-face learning environments (Wong et al., 2019). Face-to-face students may receive more pressure and encouragement from both teachers and other students to attend and study in classroom settings. However, in distance education, these are mostly dependent on students' self-regulation, self-determination and self-motivation (Zhou & Zhang, 2024). It is stated that one of the most important problems of distance education is the effectiveness of education, and another one is that students drop out of the education process before completing it. It is also emphasized that students' intrinsic motivation, which reflects their level of autonomy, is an important reason for them to drop out without completing their education (Barak et al., 2016). Therefore, it can be said that developing students' intrinsic motivation is more important especially in distance education processes.

Within the scope of SDT, it is important to organize distance education processes on the basis of SDT since students' needs for autonomy, competence and relatedness are met and their intrinsic motivation is supported, thus there is no need for external reinforcers in learning processes (Ryan & Deci, 2000a). In addition, the features such as flexibility, computer-supported communication and social interaction required for a successful distance education process correspond directly to the constructs of autonomy, competence and relatedness on which SDT is based (Chen & Jang, 2010). Therefore, it can be said that SDT strategies will contribute to distance education processes as well as all educational environments. In previous studies, it is seen that students' intrinsic motivation and participation in the courses increase and their completion rates increase depending on the design of SDT-based distance education processes (Karkina et al., 2020; Martin et al., 2018; Sun et al., 2019).

It can help to predict problems related to elements such as motivation, class participation and performance in distance education processes (Deci & Ryan, 1985) and effective prescriptions can be produced with SDT. With SDT-based prescriptions, learning strategies can be applied in different areas in the context of education (Chen & Jang, 2010; Guay, 2022; Reeve, 2012; Deci & Ryan, 2012; Sun et al., 2017). In particular, in the context of instructional technologies, the relationship between SDT and digital gaming (Uysal & Yildirim, 2016; Proulx et al., 2017), blended learning (Chiu, 2021), digital literacy (Chiu et al., 2022), online learning (Chiu, 2022) and mobile learning (He & Li, 2023; Jeno et al., 2022; Marrie, 2023; Nikou & Economides, 2017; Yang et al., 2019) has been studied in recent years. However, a limited number of SDT studies have investigated how to design

technological environments. The process by which a technological design, environment, or material meets the psychological needs of learners in order to increase student achievement and promote engagement in the learning process has been severely understudied, suggesting that current SDT-based research should take more account of the promise and problems associated with learning with technology (Ryan & Deci, 2020). They also suggested that more SDT-based studies are needed to understand how technology itself can support the need for better motivation, resulting in better engagement and learning (Ryan & Deci, 2020). They emphasize the need for in-depth research on how instructional technologies can lead to higher motivation and student engagement, especially in the context of distance education and e-learning (Ryan & Deci, 2020).

From the perspective of stakeholders who are actively involved in the distance education process in higher education, practical suggestions on how to provide better learning and higher motivation in the context of SDT will be contributed. In addition, the current distance education implementation process was also examined in the context of SDT. Three research questions were generated in line with the motivation of the study:

- (1) What are the current situation and suggestions for supporting competence in distance education?
- (2) What are the current situation and suggestions for supporting relatedness in the distance education process?
- (3) What are the current situation and suggestions for supporting autonomy in the distance education process?

Method

The study was conducted within the framework of descriptive phenomenology. Phenomenology is an appropriate method to examine the essence and meaning of the relationship between distance education, higher education and SDT concepts. Phenomenology reveals the essence of the phenomenon being studied through the experiences of the participants (Husserl & Moran, 2012). Phenomenology helps researchers to reveal the perspectives and meanings of the phenomenon that we are aware of but do not have an in-depth, comprehensive or complex understanding (Yıldırım & Şimşek, 2021). Subjective experiences, detailed descriptions and analyzes are used to explain the phenomenon in depth.

Participants

The participants of the study were higher education students, academicians and experts/system administrators. A total of 89 higher education students, 17 academicians and 12 distance education system administrators. The students who participated in the study were selected among those who had taken at least two semesters of distance education courses in higher education. In the selection of lecturers, it was taken into consideration that they had taught distance education for at least four academic years. Distance education system administrators were selected from among experts who have been developing and managing the distance education system and its functioning for at least four years, managing support services for the development of teaching processes and working on content development. Participants stated their current situation and suggestions in the context of their own profiles and experiences for the applicability of self-determination theory in distance education.

Data Collection

In the context of phenomenology, the researcher is the primary data source and is responsible for understanding the participant experience in depth (Chenail, 2012). A structured questionnaire was prepared and completed online by the participants. Data were collected in the spring semester of 2024. In phenomenological research, interviews are widely used with open-ended questions (Mascolo & Kallio, 2020). These forms consist of open-ended questions to explain the relationship between distance education, higher education and SDT and to answer the research questions.

The forms are organized according to students, academics and distance education system administrators. The aim of all three forms was to collect detailed information about the opinions and suggestions of students, academicians and distance education system administrators regarding the implementation of SDT in distance education. The questions developed by the researchers were then reviewed by experts in the field of distance education (n=3), SDT (n=2) and higher education (n=2). Afterwards, the researchers reviewed the additions, corrections and deletions suggested by the experts and made the necessary adjustments.

Data Analysis

Content analysis was used in the data analysis process. For the data analysis process, the seven-step analysis phase proposed by Colaizzi (1978) was taken as a reference and the analysis results were reported in tables. The inductive analysis process is visualized in Figure 1.

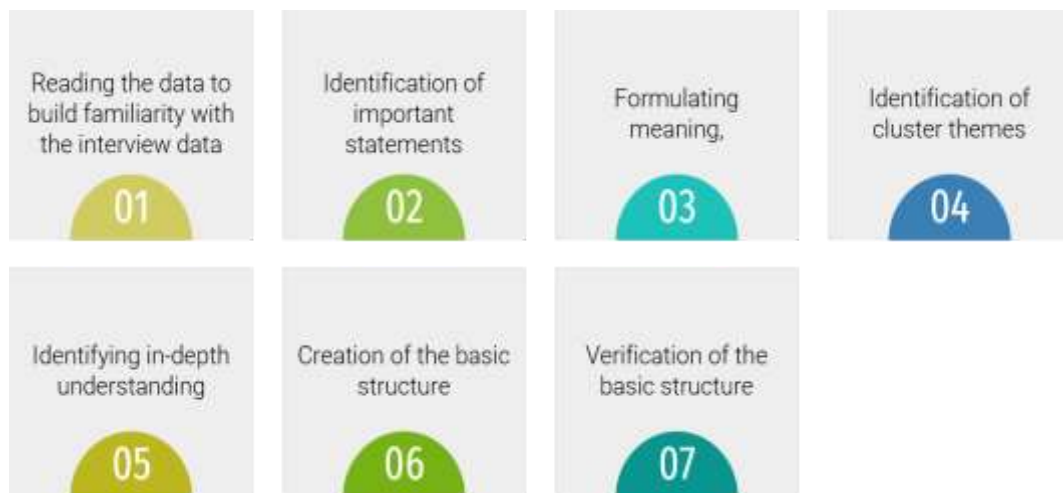


Figure 1. Steps of the Qualitative Data Analysis Process

The data obtained in the digital environment were coded by the first researcher. Then, the other two researchers independently re-coded the data, and the researchers came together to finalise the coding. In the process of forming cluster themes, the relevant literature was taken into consideration and attention was paid to ensure that the cluster themes form a meaningful whole within themselves. The findings related to the themes were reported by the researchers and, when necessary, direct quotations from the participants were included for a better understanding of the themes.

Reliability and Validity

Within the scope of qualitative research, validity explains the verifiability of the research results and reliability explains the consistency of the study design. The criteria of credibility (internal validity), transferability (external validity), consistency (internal reliability) and confirmability (external reliability) stated by Lincoln and Guba (1985) were taken as reference in this study (Lincoln & Guba, 1985). In terms of credibility, the responses were recorded in an unbiased manner as the participants entered their own views in the online form. Within the scope of transferability, detailed reporting was made. Within the scope of consistency, direct quotations were included. Within the scope of confirmability, the findings of the study were discussed in detail with the relevant literature.

Results

The focus of the study is the evaluation of SDT in higher education and distance education contexts. This focus was addressed in a qualitative framework and the current situation and recommendations were determined.

Current Situation and Recommendations Regarding Competence in Distance Education Process

In line with the opinions obtained from students, academicians and distance education system administrators, two cluster themes were determined as the current state of meeting the need for competence in distance education and suggestions for the future. The sub-themes and codes obtained under two cluster themes are given in Table 1.

Table 1. Themes and Sub-themes related to Competence in Distance Education

Theme	Sub-theme
Current situation	Not setting rules and expectations together with students
	Not giving enough value to student perspective
	Not modelling values
	Not allowing partial choice (activity, homework, project management, etc.)
	Not giving clear feedbacks for behaviours
	Lack of respectful, polite, attentive behaviour to students
	Controlling behaviour
Recommendations	Increasing practical
	Providing detailed feedback
	Increasing question-answer based activities
	Ensuring active participation of the trainer
	Providing mentor support
	Provision of scaffolding
	Making detailed explanations
	Increasing discussion-based activities

Theme	Sub-theme
	Increasing the contextualisation of students' right to choose
	To emphasise the importance of student ideas in determining course objectives

As can be seen from Table 1, there are different opinions about the current situation regarding meeting the "competence" needs of university students in distance education processes. The fact that the distance education process is not designed together with the students, partial right of choice is not provided, and student opinions are not valued is observed in the current distance education process.

For better "competence", initiatives such as practices in the learning process, feedback, mentor support, scaffolding, discussion-based activities, and valuing student opinions were expressed. Some of the participant views were given:

"I don't remember that we were asked for our opinions about any subject in any distance education course. Since everyone's conditions are different, I think we should express more opinions both before and during the course." (Student11)

"The more students engage in collective activities such as discussions and brainstorming both with each other and with the instructor, the more competence is supported." (Academician3)

"Many tools in the system can be used to interact more with students. These opportunities are important both to give feedback to the student, to discuss with the student, to collect the survey data needed and to evaluate and restructure the course." (Systemadministrator1)

Current Situation and Suggestions Regarding Autonomy in Distance Education Process

In line with the opinions obtained from students, academicians and distance education system administrators, two cluster themes were determined as the current fulfilment of the need for autonomy in distance education and suggestions for the future. The sub-themes and codes obtained under two cluster themes are given in Table 2.

As can be seen from Table 2, there are different opinions for the current situation regarding meeting the "autonomy" needs of university students in distance education processes. Technical malfunctions, uninteresting learning environments and activities, non-contextual activities, lack of self-organisation are observed in the current distance education process.

Table 2. Themes and Sub-themes related to Autonomy in Distance Education

Theme	Sub-theme
Current situation	Learning environment and content are not interesting
	Technical malfunctions
	Inadequacy of value judgement for learning

Theme	Sub-theme
	lack of self-organisation Inadequacies in content, resource and time management Standardised learning performance expectation Context-free activities
Recommendations	Increasing interest and awareness of learning objectives Enabling individual progress Self-governance Provision of contextual support Supporting digital/technical skills Raising awareness on time and resource management Supporting activities with contextual content Supporting daily life experiences

For better "autonomy", initiatives such as increasing awareness of learning, individual progress, contextual support and content were expressed. Some of the participant views were given:

"Sometimes extra homework and projects are given in the distance education system. But we have problems with uploading, downloading, and packaging of materials in the system. For these reasons, we try to solve the problem by delays or constantly sending e-mails to someone. We do not have an active communication channel for technical support." (Student7)

"In fact, we expect the same progress and similar performance from all students without paying much attention to their differences. We are not aware of the possibilities of the extended education system. With some digital support, we can offer learning content at the appropriate speed and duration for each student." (Academician8)

"In fact, with the support of administrators and instructors, digital skills trainings can be added before the lessons by discussing how to use the system effectively. Students should first complete small trainings and participate in the lesson." (Systemadministrator2)

Current Situation and Suggestions Regarding Relatedness in Distance Education Process

In line with the opinions obtained from students, academicians and distance education system administrators, two cluster themes were determined as the current fulfilment of the need for relatedness in distance education and suggestions for the future. The sub-themes and codes obtained under two cluster themes are given in Table 3. As can be seen from the table, there are different opinions about the current situation regarding meeting the "relatedness" needs of university students in distance education processes. Lack of emphasis on personal development, insufficiency of group-based activities, limited and insufficient student-instructor communication are observed in the current distance education process.

Table 3. Themes and Sub-themes for Relatedness in Distance Education

Theme	Sub-theme
Current situation	Ignoring personal development
	Inadequate quality of communication with students
	Inadequacy of group-based activities
	Limited and unsustainable interactions
	Negative judgements about the trainer
Recommendations	Individual and collaborative interactions with the trainer
	Increasing activities with group participation
	Positive feedback from the trainer
	Individuality comes to the fore in the learning process
	Respectful and attentive behaviour to the student
	Supporting meta-relatedness

For better "relatedness", initiatives such as meta-relatedness, increasing group participation activities, positive communication with the instructor, respectful and attentive communication were expressed. Some of the participant views were given:

"I never enjoy distance education because it is a learning process with zero communication neither with the instructor nor with other friends. Exams that I read on the screen and answer on the screen do not give me pleasure." (Student16)

"For relatedness, it is important that we give students feedback that emphasises their achievements. When students share their successes, they have positive feelings about the process and participate more willingly in learning." (Academician1)

"The distance education system allows individual tasks. For this purpose, a learning environment suitable for each student should be designed and individual feedback and individual activities should be focussed." (Systemadministrator4)

As a result of the synthesis of the opinions obtained for the three research questions, competence, autonomy and relatedness needs of university students for good learning and good motivation in distance education were determined.

Discussion

SDT is a common theory associated with learning. The highly popular SDT has been used to explain and make sense of good learning performance and high motivation in both distance education and university contexts. There is a knowledge gap in the existing body of knowledge on making sense of university students' learning with SDT in the context of distance education. Within the scope of this phenomenological study, the applicability of SDT

for university students in the context of distance education, the current status of SDT, and practical suggestions that can form the basis for new future research were revealed.

It was observed that the findings obtained in the context of competence in distance education are largely related to the literature. In this direction, when we look at the current situation, it is seen that the rules and expectations are not determined together with the students (Salikhova et al., 2021; Bissessar et al., 2019), the student perspective is not given enough value (Farikah et al., 2023; Salikhova et al., 2021; Alamri et al., 2020; Hartnett, 2015), if their opinions are taken, they are given partial choice (Farikah et al., 2023; Salikhova et al., 2021; Alamri et al., 2020; Hartnett, 2015) and controlling behaviours. The lack of explicit feedback on students' behaviours (Pelikan et al., 2021a; Salikhova et al., 2021) was another finding that reinforced these negative situations.

In addition, the lack of respectful, polite, attentive behaviour to students and not being a model for values as another indicator of this are other results obtained. When the suggestions for competence in distance education were analysed, it was seen that they were similar to the literature. Contrary to the current situation, in order for students to be involved in the process; it was stated that student ideas should be emphasised in determining course objectives (Salikhova et al., 2021; Alamri et al., 2020; Filak & Nicolini, 2018) and the context of students' right to choose should be increased (Farikah et al., 2023; Salikhova et al., 2021; Alamri et al., 2020; Hartnett, 2015). In addition to these, the importance of the support given to the students was emphasised; mentor support (Farikah et al., 2023; Pelikan et al., 2021a; Hartnett, 2015), scaffolding (Farikah et al., 2023; Sohrabi et al., 2022; Pelikan et al., 2021a; Tirado-Morueta et al., 2021; Salikhova et al., 2021; Hartnett, 2015) were suggested. Not only for competence; most studies examining the scope of SDT emphasise the importance of implementing teacher support in online and face-to-face contexts (Bedenlier et al., 2020; Chiu, 2021a; Hartnett, 2015; Lietaert et al., 2015; Roorda et al., 2011).

Ensuring the active participation of the trainer, which is one of the recommendations within the scope of the study, is seen as another important element in this direction. In this direction, it is recommended to make detailed explanations (Salikhova et al., 2021) and give detailed feedback (Salikhova et al., 2021; Hartnett, 2015). It was also considered important to increase some activities to support these processes. Increasing discussion-based activities is one of them. Increasing practices and increasing question-answer based activities (Pelikan et al., 2021a; Salikhova et al., 2021) are among other suggestions. Bissessar et al. (2019) mentioned that students with high competence are good at problem solving, Hartnett (2015) mentioned the importance of problem ownership through problem-based learning, and Hsu & Chang (2013) mentioned the importance of employing processes such as problem solving/analysis.

When the literature is examined, it is seen that it is important for students to feel autonomous (Hsu et al., 2019), self-confident (Alamri et al., 2020; Bissessar et al., 2019), high self-esteem (Amponsah et al., 2018), high self-perception (Bissessar et al., 2019), high self-efficacy (Hartnett, 2015) and high self-management (Bissessar et al., 2019). The perceptions of competence can be increased by nurturing the learning processes of students with these characteristics and providing a sense of achievement to students who feel inadequate in the context of these characteristics. In this direction, behavioural intentions (Huang et al., 2019) are important.

Students should have the determination to achieve goals (Farikah et al., 2023) and overcome difficulties (Bissessar et al., 2019), show perseverance (Pelikan et al., 2021a; Bissessar et al., 2019) and the tendency to ask for help when necessary (Farikah et al., 2023; Brubacher & Silinda, 2019) will positively affect their success (Pelikan et al., 2021b; Alamri et al., 2020; Reka et al., 2015; Mayo, 2005). In this direction, flow experience (Farikah et al., 2023; Huang et al., 2019) and avoidance of procrastination behaviour (Pelikan et al., 2021a; Pelikan et al., 2021b) are important. In order to support these behaviours, it is noteworthy that students have positive emotions and perceptions (Alamri et al., 2020; Huang et al., 2019; Hartnett, 2015). The feeling of low overall stress (Brubacher & Silinda, 2019), general motivation (Hsu et al., 2019; Hsu et al., 2019; Filak & Nicolini, 2018; Karsenti et al., 2008), high intrinsic motivation (Müller et al., 2021; Holzer et al., 2021; Pelikan et al., 2021a; Huang et al., 2019) are important in this context. It is seen that general satisfaction (Müller et al., 2021; Holzer et al., 2021; Alamri et al., 2020; Hsu et al., 2019; Chen & Jang, 2010) also has an important contribution. In this direction, as factors that can support satisfaction in distance education; taking into account the student's self-efficacy in the use of technology (Chen & Jang, 2010), providing support to eliminate their ambivalence towards the process (Salikhova et al., 2021), employing a good learning material (Salikhova et al., 2021) and associating the content with life as much as possible (Salikhova et al., 2021; Bissessar et al., 2019) can contribute.

When the current situation of "relatedness" in the distance education process is examined, it is emphasised that there are problems due to ignoring personal development, insufficient quality of communication with the student, insufficiency of group-based activities and limited / unsustainable interactions. It is stated that the main effect that weakens the relatedness of students in distance education processes is the communication problems experienced. This situation causes students to feel isolated and disconnected from the learning community, especially the problems they express as "communication problems and disagreements" and "limited interaction with the wider class" (Hartnett, 2015). It is stated that while contextual supports to be offered while improving students' perceptions of relatedness will be positively effective for students, haphazard and aimless supports that do not care about students' basic needs will have negative effects. Therefore, in order to provide appropriate support strategies in distance education, it is important that teachers understand the needs of their students and create an open, interactive and student-centred atmosphere for students to express their feelings, thoughts and concerns freely (Chen & Jang, 2010).

Students state that when they are not given the opportunity to communicate with a large class and are assigned small group activities, they are dependent only on a small group they are involved in for co-operation and that they cannot communicate with this group when they have disagreements (Hartnett, 2015). This situation also coincides with Brophy's (2010) study. Brophy states that collaborative activities can only be used as an effective method when there is an existing student community. Therefore, in order to successfully use collaborative activities to support relatedness, students should have a sense of belonging.

In their study, Thomas et al. (2014) conducted various interviews with new students who had no previous online education experience and found that 'sense of belonging' was a prominent theme for students in the study. In this context, students mentioned various strategies, such as finding intermediaries (ice breakers) to acclimatise especially those in transition, using low-stakes assessments, incorporating collaboration into course activities,

creating forums or student-only spaces, using virtual, synchronised classrooms, increasing teacher presence, and allowing students to choose their own level of participation as strategies that can encourage a sense of belonging and the formation of a student community. Different from the literature, it is also stated that students' negative judgements about the instructor also undermine relatedness. In order to support relatedness, it was stated that individual and co-operative interactions with the instructor should be increased. In distance education, students' being in contact with their teachers and believing that their teachers care about their feelings enable them to have a positive sense of competence and relatedness (Saputra & Saputra, 2023; Ryan & Deci, 2020). In distance education, it is important that teachers compensate for physical distances, increase the excitement in the learning process, make students think about course topics, facilitate discussions among students, and support each student's development and contribution (Purcell & Lumbreras, 2021).

It has been emphasized that relatedness can be enhanced by increasing group-participation activities. Students' collaborative work in groups can greatly meet their relatedness needs by allowing them to discuss learning content, help each other, and constructively criticize each other (Kennedy, 2007). Relatedness can be achieved by providing a climate that offers warmth and opportunities for connection, but this remains a challenge for designers (Martin et al., 2018). For relatedness, it is important to develop students' sense of learning together as a group. This can be achieved through the use of synchronous online learning environments (e.g., video group calls) where students can reflect on and discuss their learning processes, successes and struggles (Holzer et al., 2021). For example, Hrastinski (2006) tested a synchronous instant messaging intervention and found that adopters engaged at higher levels in class than those who chose not to interact using the instant messaging tool. Therefore, such interventions can be used to encourage relatedness (Glazer & Wanstreet, 2011).

Students' relatedness needs will be supported by the instructor's positive feedback during the process. By encouraging students to participate and communicate effectively, teachers can help students to feel connected to their environment and thus increase their perceptions of relatedness (Garn & Jolly, 2013). Supporting individuality for relatedness also stands out in the findings. Although the sense of relatedness is important, it is also important to provide flexibility to students in distance education since each student's need for relationship is different. While some students want to communicate more frequently with their instructors and peers, some students prefer to work more individually and communicate when they need help. Therefore, giving students the opportunity to choose their own level of interaction and letting them know that their instructors and classmates are there and will support them when they need it will also meet their relatedness needs (Thomas et al., 2014).

Opinions about treating students with respect and care are noteworthy. Relationships in which all partners experience autonomy in communication processes and provide autonomy support to the other contribute positively to the need for relatedness (Deci & Ryan, 2014; Butz & Strupnisky, 2017). The need for relatedness can also be met with meta-relatedness support. Baranik et al. (2017), who used peer mentoring to support communication processes in distance education, concluded that mentoring positively affected students' relatedness needs.

Participants stated that the need for autonomy could not be met in the current situation and the reasons for this

were: lack of interest in the learning environment and content, technical malfunctions, lack of value judgment towards learning, lack of self-organization, inadequacies in content, resource and time management, standard learning performance expectation and decontextualized activities. Although the findings are in line with the literature, new findings have also emerged. In order to meet the autonomy needs of university students in distance education, it was emphasized that providing contextual support would support students' sense of autonomy (Standage et al., 2005; Vallerand & Reid, 1984). It was stated that there was a lack of technical/digital support to meet students' autonomy needs and that there should be initiatives to address this. It is also necessary to provide technical support and assistance (Kuboni & Martin, 2004) and digital competency support taking into account learner expertise (Chiu et al., 2021; Chiu & Lim, 2020; Brooks et al., 2017). The need for autonomy is the experience of using one's free will, making self-determination and taking initiative in behavior (Brown & Ryan, 2003). For this, it is necessary to increase interest and awareness towards learning goals. It can be suggested to construct interesting, relatable, livable and possible learning processes (Hagenauer et al., 2018).

Students' individual progress should be allowed and students should be aware that they are responsible for their own learning process. If students are not able to organize their own learning processes, they are unable to internalize the learning process. The strong link between autonomy, SD and self-regulation is related to this finding (Hu & Zhang, 2017). It is emphasized that autonomy decreases with the lack of value judgment towards learning. However, the phenomenon of learning needs to be glorified and this requires active participation of students, appreciation of their opinions and making them feel cared for (Hagenauer et al., 2018).

Contextual support was also emphasized for relatedness, but it was also emphasized by the participants for autonomy. Contextual support and content associated with daily experiences support students' autonomy (Chen & Jang, 2010; Kernis & Goldman, 2005; Ryan & Deci, 2004). It is also stated that both intrinsic and extrinsic motivation are supported, protected and sustained through social contexts (Deci & Ryan, 2000). In psychology, especially in the context of Kierkegaard's Existential Perspective, real life, experiences and authenticity are associated with autonomy and autonomy is supported when a person engages with content that represents reality (Kernis & Goldman, 2005; Ryan & Deci, 2004). When learners associate the learning material with their future life/profession choices, they have many positive emotions and a motivation to learn based on high self-determination emerges (Hagenauer et al., 2018).

Conclusion

In this study, the SDT situations of higher education students in distance education were examined from the perspectives of academics, students and system administrators, and a detailed analysis was carried out. Within some limitations, this study offers practical suggestions for distance education stakeholders in three areas. First, all of the participants live in X country. Further research is needed in more numbers and contexts to determine the generalizability of the findings to variables such as class, age, gender, nationality, ethnicity. Furthermore, the study is based on self-report, which may be limited to individuals' views of SDT in distance education. Going forward, the scope of qualitative research can be strengthened with a think-aloud protocol, focus group interviews and Delphi interviews.

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