



Article

Lecturers' Basic Psychological Needs Satisfaction and Its Relationship with Students' Disposition towards Studying during Online Teaching in the COVID-19 Pandemic

Rubén Abello-Riquelme ¹, Milenko Del Valle ², Yaranay López-Angulo ³, Cristian Sanhueza-Campos ^{1,*} and Yasmina Contreras-Soto ⁴

- ¹ Escuela de Educación, Universidad de Concepción, Los Ángeles 4451032, Chile; rubenabello@udec.cl
² Facultad de Ciencias Sociales, Universidad de Antofagasta, Antofagasta 1270300, Chile; mdelvalle@uantof.cl
³ Departamento de Psicología, Facultad de Ciencias Sociales, Universidad de Concepción, Concepción 4030000, Chile; yaralopez@udec.cl
⁴ Departamento de Idiomas Extranjeros, Facultad de Humanidades y Arte, Universidad de Concepción, Concepción 4070386, Chile; ycontreras@udec.cl
* Correspondence: crsanhuezac@udec.cl



Citation: Abello-Riquelme, Rubén, Milenko Del Valle, Yaranay López-Angulo, Cristian Sanhueza-Campos, and Yasmina Contreras-Soto. 2022. Lecturers' Basic Psychological Needs Satisfaction and Its Relationship with Students' Disposition towards Studying during Online Teaching in the COVID-19 Pandemic. *Social Sciences* 11: 315. <https://doi.org/10.3390/socsci11070315>

Academic Editors: Steven B. Sheldon and Nigel Parton

Received: 4 June 2022

Accepted: 17 July 2022

Published: 20 July 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Abstract: When examining learning at university, especially in a pandemic context, it is important to analyze the actions taken by lecturers to promote students' disposition towards studying. The objectives of this research project were to analyze the activities lecturers implement in class to promote their students' disposition towards studying; examine lecturers' basic psychological needs satisfaction levels; and determine the relationship between feedback, beliefs, and affect for self-regulation and lecturers' basic psychological needs satisfaction. A quantitative methodological approach, with a descriptive, correlational, and cross-sectional design was used, with a sample of 97 lecturers from Chilean universities. Data collection took place through a battery of instruments: the promotion of disposition towards studying survey; the feedback scale for self-regulation; the beliefs and affect in self-regulation survey; the satisfaction of basic psychological needs survey; and a sociodemographic questionnaire. The results showed that the promotion of disposition towards studying was a key factor to face social distancing and the loss of self-regulation for learning because of the COVID-19 pandemic. In addition, a positive correlation was found between beliefs and affect in relation to self-regulation and satisfaction levels of basic psychological needs in the participating lecturers.

Keywords: disposition towards studying; higher education; self-regulation; online education; basic psychological needs

1. Introduction

Due to the emergence of the SARS-CoV-2 virus and the subsequent declaration of the COVID-19 pandemic by the United Nations, governments around the world had to take measures to limit contact among people (Ministerio de Educación—Centro de Estudios 2020). Consequently, social isolation was inevitable; however, it did not mean an absolute stagnation; on the contrary, “the use of technological means increased, which gave rise to teleworking and tele-education” (Aguilar Gordón 2020, p. 214). Thus, many countries chose to implement virtual classes, a widely disseminated measure to reduce contagion within the school community and the rest of the population (Ministerio de Educación—Centro de Estudios 2020).

The transition from face-to-face classes to virtual education was challenging for students and educators. Such a transition was even more challenging for secondary school students going to higher education for the first time in this virtual scenario, an ever-complex process in students' lives (Kyne and Thompson 2020). Once at university, young people must adopt active behaviors towards their learning and even more so when being educated

in a virtual environment (Pregowska et al. 2021). To be able to adapt and have academic success, students must be proactive, disciplined, and aware of their learning process (Ning and Downing 2015). In the context of the current COVID-19 pandemic, different problems have been identified that are affecting students' lives, such as time organization, disposition towards studying, poor systematicity in their academic work, and unawareness of their own potential. During the emergency, the mode of remote teaching was implemented around the world, so it was even more necessary for students to develop self-regulation skills and strategies to build on their disposition towards studying (Anthonysamy and Choo 2021; Naujoks et al. 2021).

The interruption of face-to-face classes and the start of virtual activities, as a result of the confinement, highlighted the active role of students across the various educational levels. This context makes disposition towards studying a fundamental issue, which is expressed through the students' study purposes and organization and planning strategies. The role of the teachers is key in this new scenario, as they have to come up with new instructional and learning proposals to better guide and motivate their students towards learning (Zambrano et al. 2021).

Despite the importance of the disposition towards studying for a better organization of asynchronous learning activities, typical of virtuality, it has been found that students spend little time planning for online learning activities. This little preparation is associated with the type of teaching activity, as evidenced by the study of Zambrano et al. (2021), in which a group of students reported having no need to spend significant time on preparation for the class as many of the teaching activities were repetition oriented.

1.1. Self-Regulation of Learning

The strategies of self-regulation of learning are a set of relevant processes in higher education and secondary school. These are defined as skills that students use during the learning process to achieve their learning goals (Panadero and Alonso-Tapia 2014). Self-regulation is also related to the different extracurricular activities students carry out at the university (Guilmette et al. 2019) and to university retention rates (Durán-Aponte and Arias-Gómez 2015; Gutiérrez et al. 2015; Meneses et al. 2016).

One of the most recognized theories on self-regulation of learning is the one proposed by Zimmerman (1970). This model is based on (Bandura 1997) cognitive social theory, which describes the use of learning self-regulation strategies in sequential phases to provide feedback in a cyclical way (Zimmerman 2013).

It is a well-established fact that the teacher of any given subject constitutes a model for the student, both in the promotion of dispositions to learn and in verbalizations of their cognitive and metacognitive processes (Adelson 1962; Lunenberg et al. 2007). The recommendations on studying procedures presented by the teacher, recognized as an expert in that taught content, can have a favorable impact on the student. Therefore, the specialty teacher can become an important motivational and guiding source that facilitates the development of self-regulating learning behaviors (Zimmerman 2013).

The development of the student's self-regulation of learning, especially in those with a higher risk of academic failure, will require modifying some of the old ways of approaching learning, as well as incorporating other variables related to learning strategies, motivation, and emotional regulation (Panadero et al. 2021). A recent study showed the existence of a strong relationship between self-regulation, self-efficacy, and academic performance of university students (Bernal et al. 2020).

For an adequate development of self-regulation, intentional teaching actions are necessary (Dignath and Veenman 2021). Although there are studies on how teachers facilitate the process of self-regulation of learning (Dignath and Veenman 2021; Infante-Villagrán et al. 2021; Vattøy 2020), no empirical evidence has been found on the relationship between beliefs and affect for self-regulation and the satisfaction of basic psychological needs with the promotion of disposition towards studying in university teachers. Only some studies have demonstrated a positive and significant relationship between basic

psychological needs, deep strategies, and learning approaches, as well as the mediating role that these needs have between online learning and motivation (Reggiani 2013).

1.2. Self-Determination Theory

The theory of self-determination (SDT) conceptualizes motivation as the result of individuals' internal tendencies that drive them to perform actions in the absence of external rewards (Shah et al. 2021). This theory posits the existence of three basic psychological needs: autonomy, competence, and relatedness, all of which influence motivation (Betoret and Artiga 2011; Ryan and Deci 2000). The need for autonomy refers to the person's own will, internal acceptance, and commitment to motivated behavior. The need for competence is related to the feeling of effectiveness and the need for relatedness is understood as the person's feeling of acceptance and sense of belonging (Betoret and Artiga 2011; Ryan and Deci 2000; Tian et al. 2014). In this study, we will examine how teachers have some of their basic psychological needs satisfied considering the current pandemic scenario.

The satisfaction of these three psychological needs is closely related to a higher and better level of psychic functioning (Ryan and Deci 2000). Research corroborates the importance of university teachers' psychological needs satisfaction and its effects on autonomous motivation and psychological well-being, as well as on the promotion of motivation in class (Davoglio et al. 2017), student motivation, motivational climate, and academic performance (Franco et al. 2019; Lens et al. 2008; Serrano et al. 2016).

1.3. Promoting Disposition towards Studying

One of the main learning-promoting agents is teachers (Christie et al. 2017; Lawson 2014). From the constructivist perspective and the sociocultural conception of the teaching and learning processes in formal educational situations, learning is understood as the result of a double-construction process (Coll et al. 2008); first, as the joint activity deployed by the teacher and the students around content and learning tasks and, second, as the construction, reconstruction, and the progressive attribution of meaning. This double process occurs through mediation, intervention, and the help provided by the teacher and other participants (Coll 2004; Coll et al. 2008; 2011).

The aid provided takes place in the manifestation of the Educational Influence (EI), as "the processes that allow teachers and other educational agents to help students or learners in an adjusted way to build richer, more complex and valid meanings on certain areas or objects of knowledge" (Coll et al. 2008, p. 34). According to EI, the participants become carriers and agents of EI by guiding the process of construction of meanings and attribution of meaning to others (Coll et al. 2011). This is how the concept of interactivity arises, which can be understood as the articulation of teachers and students' actions around learning tasks and teaching contents generated from communicative exchanges (Coll 2004; Coll et al. 2008; Colomina et al. 2001).

Among the significant aspects of EI, classroom feedback stands out as one of the ten variables that most influences student learning. Feedback is conceptualized as information provided by an agent, in our case, a teacher, in relation to aspects of performance or understanding of the content achieved by a learner. Effective feedback must answer the three questions asked by a student or a teacher: Where am I going? How am I doing? How do I keep going? (Hattie and Timperley 2007).

Feedback is not only given from the teacher to the student, but it is bidirectional, as it fosters the development of the teacher's professional knowledge. The way a teacher develops their professional knowledge tends to be a mirror of the way they teach (Godfrey 2017). We highlight the sense of belonging students can achieve thanks to the aid provided by the various actors in the university context, demonstrating positive effects on well-being, self-efficacy, and self-regulation (Saroughi and Kitsantas 2021).

Based on the above, in the present article, it is hypothesized that in university teaching, the lecturer is a key actor who is much more willing to promote students' disposition

towards studying, provided that their basic psychological needs are satisfied. Thus, this research aims to:

- (1) Analyze the lecturers' perception about the activities developed in class to promote students' disposition towards studying.
- (2) Analyze the lecturers' level of satisfaction and/or frustration of basic psychological needs.
- (3) Determine the relationship between feedback, beliefs, and affect for self-regulation and the lecturers' satisfaction of basic psychological needs.

2. Materials and Methods

The present study used a quantitative approach, with a descriptive, correlational, and cross-sectional design (Ato et al. 2013).

2.1. Participants

A convenience sample of 97 participants of different Chilean universities was used. This is a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand. The participants represented various areas of instruction such as Education, Social Sciences, Health Sciences, Engineering, and Architecture. All participating academics were lecturers, which means that they did mostly teaching at the undergraduate level with little involvement, if any, in research, and usually not under a full contract at their respective institutions. They had an average teaching experience of 18 years ($SD = 10.768$) and specialization at the master's (80.5%) and doctoral (19.5%) levels, of whom 38% specialized in education. The sample consisted of 38 men (39.2%) and 59 women (60.8%), with an average age of 46 ($SD = 10.505$); the minimum and maximum ages were 26 and 68, respectively.

2.2. Materials

The data collection took place by means of the following instruments:

2.2.1. The Promotion of Disposition towards Studying Survey

This scale consists of 12 items with a 7-level Likert-type response format, ranging from (1) never, (2) rarely, (3) sometimes, (4) indifferent, (5) often, (6) usually, to (7) always. This response format provides higher accuracy as it captures the best sentiment of the respondent and delivers more data points to run statistical information (Bisquerra and Pérez-Escoda 2015). This scale measures lecturers' opinions and feelings in terms of their abilities to promote disposition towards studying in their students. This survey pays special attention to the teacher's instructions aimed at three dimensions: (1) study planning; (2) learning goals; (3) study strategies (Díaz-Mujica 2020; Pérez 2019). Some items on this scale are: 'I help my students identify their study purposes', 'I encourage my students to prioritize their activities', and 'I implement strategies for students to take advantage of their time in class'. Higher scores indicate promotion of disposition towards studying. The estimation of the psychometric properties for this research showed good validity and reliability indices. The reliability indices of each dimension were: dimension 1 $\alpha = 0.85$; dimension 2 $\alpha = 0.75$; dimension 3 $\alpha = 0.65$, and the scale reliability was $\alpha = 0.89$. The confirmatory factor analysis indicated an adequate fit of the model ($\chi^2(50) = 70.77^*$; RMSEA (Root Mean Square Error of Approximation) = 0.065 (0.022–0.099); SRMR (Standardized Root Mean Square Residual) = 0.065; TLI (Tucker–Lewis Index) = 0.95; CFI (Comparative Fit Index) = 0.93) (Hair et al. 2014). The factorial loads of the scale dimensions were statistically significant ($p < 0.001$) and higher than 0.30 (ranging from 0.356 to 0.894), except for item 12 ('I implement strategies for students to take advantage of their time in class') belonging to dimension 3 of study strategies, which was significant, but with a low factorial load (0.29).

2.2.2. Teaching Behavior Scale (Feedback for Self-Regulation)

This scale consists of 5 items with a 7-level Likert-type response format ranging from (1) never, (2) rarely, (3) sometimes, (4) indifferent, (5) often, (6) usually, to (7) always. Higher scores indicate the extent to which the teacher provides feedback for self-regulation. Some items on the scale are: 'I explicitly value the academic progress of my students', 'I give my students specific recommendations about how to study the contents of this class at home', and 'I give my students specific recommendations on how to study with their classmates in a collaborative way'. The confirmatory factor analysis carried out indicated an adequate fit of the model ($\chi^2(4) = 5.593^*$; RMSEA = 0.064 (0.000–0.177); SRMR = 0.028; TLI = 0.99; CFI = 0.97). The reliability level was confirmed adequate at $\alpha = 0.70$.

2.2.3. Self-Regulation Beliefs and Affect Scale

This scale consists of 5 items with a 7-level Likert-type response format ranging from (1) never, (2) rarely, (3) sometimes, (4) indifferent, (5) often, (6) usually, to (7) always. Higher scores indicate the presence of self-regulatory beliefs and affect. Some items on the scale are: 'I find it relevant that teachers promote self-regulation of learning in students', 'I think it is important that teachers monitor the activities done by students', and 'It negatively affects me when students do not complete their assignments in my subject' (Díaz-Mujica 2020). The reliability level was confirmed adequate at $\alpha = 0.70$. The confirmatory factor analysis carried out indicated an optimal fit of the model ($\chi^2(5) = 4.295^*$; RMSEA = 0.000 (0.000–0.013); SRMR = 0.047; TLI = 1.000; CFI = 1.000).

2.2.4. Basic Psychological Needs Satisfaction and Frustration Scale

This scale consists of 24 items grouped into six factors that measure satisfaction and frustration of each of the basic psychological needs proposed by the theory of self-determination: satisfaction/frustration of the need for autonomy, competence, and relatedness. The autonomy dimension, with 8 items, measures feelings related to the possibility of freely choosing and committing to the choice of tasks that matter to the individual; for example, 'I feel that I have the freedom and possibility to choose the things that I do'. The competence dimension with 8 items assesses the ability to carry out activities and achieve goals successfully; for example, 'I feel like I can do things well'. The relatedness dimension, made up of 8 items, measures the relationship with others and the sense of belonging; for example, 'I feel like the people I care about care about me'.

In each dimension, 4 items measure satisfaction and 4 measure frustration of needs. The 24 items are evaluated using a 7-level Likert-type response format, ranging from (1) strongly disagree, (2) disagree, (3) somewhat disagree, (4) neither agree nor disagree, (5) somewhat agree, (6) agree, to (7) strongly agree. Regarding the results of the validation process with Chilean university students (Del Valle et al. 2018), by means of a confirmatory factor analysis of the scale, an adequate adjustment of the data to the model was obtained with a ratio $\chi^2/gL = 1.75$; a CFI = 0.92; an IFI (Increment Fit Index) = 0.92; a TLI = 0.90; an RMSEA of 0.05 (CI (Confidence Interval) = 0.042–0.058) and an SRMR of 0.05. In addition, the scale showed good reliability for the satisfaction of psychological needs dimension ($\alpha = 0.90$) and for the frustration of needs dimension ($\alpha = 0.86$).

2.2.5. Ad hoc Questionnaire

The sociodemographic data were obtained through an ad hoc questionnaire that elicited elements such as: age, sex, university, study program affiliation, among others.

2.3. Data Collection and Analysis Procedure

The data were collected via a digital form designed to be answered in not more than 15 min, which was preceded by an informed consent outlining the possible risks and benefits of the study, duly endorsed by the sponsoring university Ethics Committee.

To respond to the proposed objectives, descriptive statistics were used to analyze the sociodemographic characteristics of the sample and assist in the interpretation of the results

obtained in each of the instruments. This included the calculation of the mode, median, mean, standard deviation, highest and lowest score observed, and range. In addition, Spearman's correlation analysis was conducted to evaluate the relationship of dimensions: (1) Disposition towards studying, (2) Teaching Behavior, Self-Regulation Beliefs and Affect, and (3) Satisfaction and Frustration of Basic Psychological Needs.

The validity and reliability analyses were carried out using Mplus 8.4 and Jasp 0.12.2.0 software tools, respectively. The correlation analysis and the estimation of the Cronbach's Alpha coefficient were performed for each dimension and for each of the instruments. The descriptive data analysis was carried out by levels, maintaining coherence with the Likert-type scale used in the instruments; that is, high indicated scores greater than 5 points, medium indicated scores between 4.01 and 4.99, and low indicated scores between 1 and 3. All the scales used had a range between 1 and 7 points, an aspect that facilitated the subsequent analysis of the responses provided by the participating lecturers.

3. Results

The descriptive analysis showed that, in general, the participants presented high scores in promoting disposition towards studying in the context of a pandemic, medium scores in the study planning dimension, and high in goals and purposes, as well as study strategies. The teaching behavior scale, feedback for self-regulation, self-regulation beliefs, and affect had even higher scores.

Regarding the dimensions of satisfaction of basic psychological needs, high and low scores were found, the highest being the satisfaction of competence needs. Concerning the frustration of needs, expected means were observed for this type of dimension, the frustration of autonomy needs being the one that presented the highest score. In general, satisfaction of basic needs proved to be high, whereas frustration of needs showed low scores (Table 1).

Table 1. Descriptive statistics of the studied variables.

Dimensions	Min	Max	M	SD
Promotion of disposition towards studying	3.36	7.00	5.47	0.83
Planning	1.40	7.00	4.71	1.43
Goals, purposes	2.00	7.00	5.19	1.18
Study strategies	2.33	7.00	5.28	1.16
Feedback for self-regulation	4.00	7.00	5.98	0.79
Self-regulating beliefs and affect	3.40	7.00	6.06	0.77
Satisfaction of autonomy needs	1.25	7.00	5.61	1.09
Frustration of autonomy needs	1.00	7.00	3.48	1.45
Satisfaction of relatedness needs	2.25	7.00	5.99	1.12
Frustration of relatedness needs	1.00	4.75	2.01	1.03
Satisfaction of competence needs	3.00	7.00	6.30	0.79
Frustration of competence needs	1.00	5.50	2.05	1.15

The results showed that there was a positive and high correlation between the promotion of disposition towards studying and feedback for self-regulation ($r = 0.752$; $p < 0.001$). A positive and moderate correlation was also observed between beliefs and affect with feedback for self-regulation ($r = 0.620$; $p < 0.001$) and high with promotion of disposition towards studying ($r = 0.475$; $p < 0.001$). In addition, the results presented a positive and low correlation between the aforementioned variables, the satisfaction of competence needs, and the satisfaction of relatedness needs (Table 2).

Table 2. Correlations among studied variables.

	1	2	3	4	5	6	7	8	9	10
(1) Promotion of disposition towards studying	1									
(2) Feedback for self-regulation	0.75 **									
(3) Beliefs and affect	0.62 **	0.46 **								
(4) Satisfaction of autonomy needs	0.09	0.11	0.14							
(5) Frustration of autonomy needs	−0.05	−0.04	0.08	−0.53 **						
(6) Satisfaction of relatedness needs	0.04	0.05	0.23 *	0.47 **	−0.06					
(7) Frustration of relatedness needs	−0.02	0.01	−0.06	−0.43 **	0.35 **	−0.61 **				
(8) Satisfaction of competence needs	0.21 *	0.25 *	0.17	0.58 **	−0.32 **	0.37 **	−0.31 **			
(9) Frustration of competence needs	−0.15	−0.19	−0.06	−0.55 **	0.46 **	−0.32 **	0.47 **	−0.56 **		
(10) Frustration of needs (total)	−0.04	−0.03	0.01	−0.63 **	0.83 **	−0.36 **	0.71 **	−0.44 **	0.77 **	
(11) Satisfaction of needs (total)	0.12	0.14	0.22 *	0.86 **	−0.36 **	0.77 **	−0.57 **	0.76 **	−0.57 **	−0.59 **

Note. * $p < 0.05$, ** $p < 0.01$

Regarding the promotion of self-regulation of learning, 75.3% of the teachers presented high levels in the promotion of study strategies; similar results were found in the learning goals variable, with 60.8%. In relation to planning, 49.5% of the teachers encouraged planning; the rest of the participating teachers did so at a lower level (27.8%) (Table 3).

Table 3. Descriptive levels of the studied variables.

Dimensions	Levels		
	Low %	Med %	High %
Promotion of disposition towards studying	4.12	20.61	75.32
Planning	27.83	22.76	49.55
Goals and purposes	14.41	24.75	60.85
Study strategies	12.42	18.67	69.14
Feedback for self-regulation	0	14.48	85.62
Self-regulating beliefs and affect	1.00	9.34	89.75
Frustration of needs (total)	91.83	7.23	1.04
Satisfaction of needs (total)	3.15	7.20	89.72

Feedback, beliefs, and affect for self-regulation showed high levels, at 85.6%. Regarding the satisfaction of basic psychological needs, the teachers reported having their needs satisfied; however, 7.2% presented medium levels. Consistent with these results, the level of frustration of basic psychological needs proved to be low in most of the sample; only 1.0% presented medium levels of frustration (Table 3).

4. Discussion

The objectives of this research were to analyze lecturers' perceptions about the activities that they declared to carry out in class to promote their students' disposition towards studying and to analyze the relationship between feedback, beliefs, and affect for self-regulation and the satisfaction of basic psychological needs in university teachers. Based on the results, this section will present the most relevant aspects of discussion, future lines of research, and limitations.

Actions aimed at promoting disposition towards studying in university students are a fundamental tool to strengthen self-regulated learning, especially in the context of virtual classes due to the COVID-19 pandemic. In this sense, the promotion of disposition towards studying allows teachers to guide students in the setting of goals, purposes, study strategies, and the prioritization of certain academic activities over others. The foregoing is linked to

educational support as an indicator of experiences that favor learning and self-efficacy in learners.

Obtaining moderately high scores in facilitating disposition towards studying is a finding that allows us to infer that the participating teachers' perceptions are consistent with the proposals of Bandura (1997), in relation to the teacher as a model in the teaching-learning process (Bandura 1997; Coll et al. 2008; 2011; Zimmerman 2013). Consequently, we can ascertain that the lecturers who participated in this study were aware of the importance of promoting self-regulation, motivation, and disposition towards studying in a highly deregulated context, such as the one lived during 2020–2021, marked by a pandemic that changed the learning environment (Pregowska et al. 2021). Thus, it is important to emphasize the educational support teachers can provide, which was highly valued by most of the respondents in this study.

This is how, at least from a descriptive point of view, educational support is strengthened by the presence of feedback for self-regulation, which implies a high willingness on the part of teachers to deliver acts of recognition, oriented to the assessment of the progress achieved by students. This is consistent with self-regulation beliefs and affect, insofar as teachers think that fostering students' self-regulation of learning is a relevant action, with an affective impact on teachers in response to the students' success and/or failure in their academic assignments.

The promotion of self-regulation of learning is a way forward towards the study of key learning experiences (Coll et al. 2011) and learner identity (Falsafi and Coll 2011). These are essential aspects to open a space for understanding and promoting self-efficacy in learners (Abello-Riquelme 2019).

In addition to the above, research evidence shows that there is a significant relationship between feedback for self-regulation and self-regulation beliefs and affect. This implies that teachers value the importance of self-regulation and consider the support it provides as fundamental to the students' formative process, with clear effects on emotional regulation and learning strategies (Panadero et al. 2021), as well as on motivation and academic performance (Stover et al. 2014).

Regarding the analysis to establish the level of satisfaction and/or frustration of basic psychological needs proposed by the theory of self-determination, it was found that a high percentage of the participating teachers presented high levels of satisfaction in competence and relatedness. However, a tendency for moderately high scores in the need for autonomy of the frustration dimension is also observed (Betoret and Artiga 2011; Deci and Ryan 2000), which warns that in this educational scenario, and given the long periods of confinement and online classes, teachers perceive that they have lost control of some aspects of their behavior.

This is consistent with the virtual educational situation, which, although it allowed maintenance of the academic workflow, could also be linked to the loss of control in certain aspects that, before the pandemic, were basic, daily, and controllable, for example, the flow of interactional activities (Santrock 2018). Before the pandemic, in a face-to-face class, teachers interacted with students through verbal and non-verbal language and could also supervise their work in real time. In the virtual context, the teacher interacts through the computer screen, which makes it very difficult to appreciate students' real commitment. Therefore, it is possible to understand teachers' loss of control and autonomy, which shows dissatisfaction in some of their basic psychological needs, as indicated in the frustration of autonomy needs dimension.

All of this is evident in numerous courses with more than forty or fifty students of whom, among other things, mandatory attendance cannot be required. This is mainly because in many cases, students have faced the need to work to support their families or because of weak internet access, which is needed to use all the necessary resources of university online platforms to maintain quality communication.

Accordingly, despite the effects of the pandemic, most teachers kept their basic psychological needs satisfied, which helped them perceive that they were sufficiently autonomous

and competent. However, there was a decrease in the need for autonomy in the studied sample, which is probably due to the new modality of online classes and the long periods of confinement to which they have been exposed.

With regard to the relationship between feedback, beliefs, and affect and the three basic psychological needs, the data showed that there is only a partial relationship between these variables. There is a positive and significant relationship between feedback for self-regulation and self-regulatory beliefs and affect, which suggests that teachers are interested in providing direct feedback to students so that they achieve higher levels of self-regulation.

These findings show a positive but low relationship between the perception of feedback for self-regulation and the satisfaction of the psychological need for competence. This can be justified from a theoretical point of view, since the teachers perceived themselves as competent in what they do, but with little or low incidence in the learning process. Something similar is observed between self-regulation beliefs and affect and the satisfaction of the psychological need for relatedness.

Thus, it can be inferred that the psychological well-being of teachers allows them to develop an interest in promoting self-regulation of learning, together with the delivery of acts of recognition aimed at promoting students' self-regulation. A niche is generated to connect the lecturers' satisfaction of psychological needs to the reconstruction of the learner identity in university students.

5. Conclusions

Regarding the objectives of this research paper, we can conclude that we found some interesting answers. One that stands out is the high interest that the participating university teachers had in promoting disposition towards studying in their students, especially if it is about strengthening goals, purposes, and study strategies. Similarly, in relation to basic psychological needs, teachers considered that, in general, they are satisfied with very low frustration levels.

These observations acquire greater relevance if we consider that the lecturer sample described in this study is quite heterogeneous. However, when we analyze the sample separately, the observed results are similar to those found in the general sample. These results must be further examined with larger sampling.

Although we did not find correlations between the promotion of disposition towards studying and satisfaction of basic psychological needs, it was possible to establish a relationship between feedback, beliefs, and affect for self-regulation and satisfaction of basic psychological needs in university teachers. This finding strengthens the comparison between emerging scales (feedback for self-regulation, beliefs, and affect for self-regulation) with consolidated scales (basic psychological needs satisfaction and frustration scale).

Limitations and Projections

Both the disposition towards studying promotion and the satisfaction of psychological needs in academic contexts are aspects that should continue to be studied with more homogeneous samples and with a greater number of participants, this being one of the main weaknesses of this study. Further endeavors could increase the sample, to improve the reliability and validity of both the instruments and results. Given the sample size, the results of the present study cannot be generalized; therefore, these results have an exploratory character.

It would be convenient to repeat this study in face-to-face mode, so that greater variables control could be implemented when applying the surveys. This was an important weakness, as after sending a link in this virtual context, it was not possible to increase the responses or improve its homogeneity.

An interesting projection that arises from the results of this study consists of analyzing teachers' perspectives before and after the application of an intra-curricular workshop aimed at strengthening self-regulation of learning in students who are in their first year of university studies. It would be expected to find that teachers who are concerned about

promoting disposition towards studying in their students achieve favorable effects in self-regulation.

Author Contributions: The individual contributions by the different authors of this paper are described as follows. Conceptualization, R.A.-R. and M.D.V.; methodology, M.D.V. and Y.L.-A.; software, Y.L.-A.; formal analysis, Y.L.-A.; investigation, R.A.-R. and M.D.V.; data curation, Y.L.-A.; writing—original draft preparation, R.A.-R., C.S.-C. and Y.C.-S.; writing—review and editing, C.S.-C. and Y.C.-S.; visualization, C.S.-C. and Y.C.-S.; supervision, R.A.-R.; project administration, R.A.-R.; funding acquisition, R.A.-R. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Agencia Nacional de Investigación y Desarrollo (ANID), grant number Covid-ANID 1012 Project, and MINEDUC fund, UCO 1798 Project, code VF2003.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Ethics Committee of UNIVERSIDAD DE CONCEPCIÓN (protocol code CEBB 973-2021, August 2021).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Datasets analyzed during the study can be provided upon request.

Acknowledgments: Special thanks to the School of Education academics at Universidad de Concepción for their constant support and aid in the realization of this study.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Abello-Riquelme, Rubén. 2019. Reconstrucción de la Identidad de Aprendiz, Integración Académico-Social y su Relación con la Permanencia en Estudiantes de la Universidad de Concepción, Campus Los Ángeles, Chile. Doctoral thesis, Universidad de Barcelona, Barcelona, Spain. Available online: <https://www.tdx.cat/handle/10803/665984> (accessed on 17 May 2021).
- Adelson, Joseph. 1962. The Teacher as a Model. In *The American College: A Psychological and Social Interpretation of the Higher Learning*. Edited by Nevitt Sanford. New York: John Wiley & Sons Inc., pp. 396–417. [CrossRef]
- Aguilar Gordón, Floralba. 2020. Del aprendizaje en escenarios presenciales al aprendizaje virtual en tiempos de pandemia. *Estudios Pedagógicos (Valdivia)* 46: 213–23. [CrossRef]
- Anthonyamy, Lilian, and Koo Ah Choo. 2021. Investigating Self-Regulated Learning Strategies for Digital Learning Relevancy. *Malaysian Journal of Learning and Instruction* 18: 29–64. [CrossRef]
- Ato, Manuel, Juan J. López-García, and Ana Benavente. 2013. Un sistema de clasificación de los diseños de investigación en psicología. *Anales de Psicología* 29: 1038–59. [CrossRef]
- Bandura, Albert. 1997. *Self-Efficacy: The Exercise of Control*. New York: W H Freeman, and Co. Ltd.
- Bernal, Francisco R., Nidia Guzmán, and Juan M. Andrade. 2020. Virtual Learning and Training Needs in a Peripheral Region of Colombia. *TEM Journal* 9: 1681. [CrossRef]
- Betoret, Fernando Doménech, and Amparo Gómez Artiga. 2011. Relación entre las necesidades psicológicas del estudiante, los enfoques de aprendizaje, las estrategias de evitación y el rendimiento. *Electronic Journal of Research in Educational Psychology* 9: 463–96. Available online: <http://www.investigacion-psicopedagogica.org/revista/new/ContadorArticulo.php?597> (accessed on 29 June 2022). [CrossRef]
- Bisquerra, Rafael, and Núria Pérez-Escoda. 2015. ¿Pueden las escalas Likert aumentar en sensibilidad? *REIRE, Revista d'Innovació i Recerca en Educació* 8: 129–47. [CrossRef]
- Christie, Hazel, Vivienne E. Cree, Eve Mullins, and Lyn Tett. 2017. 'University opened up so many doors for me': The personal and professional development of graduates from non-traditional backgrounds. *Studies in Higher Education* 43: 1938–48. [CrossRef]
- Coll, César. 2004. Psicología de la educación y prácticas educativas mediadas por las tecnologías de la información y la comunicación. *Una mirada constructivista. Sinéctica* 25: 1–24. Available online: <https://sinectica.iteso.mx/index.php/SINECTICA/article/view/277> (accessed on 2 April 2021).
- Coll, César, Alfonso Bustos, and Enna Engel. 2011. Perfiles de participación y presencia docente distribuida en redes asíncronas de aprendizaje: La articulación del análisis estructural y de contenido. *Revista de Educación* 354: 657–88. [CrossRef]
- Coll, César, Javier Onrubia, and Teresa Mauri. 2008. Ayudar a aprender en contextos educativos: El ejercicio de la influencia educativa y el análisis de la enseñanza. *Revista de Educación* 346: 33–70. Available online: http://www.revistaeducacion.educacion.es/re346_02.html (accessed on 15 March 2021).
- Colomina, Rosa, Javier Onrubia, and María José Rochera. 2001. Interactividad, mecanismos de influencia educativa y construcción del conocimiento en el aula. In *Desarrollo Psicológico y Educación, Psicología de la Educación Escolar*. Edited by José Palacios, Álvaro Marchesi and César Coll. Madrid: Alianza, vol. 2, pp. 437–58.

- Davoglio, Tarcia Rita, Jordana Wruck Timm, Bettina Steren dos Santos, and Fernanda De Brito Kulmann Conzatti. 2017. Necessidades Psicológicas Básicas: Definições operacionais na docência universitária. *ETD-Educação Temática Digital* 19: 510–31. [CrossRef]
- Deci, Edward L., and Richard M. Ryan. 2000. The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry* 11: 227–68. [CrossRef]
- Del Valle, Milenko, Lennia Matos, Alejandro Díaz-Mujica, María V. Pérez, and Jorge Vergara. 2018. Propiedades psicométricas escala satisfacción y frustración necesidades psicológicas (ESFNPB) en universitarios chilenos. *Propósitos y Representaciones* 6: 301–50. [CrossRef]
- Díaz-Mujica, Alejandro. 2020. Desarrollo e Implementación de Procedimientos Docentes para Facilitar la Disposición al Aprendizaje en Condiciones de Distanciamiento físico por Pandemia de COVID-19, en Asignaturas de Primer año Universitario con Mediano o alto riesgo de Fracaso (Report No. ANID COVID1012). ANID. Available online: <http://hdl.handle.net/10533/249903> (accessed on 12 December 2021).
- Dignath, Charlotte, and Marcel V. J. Veenman. 2021. The role of direct strategy instruction and indirect activation of self-regulated learning—Evidence from classroom observation studies. *Educational Psychology Review* 33: 489–533. [CrossRef]
- Durán-Aponte, Emilse, and Diana Arias-Gómez. 2015. Orientación a las metas académicas, persistencia y rendimiento en estudiantes del Ciclo de Iniciación Universitaria. *REDU Revista de Docencia Universitaria* 13: 189–206. [CrossRef]
- Falsafi, Leili, and César Coll. 2011. Learner Identity: A Sociocultural Approach to How People Recognize and Construct Themselves as Learners. Doctoral dissertation, Universidad de Barcelona, Barcelona, Spain. Available online: http://psyed.edu.es/archivos/grintie/Falsafi_Thesis.pdf (accessed on 16 October 2021).
- Franco, Evelia, Aitor Acha, Valeria Gómez, and Ana Ricetti. 2019. Compromiso y motivación del alumnado en función de las necesidades psicológicas básicas de sus profesores en educación física. *Revista Española de Educación Física y Deportes* 426: 289–96. Available online: <https://dialnet.unirioja.es/servlet/articulo?codigo=7226273> (accessed on 2 April 2021). [CrossRef]
- Godfrey, David. 2017. La Naturaleza de la retroalimentación efectiva: Una revisión de la literatura para revisión entre pares basada en la investigación. Paper presented at the Colegios que Aprenden Juntos, Nuevas Perspectivas para Evaluar y Orientar la Mejora Educativa en el Territorio, Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile, October 24.
- Guilmette, Maude, Kathryn Mulvihill, Rosanne Villemare-Krajden, and Erin T. Barker. 2019. Past and present participation in extracurricular activities is associated with adaptive self-regulation of goals, academic success, and emotional wellbeing among university students. *Learning and Individual Differences* 73: 8–15. [CrossRef]
- Gutiérrez, Ana Bernardo, Rebeca Cerezo Menéndez, Luis J. Rodríguez-Muñoz, José Carlos Núñez Pérez, Ellian Tuero Herrero, and María Esteban García. 2015. Predicción del abandono universitario: Variables explicativas y medidas de prevención. *Revista Fuentes* 16: 63–84.
- Hair, Joseph F., William C. Black, Barry J. Babin, and Rolph E. Anderson. 2014. *Multivariate Data Analysis*. Upper Saddle River: Pearson Education.
- Hattie, John, and Helen Timperley. 2007. El poder de la retroalimentación. *Revista de Investigación Educativa* 77: 81–112. [CrossRef]
- Infante-Villagrán, Valeria A., Bianca María Pia Dapelo Pellerano, Rubia Cobo-Rendon, Yaranay López-Angulo, Bertha Escobar Alaniz, and Christian Beyle. 2021. Aplicaciones que emplean y recomendaciones que entregan las y los docentes universitarios para la autorregulación del aprendizaje en contexto de la pandemia por COVID-19. *Texto Livre: Linguagem e Tecnologia* 14: e33027. [CrossRef]
- Kyne, Sara H., and Christopher D. Thompson. 2020. The COVID Cohort: Student Transition to University in the Face of a Global Pandemic. *Journal of Chemical Education* 97: 3381–85. [CrossRef]
- Lawson, Alison. 2014. Learner identities in the context of undergraduates: A case study. *Educational Research* 56: 343–56. [CrossRef]
- Lens, Willy, Lennia Matos, and Maarten Vansteenkiste. 2008. El profesor como fuente de motivación de los estudiantes: Hablando del qué y del por qué del aprendizaje de los estudiantes. *RIDU* 4: 9. [CrossRef]
- Lunenberg, Mieke, Fred Korthagen, and Anja Swennen. 2007. The teacher educator as a role model. *Teaching and Teacher Education* 23: 586–601. [CrossRef]
- Meneses, Paulina, Ana Moraga, and Rodrigo Puchi. 2016. Diagnóstico de estrategias de aprendizaje para la orientación y focalización de los apoyos académicos que favorecen la permanencia de estudiantes de primer año en la Universidad de La Frontera. Paper presented at the Congresos CLABES VI, Quito, Ecuador, November 9–11.
- Ministerio de Educación—Centro de Estudios. 2020. *Impacto del COVID-19 en los Resultados de Aprendizaje y Escolaridad en Chile*; Santiago, Chile. Available online: <https://chile.un.org/sites/default/files/2020-11/Impacto-del-COVID-19-en-los-Resultados-de-Aprendizaje-y-Escolaridad-en-Chile-Analisis-con-Base-en-Herramienta-de-Simulacion-Proporcionada-por-el-Banco-Mundial.pdf> (accessed on 18 June 2022).
- Naujoks, Nick, Svenja Bedenlier, Michaela Gläser-Zikuda, Rudolf Kammerl, Barbel Kopp, Albert Ziegler, and Marion Händel. 2021. Self-Regulated Resource Management in Emergency Remote Higher Education: Status Quo and Predictors. *Frontiers in Psychology* 12: 672741. [CrossRef] [PubMed]
- Ning, Hoi. Kwan, and Kevin Downing. 2015. A latent profile analysis of university students’ self-regulated learning strategies. *Studies in Higher Education* 40: 1328–46. [CrossRef]
- Panadero, Ernesto, and Jesús Alonso-Tapia. 2014. Teorías de autorregulación educativa: Una comparación y reflexión teórica. *Psicología Educativa* 20: 11–22. [CrossRef]

- Panadero, Ernesto, Jesús Alonso-Tapia, Daniel García-Pérez, Juan Fraile, José Manuel Sánchez Galán, and Rodigo Pardo. 2021. Estrategias de aprendizaje profundas: Validación de un modelo situacional y su cuestionario. *Revista de Psicodidáctica* 26: 10–19. [CrossRef]
- Pérez, María V. 2019. Modelo intracurricular de facilitación de competencias de autorregulación del aprendizaje en estudiantes universitarios. Paper presented at the VI Congreso Anual de la Sociedad Científica de Psicología de Chile, Rancagua, Chile, April 10–12.
- Pregowska, Agnieszka, Karol Masztalerz, Magdalena Garlińska, and Magdalena Osial. 2021. A Worldwide Journey through Distance Education—From the Post Office to Virtual, Augmented and Mixed Realities, and Education during the COVID-19 Pandemic. *Education Sciences* 11: 118. [CrossRef]
- Reggiani, Claudio F. 2013. Necesidades psicológicas básicas, enfoques de aprendizaje y atribución de la motivación al logro en estudiantes universitarios. Estudio exploratorio. *Revista de Estilos de Aprendizaje* 6: 151–59. Available online: <https://dialnet.unirioja.es/servlet/articulo?codigo=4326080> (accessed on 20 October 2021).
- Ryan, Richard M., and Edward L. Deci. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* 55: 68–72. [CrossRef] [PubMed]
- Santrock, John W. 2018. *Psicología de la Educación*. Madrid: McGrawHill Interamericana.
- Saroughi, Maryam, and Anastasia Kitsantas. 2021. Examining Relationships among Contextual, Motivational and Wellbeing Variables of Immigrant Language-Minority College Students. *Innovative Higher Education* 46: 1–19. [CrossRef]
- Serrano, Javier Sevil, Alberto Aibar Solana, Ángel Abós Catalán, and Luis García González. 2016. El clima motivacional del docente de Educación Física: ¿Puede afectar a las calificaciones del alumnado? *Retos: Nuevas Tendencias en Educación Física, Deporte y Recreación* 31: 98–102. [CrossRef]
- Shah, Sobia Shafaq, Asif Ali Shah, Farzana Memon, Atika Ahmad Kemal, and Arjumand Soomro. 2021. Aprendizaje en línea durante la pandemia de COVID-19: Aplicación de la teoría de la autodeterminación en la “nueva normalidad”. *Revista de Psicodidáctica* 26: 169–78. [CrossRef]
- Stover, Juliana Beatriz, Fabiana E. Uriel, Guadalupe De la Iglesia, Agustín Freiberg Hoffmann, and Mercedes Fernandez Liporace. 2014. Rendimiento académico, estrategias de aprendizaje y motivación en alumnos de Escuela Media de Buenos Aires. *Perspectivas en Psicología* 11: 10–20. Available online: <http://www.redalyc.org/articulo.oa?id=483547666002> (accessed on 25 November 2021).
- Tian, Lili, Huan Chen, and E. Scott Huebner. 2014. The longitudinal relationships between basic psychological needs satisfaction at school and school-related subjective well-being in adolescents. *Social Indicators Research* 119: 353–72. [CrossRef]
- Vattøy, Kim-Daniel. 2020. Teachers’ beliefs about feedback practice as related to student self-regulation, self-efficacy, and language skills in teaching English as a foreign language. *Studies in Educational Evaluation* 64: 100828. [CrossRef]
- Zambrano, Carolina, Ingrid Bravo, Jorge Maluenda-Albornoz, and Valeria Infante-Villagrán. 2021. Planificación y uso del tiempo académico asincrónico de estudiantes universitarios en condiciones de pandemia. *Formación Universitaria* 14: 113–22. [CrossRef]
- Zimmerman, Barry J. 1970. Experimental Program Impact on Attitudes of School Personnel. *The Journal of Experimental Education* 38: 88–92. [CrossRef]
- Zimmerman, Barry J. 2013. From cognitive modeling to self-regulation: A social cognitive career path. *Educational Psychologist* 48: 135–47. [CrossRef]