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Impact of Teachers' Charisma on Students' Motivation and Perceived Learning During Emergency Remote Teaching

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Abstract: The swift widespread shift from face-to-face to emergency remote teaching (ERT) due to the COVID-19 pandemic was accompanied by numerous technical, psychological, and pedagogical challenges and prompted educators to look for ways to improve their performance to preserve the high quality of learning. One way to do this is for teachers to adopt charismatic behaviours. This study aims at investigating the concept of and factors determining teachers' charisma and its connection with students' intrinsic motivation and perceived learning in a synchronous online learning setting during ERT. The questionnaires measuring students' intrinsic motivation, perceived learning, and teachers' charisma were used to collect the responses from Ukrainian university students who reported on their online learning experienced amid the COVID-19 pandemic. The Varimax rotation method was applied to determine the factors of charisma. Correlation analyses established a connection between students' intrinsic motivation and perceived learning and teachers' charisma as well as each factor of charisma independently. The research is the first of its kind done in an online learning setting in an Eastern European cultural context. The research validates some previous findings done in a face-to-face teaching context. The current study also established the connection between humor and empathy as a factor of charismatic teaching.

Keywords: *Charisma, emergency remote teaching, intrinsic motivation, perceived learning, synchronous online learning.*

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Introduction

At the start of the COVID-19 pandemic, numerous higher educational institutions worldwide had to transfer their educational process to online platforms, mostly relying on synchronous online classes (Aristovnik et al., 2020). This switch to an alternative, online form of instruction received the name of emergency remote teaching (ERT) to distinguish it from the existing online learning practices that are more well-established (Hodges et al., 2020). It is worthwhile to note that this term is not universally applied, especially in earlier research on the topic when multiple other terms, such as "online learning", "home learning", "multimedia-based learning" etc., were used to refer to the same phenomenon (Bond et al., 2021). The transition to ERT poses a question about its quality, and the students' motivation and perception of learning in this context. The teacher's role in this situation has become particularly important. Researchers highlight the increased importance of teachers' competence and personal qualities for supporting and motivating students not used to online learning (Aristovnik et al., 2020; Dahleez et al., 2021; Liu et al., 2022; Mushtaque et al., 2021). One of the ways teachers can improve the learning environment and also affect the students' motivation is by adopting charismatic behaviours (Bolkan & Goodboy, 2014). This study aims at exploring teachers' charisma and the effect charismatic teaching can have on students' motivation and perception of their learning in the context of synchronous online learning during ERT.

Literature Review

In the recent decades, the phenomenon of charisma has been receiving increasing attention from scholars of multiple fields – from sociology to applied psychology (Tal & Gordon, 2015). The notion of charisma has undergone a shift from its original meaning of unique gift inaccessible to everybody, to its psychological and organizational perception as a phenomenon that can be studied and taught (Antonakis et al., 2012). Some researchers view charisma as a

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subcomponent of transformational leadership (Bass, 1985; Bolkan & Goodboy, 2011; Williams et al., 2018), while others regard it as an independent concept (Antonakis et al., 2012; Archer, 1994). Bolkan and Goodboy (2014) conclude that despite these differences, the essence of charismatic leadership is viewed by both groups in the same way – they are compelling communicators who are perceptive of their followers' needs. Teachers, as leaders, can also engage in charismatic behaviours. Most researchers who have studied teachers' charisma define it as a unique quality that makes teachers attractive to their students (Archer, 1994; Huang & Lin, 2014; Milojkovic, 1982).

Though not numerous, there are some studies attempting to identify the specific factors determining teachers' charisma. In the 1980s, James D. Milojkovic (Milojkovic, 1982) presented a so-called "profile of the quintessential charismatic teacher" that included 12 characteristics that charismatic teachers should have. They include both professional skills (for example, "total mastery" and "flawless presentation") and personal characteristics ("sincerity", "overt assertiveness", and so on). However, this scale is based on the author's personal experiences as a student of charismatic teachers rather than solid research.

On the other hand, the researchers from National Taichung University of Science, Huang and Lin (2014) based their 23-item Inventory of Teaching Charisma in College Classroom on teaching theory review. According to them, the 4 factors determining teacher's charisma are "knowledge, character traits, teaching techniques and humour" (Huang & Lin, 2014, p. 284). The study, however, does not draw clear distinction between charismatic teaching and effective teaching. When trying to identify the features of charismatic teachers, they are citing research on "effective", "ideal" and "good teaching". However, even though charismatic teaching is beneficial, it needs to be regarded as distinct from good or effective teaching (Archer, 1994).

Another pair of researchers who explored the factors of charismatic teaching are San Bolkan and Alan K. Goodboy who, following Bass (1985), studied charisma as one of the 3 dimensions of transformational leadership; the other 2 being individualized consideration and intellectual stimulation (Bolkan & Goodboy, 2011). Through coding of an open-ended interview of university students, Bolkan and Goodboy identified 10 teachers' behaviour categories that are perceived to be charismatic by students. From these 10 categories, the 4 major ones (nonverbal immediacy, humour, caring, and confirmation) were further studied to determine their relationship to the latent variable of charismatic teaching (Bolkan & Goodboy, 2014). These 4 factors were measured using existing measuring instruments and then merged into 2 higher-level subcomponents of charismatic teaching – delivery (as a function of nonverbal immediacy and humour) and relationship (as a function of confirmation and caring).

Interestingly, earlier research on the subject, conducted by Archer (1994), identified similar factors of charismatic teaching. Archer developed his Measurement of Charismatic Teaching in the College Classroom by interviewing university faculty and students about the qualities of a teacher helping him or her to be perceived as charismatic. Based on the results of this open-ended interview, a questionnaire was created and later administered to the students. With the help of the gathered data analysis, 3 factors of charismatic teaching were singled out – personal empathy, personal intensity, and intellectual challenge (Archer, 1994). The authors of the present paper believe that Archer's personal empathy factor is similar to the "relationship" subcomponent of charisma determined by Bolkan and Goodboy since Archer's measure includes items like "Is concerned about students", "Relates to students at their level" and so on – measuring caring behaviour and items like "Is open to ideas rather than his own", "Makes lectures relevant to students' experience" and so on – measuring confirmation. In the same way, Archer's personal intensity factor including items like "Is energetic", "Uses a lot of gestures in his teaching" seems to be similar to Bolkan and Goodboy's delivery component of charismatic teaching, except the fact that Archer's measure of charismatic teaching does not include any items on humour. The main difference between Archer's and Bolkan and Goodboy's measures of charisma is the intellectual stimulation factor that the former found to be part of teaching charisma, while the latter regarded as a separate component of transformational leadership. According to Archer, this factor, unlike personal intensity and empathy, is poorly correlated with students' trust and commitment (which are the indicators of followers of a charismatic leader). Archer suggests that the intellectual challenge factor as part of charisma construct might draw the distinction between the concept of charismatic teaching and that of charismatic leadership in non-academic contexts (Archer, 1994).

Another study of teachers' charisma was conducted by Qardaku (2021) who selected a number of "dimensions" of charismatic teaching based on earlier research including that of Archer and Huang and Lin and correlated them with students' intrinsic motivation. While this study is interesting, it does not explain which measuring instruments were used for these factors and how the research was conducted. Also, it was not clearly shown that the selected dimensions of charisma constitute a single construct of a teacher's charisma.

Despite the differences in the aspects of charisma that the above mentioned researchers focused on and the cultural contexts of the studies, they all agree that teachers resorting to charismatic behaviours make a positive difference in classrooms in terms of increased students' interest in learning (Lin & Huang, 2016), intrinsic motivation (Bolkan & Goodboy, 2011; Qardaku, 2021), trust and commitment (Archer, 1994).

Rationale and Hypotheses

The previous studies of charismatic teaching were conducted in a face-to-face teaching context, which might provide more opportunities for teachers to express their charisma and affect students on a personal level than online teaching context during ERT. For example, nonverbal immediacy is considered by many researchers to be an important factor of charisma (Antonakis et al., 2012; Archer, 1994; Bolkan & Goodboy, 2011; Qardaku, 2021), but nonverbal expression in technologically mediated synchronous online class is comparatively limited and presents certain challenges to the instructors (McArthur, 2022). However, it can be suggested that synchronous online medium of instruction still allows students to perceive teachers as charismatic and be influenced by them. Therefore, the authors of the present paper decided to apply the existing teaching charisma measuring instrument, well devised and tested by Archer (1994), in a different, synchronous online teaching context. This instrument was developed to test the concept of charisma as a single construct, without any factors in mind. The factors affecting this construct were singled out through subsequent data analysis. That is why it was interesting for the authors to measure the charisma of teachers in a different, online learning setting and in a different cultural context with this instrument to see if similar factors contributing to it will emerge at the data analysis stage. Hence, hypothesis 1 was proposed:

H1 – "The factors affecting teacher's charisma, as perceived by students amid ERT, will be similar to the ones singled out by Archer (1994) (personal empathy, personal intensity, and intellectual challenge)".

During emergencies like the COVID-19 epidemic and subsequent sudden switch to online learning, keeping students motivated is particularly important and is a criterion of teacher's competence (Liu et al., 2022). In earlier empirical research, it was found that charismatic leaders (such as middle-level managers) and teachers can affect their followers' motivation (Antonakis et al., 2012; Huang & Lin, 2014; Qardaku, 2021). Moreover, it was established that charismatic teaching affects intrinsic, and not extrinsic motivation of students (Bolkan & Goodboy, 2014). However, there was no empirical evidence of charismatic teaching affecting students' intrinsic motivation in synchronous online learning setting during ERT. Therefore, the hypothesis 2 is as follows:

H2 – "Charismatic teaching, as defined by Austin Archer (1994), correlates positively with intrinsic motivation in synchronous online learning setting".

Recent research has indicated that students taught by the teachers they deem to be charismatic have a better perception of their learning (Bolkan & Goodboy, 2014). However, throughout ERT caused by COVID-19 pandemic, students' overall perception of their learning, in general, has been negatively impacted (Aristovnik et al., 2020; El Filali, 2022; Hong et al., 2021, 2022; Iyer & Chapman, 2021; Popa-Velea et al., 2021). Therefore, exploring the effects of charismatic teachers on students' perception of their learning online poses a certain interest. The authors of the present paper believe that despite the challenges, the positive role of charismatic teachers remains significant in synchronous online learning context. Therefore, the following hypothesis is suggested:

H3 – "Charismatic teaching, as defined by Austin Archer (1994), correlates positively with perceived learning in a situation of synchronous online learning".

The existing research found correlation between students' intrinsic motivation and academic achievement (Bolkan & Goodboy, 2014; Pintrich & De Groot, 1990). Moreover, the research on ERT suggests that high intrinsic motivation proved to be crucial in helping students adapt to the new challenging learning environment and achieve academic success (Pelikan et al., 2021). Still, it needs to be found out if the perception of learning, which as mentioned earlier, turned to the worse in online learning environment, is associated with intrinsic motivation. Therefore, the authors hypothesize that:

H4 – "Students' intrinsic motivation and perceived learning correlate positively with each other in the context of ERT".

Finally, after determining the factors of teaching charisma, the authors of the present paper would like to find out which of them has the highest correlation with intrinsic motivation and perceived learning. Qardaku (2021) found that the factors showing the highest correlation with intrinsic motivation were oratory and vision, sense of humor and self-sacrifice; the empathy factor got an average correlation result, while intellectual challenge and emotional intensity factors got low correlation results. The authors hypothesize that in an online learning context, the correlation between each charisma factor and motivation and perceived learning will be different.

Methodology

Participants and Procedure

The study was conducted in a big Ukrainian national university, at the department of Foreign Languages. The official permission from the institution to conduct the survey was obtained. The respondents were 112 students with the age range of 19 to 23 years. 33 students were completing year 3 and 56 were completing year 4 of bachelor's program, and 23 students were completing year 1 of master's program. The students were informed about the study's goal and those

of them who agreed to participate, took the survey through Google Forms. They reported on an instructor of a specified subject that was taught in a synchronous online setting in the current semester during ERT. At the university where the survey was conducted, Emergency Remote Teaching (ERT) was initiated in March 2020 and was delivered via synchronous online video sessions on Skype. These sessions involved the use of cameras by instructors and adhered to the standard lesson plan based on the existing schedule. Students were encouraged to participate in discussions and other activities by utilizing their microphones and cameras. The surveyed students encountered the teachers only in an online learning context and did not have any offline interactions with them prior to or during the ERT period. Consequently, the students' perception of the teachers' charisma was solely based on their online communication. The survey was administered from June 10 to June 18, 2021, following the completion of the third ERT semester. In total, 7 instructors were reported on. The anonymity of the instructors and the students was preserved. Overall, 112 responses were collected. Table 1 provides the respondents' demographic profile.

Table 1. Demographic Profile of Respondents

Demographics	**N**	**%**
Gender		
Male	16	14.3
Female	96	85.7
Age		
19-20	43	38.4
21-22	62	55.4
Above 22	7	6.2
Year of Study		
3rd year bachelor	33	29.5
4th year bachelor	56	50.0
1st year master	23	20.5
Total	112	100.0

Data Collection and Analysis

To measure the construct of charisma, a slightly adapted version of Austin Archer's Measurement of Charismatic Teaching in the College Classroom was used (Archer, 1994). The original measure includes 29 items (statements), one of which was removed due to the lack of fit in an online teaching context (#22 – Moves about a lot in the room) (Archer, 1994). Instead of this item, it was decided to add a new one which is also related to nonverbal immediacy - #30 / "The teacher uses facial expressions a lot during the live sessions". Moreover, two items were added to measure the instructor's sense of humour as an important component of charisma (Bolkan & Goodboy, 2011; Huang & Lin, 2014; Qardaku, 2021). The added item #32 is "The teacher has a good sense of humour", and #33 is "The teacher often makes jokes related to the course content". Finally, some items were paraphrased to adapt them to online learning setting (see Appendix A – Table A1).

Intrinsic motivation was measured using Motivational Beliefs Measure, Intrinsic Value part that includes 9 items (Pintrich & De Groot, 1990) and assesses students' intrinsic motivational values (see Appendix B – Table B1).

For both charisma and intrinsic motivation measurements, the responses to each statement ranged from strongly disagree (1) to strongly agree (7) on a 7-point Lickert scale.

To measure students' perception of their online learning, the authors used Revised Learning Indicators scale (Frymier & Houser, 1999). It is a 5-point Likert scale with the responses from Never (1) to Very often (5) (see Appendix C – Table C1).

Findings

Before testing the hypotheses, the authors sought to test the compatibility of the obtained data with the measuring scales. For this purpose, they used several types of statistical analysis. First, the validity of the measuring scales for the three constructs – charisma, intrinsic motivation, and perceived learning, was tested by performing confirmatory factor analysis using STATA software. Theoretically, there are two approaches to do it: (a) extracting factors based on a predetermined eigenvalue threshold, and (b) indicating the required number of factors to retain in advance. As the following tables 2, 3, and 4 demonstrate, both approaches produce identical results when the Eigenvalue threshold is set high enough. Thus, only one factor for each of the three constructs was obtained. In addition, a principal component analysis approach was used to extract component scores. This method allows to identify the contribution of each component, be it a statement or a scale item, to the entire construct.

Table 2. Factor Analysis - Charisma

Number of observations = 95
Method: principal factors
Rotation: (unrotated)
Retained factors=19
Number of parameters = 418

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	19.453	17.562	.735	.735
Factor2	1.891	.574	.072	.807
Factor3	1.317	.634	.050	.856
Factor4	.683	.009	.026	.882
Factor5	.674	.122	.026	.908
Factor6	.552	.107	.021	.929

Note: LR test: independent vs. saturated: chi2(465) = 3656.03 Prob>chi2 = .000

Table 3. Factor Analysis – Motivation

Number of observations=107
Method: principal factors
Rotation: (unrotated)
Retained factors=5
Number of parameters= 35

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	5.276	5.037	.999	.999
Factor2	.239	.144	.045	1.045
Factor3	.095	.019	.018	1.063
Factor4	.075	.047	.014	1.077
Factor5	.028	.081	.005	1.082
Factor6	-.052	.059	-.010	1.072

Note: LR test: independent vs. saturated: chi2(36) = 644.58 Prob>chi2 = .000

Table 4. Factor Analysis - Perceived Learning

Number of observations = 104
Method: principal factors
Rotation: (unrotated)
Retained factors = 5
Number of parameters = 35

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.025	3.430	.910	.910
Factor2	.595	.366	.135	1.045
Factor3	.229	.113	.052	1.097
Factor4	.116	.085	.026	1.123
Factor5	.031	.062	.007	1.130
Factor6	-.031	.097	-.007	1.123

Note: LR test: independent vs. saturated: chi2(36) = 400.36 Prob>chi2 = .000

Tables 2, 3 and 4 confirm that the model of measuring scales fits the data really well (p values are less than .01).

Furthermore, KMO and Bartlett's tests were performed to examine the reliability of confirmatory factor analysis. Generally, they test the suitability of the measuring data for structure detection. Specifically, KMO is a metric for adequate sampling – the proportion of variance in variables that can potentially be induced by underlying factors. Overall, it has to exceed .5 in order for the factor analysis to be useful, as is the case according to Table 5. Furthermore, Bartlett's test is used to examine the hypothesis stating that all the correlations are zero among the variables. A significance level below .05 suggests that the factor analysis could be useful. As shown in Table 5, significance levels for all three constructs are nearly zero while all KMO values are above .5. Overall, the results establish the reliability of the measuring data used in the confirmatory factor analysis.

Table 5. KMO and Bartlett's Tests

	Bartlett test of sphericity (H0: variables are not intercorrelated)	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)
Charisma	Chi-square = 3612.416 Degrees of freedom = 465 *p*-value = .000	.919
Motivation	Chi-square = 638.330 Degrees of freedom = 36 *p*-value = .000	.928
Perceived Learning	Chi-square = 396.367 Degrees of freedom = 36 *p*-value = .000	.834

Finally, Cronbach's alpha (α) statistic was calculated to evaluate the reliability of the multiple question Likert scale survey, and the rule of George & Mallery (2003) was applied to interpret the results: Excellent ($\alpha > .90$), Good ($\alpha > .80$), Acceptable ($\alpha > .70$), Questionable ($\alpha > .60$), Poor ($\alpha > .50$), Unacceptable ($\alpha < .50$). For the three constructs, the following values were obtained: charisma alpha = .98, motivation alpha = .91, perceived learning alpha = .87. Thus, all the constructs have a good or excellent alpha. This indicates that the model of Likert scales in this study is reliable to measure the constructs.

After it was confirmed that the measuring instruments were reliable and compatible, the authors moved on to test their hypotheses. To test H1, they analysed the charismatic teaching data with the help of Varimax rotation to single out the factors that affect teaching charisma. This technique enables researchers to see the relationship among factors. The analysis allowed the authors of the present paper to retrieve three factors for Charisma (with Eigenvalue >1). Table 6 displays Varimax orthogonal rotation results with loading greater than .6. The table shows to what degree different statements contribute to each of these factors:

Table 6. Rotated Factor Loadings (Varimax)

Statement 1	Factor1	Factor2	Factor3
statement_1_1	.7593		
statement_1_2		.657	
statement_1_4	.753		
statement_1_5	.769		
statement_1_6			.772
statement_1_7			.730
statement_1_8		.696	
statement_1_9	.846		
statement_1_10	.644		
statement_1_11			
statement_1_12		.641	
statement_1_13		.697	
statement_1_14	.770		
statement_1_15	.810		
statement_1_16			
statement_1_17			.792
statement_1_18		.642	
statement_1_19		.620	
statement_1_20	.780		
statement_1_21		.663	
statement_1_23	.706		
statement_1_24		.696	
statement_1_25	.663		
statement_1_26	.766		
statement_1_27			
statement_1_28		.630	
statement_1_29		.658	
statement_1_30	.800		
statement_1_31			
statement_1_32		.706	
statement_1_33		.635	

Note: Blank cells stand for loadings with values smaller than .6

[1] The statements from #1 to #31 can be seen in the original source (Archer, 1994).

The correlation between the variables and the factors are also reflected in the factor loadings for the varimax orthogonal rotation (Table 7). The weight of the variables for each factor can also be reflected here.

Table 7. Factor Loadings for the Varimax Orthogonal Rotation

Factor	Variance	Difference	Proportion	Cumulative
Factor1	10.721	2.869	.405	.405
Factor2	7.853	3.766	.297	.702
Factor3	4.086	.	.154	.856

Note: LR test: independent vs. saturated: chi2(465) = 3656.03 Prob>chi2 = .0000

By examining the items contributing to each factor, the authors discovered that the majority of them match the model used by Archer.

- Factor 1 – Personal Intensity. 12 statements under Factor 1 in Table 6 include five (out of seven) items of Archer's "personal intensity" factor (statements 14, 1, 5, 15 and 30). The remaining two statements #16 and #11 have loading values less than .6, thus the authors excluded them.
- Factor 2 – Personal Empathy. 12 statements under Factor 2 in Table 6 include all nine items from Archer's "personal empathy" factor (statements 28, 19, 21, 29, 13, 8, 2, 18 and 24). Two items in the list from the present paper (32 and 33) do not belong to the original Archer's measuring instrument and were added by the authors later. These two statements were added to measure the teacher's humour. The fact that they appeared in factor 2 suggests that humour is perceived by the students as part of empathy in the given context.
- Factor 3 – Intellectual Challenge. All three statements under Factor 3 in Table 6 match with the three items from Archer's "intellectual challenge" factor (6, 7, 17). The other two items from Archer's intellectual challenge factor (20 & 23) matched with Personal Intensity factor of this study. These items enquire about the teacher being demanding and having high standards for success (Archer, 1994, p. 41). The authors believe that due to a different culture context, being demanding, or strict is perceived as part of personal rather than intellectual factor of charisma.

Overall, these results reveal that despite a different (online) mode of teaching and culture context, the perception of key qualities of charismatic teachers is not exactly the same, but very similar, which proves the H1.

To test hypotheses 2, 3, and 4, correlation analysis was conducted between charisma, motivation and perceived learning (see Table 8). All three constructs are correlated positively, and all three correlation coefficients are statistically significant. Correlation coefficient of charisma and motivation (H2) is .568, and it is .444 for perceived learning and charisma (H3). Correlation between perceived learning and motivation (H4) is the highest (.679) among these three types of correlations. Thus, the results of the analysis in this study can be interpreted as charismatic teaching being predictive of students' motivation and positive perception of their learning in ERT context. At the same time, motivation and positive perception of learning are closely interconnected. Based on this, it can be further asserted that this type of teaching behaviour can spark intrinsic motivation in learners as well as affect their perception of the skills and knowledge gained as a result. Moreover, as expected, perceived learning and intrinsic motivation are highly correlated in online learning setting, which means that motivated goal-oriented students feel that they are learning better despite the challenge of a new, ERT environment.

Table 8. Correlation Analysis

	Charisma	Motivation
Motivation	.568***	-
Perceived Learning	.444***	.679***

Note: ***-significant at 99%

Finally, after determining the factors inside the charisma construct, correlation analysis was conducted to see which of them have a stronger relation with motivation and perceived learning. As seen in Table 9, motivation and perceived learning have a significant positive correlation with personal empathy and personal intensity as factors of teaching charisma. On the other hand, intellectual challenge is not strongly related to these variables.

Table 9. Pairwise Correlations Between Motivation, Perceived Learning, and the Three Factors of Charisma

Variables	Personal Intensity	Personal Empathy	Intellectual Challenge
Motivation	.614***	.527***	.242**
Perceived Learning	.523***	.404***	.145

Note: *** $p < .01$, ** $p < .05$, * $p < .1$

Discussion

This paper is the first to empirically study and verify the connections of a teacher's behaviour during ERT with perceived learning and intrinsic motivation of students by employing various statistical methods. Specifically, the authors of the present paper focused on charismatic teaching behaviours. Unlike Bolkan and Goodboy (2011, 2014) who view charisma as a subcomponent of transformational leadership, in this study, it is considered as an independent construct, in line with Archer (1994). While Bolkan and Goodboy, following Bass (1985), separated the concept of charisma from that of intellectual challenge, regarding them as distinct qualities of transformational leaders, Archer's data show that intellectual challenge is perceived by students and teachers as an integral part of teaching charisma. Moreover, Archer suggests that the intellectual component of a teacher's charisma might constitute the difference between charismatic teaching and charisma in other contexts, including organizational leadership. Therefore, the authors of this paper deem Archer's instrument for measuring teaching charisma to be more suitable for the ERT context in this study.

For a start, the authors decided to verify the compatibility of their data with all their measuring scales (that had not been applied to synchronous online learning setting before) through various statistical tools, e.g., STATA, KMO, Bartlett, and Cronbach's alpha statistic tests, all of which confirmed the reliability of the data. This allowed them to proceed with the study with more confidence. Further on, a close comparison of the factors, configured by certain sets of statements and first modelled by Archer (1994), revealed that they closely matched the factors configured by the same statements in the analysis of the present study. Archer labelled each of the factors as follows: personal intensity, personal empathy, and intellectual challenge. The authors of the present paper decided to maintain the same names for their factors in this study. The results of this study confirmed that online charismatic teaching is a construct that is greatly affected by the same sets of behaviours as the ones singled out by Archer, thus corroborating the first hypothesis. The first set of behaviours entitled Personal Intensity involves teachers' high levels of energy, display of teaching enjoyment, being engrossed in the taught subject, arousing strong emotions from the students towards the subject, etc. The second set of behaviours labelled Personal Empathy involves the teacher being helpful, motivational, fair, engaging, open-minded, and producing relevant content for students. The third set of behaviours marked as Intellectual Challenge, requires the teachers to press students for answers, have deeply engrained philosophical principles, and be able to bring students around to the teacher's way of thinking. Based on the examples of these charismatic behaviours, it can be summarised that the personal intensity factor reflects the teacher's mastery of delivery, while personal empathy and intellectual stimulation indicate the teacher's relationships with students on a personal and intellectual level respectively. As mentioned in the Literature Review, Bolkan and Goodboy (2014) proposed two similar factors of charismatic teaching - delivery and relationship.

While the majority of the charismatic behaviours discussed above (17 out of relevant 21) fell under the same factors as in the original research (Archer, 1994), there are some notable differences based on the data in the present study. Thus, being demanding and setting high criteria for success, which belong to the factor of Intellectual Challenge in Archer's paper, were perceived as part of the Personal Intensity factor based on the data acquired for the present research. This could be due to the fact that in the American cultural context, these behaviours are perceived as intellectual stimulation of students, while in the Ukrainian context, they are deemed as part of teachers' effective delivery. This could be explained by the fact that Ukrainian higher education is deemed as more theoretical (Friedman & Trines, 2019), with high standards and demanding teachers being a norm, while the American educational system is more practical and goal oriented, with students being challenged for their own benefit. While working to confirm the hypothesis 1, the authors of the present study came across another difference. In order to adapt Archer's measuring instrument to the more recent findings about teaching charisma, they added two new statements to his questionnaire enquiring about the teacher's sense of humour. The results of factor analysis revealed that humour is perceived to be a part of the Personal Empathy factor of charisma. Thus, the data of this study suggest that a good sense of humour helps teachers understand their students and establish better relationships with them. In contrast, Bolkan and Goodboy's (2014) data suggest that humour as a component of teaching charisma is related to delivery, rather than to relationship factor. This difference could be explained by the fact that in ERT context, when the participants of the educational process are experiencing a range of negative emotions, humour can release tension and create a special emotional connection between the teachers and the students. On the other hand, during regular face-to-face teaching times, using humour in class is perceived more as an effective delivery technique that helps teachers better communicate their message.

Confirmation of the first hypothesis led the authors to investigate the link between charismatic teaching and intrinsic motivation in ERT context. The findings revealed a positive link ($R2$ = .568) between these two, in support of the second hypothesis. This type of correlation reifies that charismatic teaching applied in a synchronous online learning setting notwithstanding its limited opportunities to reach the learners at full scale as opposed to a face-to-face teaching setting, can have a great impact on a learner's disposition conducive to the learning process during the uncertain times like COVID-19 pandemic. The findings also partially confirmed the results of the studies done by previous researchers (e. g. Bolkan & Goodboy, 2014; Qardaku, 2021) who investigated the importance of charismatic face-to-face teaching vis-à-vis intrinsic motivation. These researchers proved that it is intrinsic (and not extrinsic) motivation that yields better learning outcomes. This becomes particularly obvious at times of ERT, when there is no classroom environment and

little if any interaction with other students to provide extrinsic motivation for learners, making intrinsic motivation probably the only factor pushing students to higher achievements. Due to inspirational charismatic teachers who can instil strong emotions towards the taught subject and belief in their own intellectual abilities, students can have the highest levels of intrinsic motivation.

The positive link between intrinsic motivation and perceived learning during ERT is also of great significance as intrinsic motivation may shape a learner's introspection. The way a learner views his or her knowledge gain can be greatly influenced by motivation as was confirmed while testing the fourth hypothesis (*R2* = .679). As mentioned above, this type of correlation proved to have the highest correlation coefficient. This result reinforces Bolkan and Goodboy's (2014) finding that intrinsic motivation helps students engage in self-regulating activities like goal setting, self-monitoring, and rereading that make them perceive their learning results more acutely. Thus, students who are intrinsically motivated during the period of ERT, and then likely engage in self-regulatory learning conducive activities, definitely perceive having better achievements.

Moreover, the authors sought to verify a link between a learner's perceived learning and charismatic teaching during ERT which showed to be *R2* = .444, thus confirming the third hypothesis. Based on this, the results may suggest that charismatic teaching in online settings plays an equally important role in increasing students' performance as in the face-to-face charismatic teaching process. This finding is particularly important because students' perceptions of their learning during ERT were overall poor (Aristovnik et al., 2020; El Filali, 2022; Hong et al., 2021, 2022; Iyer & Chapman, 2021; Popa-Velea et al., 2021). Hence, by adopting charismatic behaviours, the teachers might potentially mitigate the shortcomings of ERT and online learning in general.

Finally, it was found that the two factors of teaching charisma during ERT – Personal Empathy and Personal Intensity are more predictive of students' intrinsic motivation and perceived learning than the Intellectual Challenge factor. This result is in line with earlier findings. Thus, Archer found low correlation between intellectual challenge and trust and commitment (Archer, 1994). This suggests that expressive content delivery and good rapport with the teacher motivates students more than the academically challenging behaviour. Moreover, students feel that they are learning better from empathetic and expressive teachers.

Conclusion

Overall, the findings of this study suggest that charismatic teaching not only in face-to-face, but also in a synchronous online context can affect students' motivation and perceived learning. They reinforce the theory that teaching on ERT mode while employing certain strategies of behaviour (personal empathy, personal intensity, and intellectual challenge) can constitute online charismatic teaching in a way similar to that of face-to-face charismatic teaching. Using these strategies can, directly and indirectly, determine the way students assess their learning environment and perceive their learning outcomes. Online teaching does not represent a barrier to exercising the above-mentioned strategies as students can similarly perceive the educator's teaching practices as they would in the face-to-face learning setting. The same sets of charismatic behaviours can be used to improve students' performance, and hence productivity. The authors of the present study strongly recommend that educators employ the strategies of charismatic teaching not only in face-to-face, but also in an online setting. Also, if another ERT necessity presents itself in the future, charismatic teaching can help the teachers to facilitate the process of learning and assist their students in making better use of the learning environment under these challenging circumstances. The difference in students' perception of charismatic teaching behaviors, such as humour and being demanding suggest that not only the mode of teaching, but also cultural differences can affect these perceptions. These differences could be explored in the future research by comparing perception of charismatic teaching behaviours across cultures.

Recommendations

Recommendations for Researchers

Since charismatic teaching is a broad concept, it has the potential to be investigated further. There are certain areas that future research can focus on. To begin with, the three factors of teaching charisma discussed in this paper (personal empathy, personal intensity, and intellectual challenge) are not the only ones that can affect this construct. Other researchers (Bolkan & Goodboy, 2014; Huang & Lin, 2014; Qardaku, 2021) found more factors affecting this teaching behaviour. Further research might help to investigate them and discover some new ones. Next, the study does not conduct a detailed comparative analysis of students' perceptions of teaching charisma in online and face-to-face teaching contexts. This could be researched in the future. Finally, the paper does not explore the specific ways how charismatic teaching can improve the quality and effectiveness of ERT, but rather just studies the phenomenon of charisma in ERT setting. Further research can focus on investigating this issue in detail.

Recommendations for Practitioners

The teachers, as practitioners, can consider following certain applicable suggestions that stem from the results of this study. First, they can familiarize themselves with the factors of teaching charisma. As someone professionally engaged

in teaching, it is important to understand that teaching charisma encompasses various factors beyond those discussed in the current paper. Reviewing the research conducted by Bolkan & Goodboy, Huang & Lin, and Qardaku can provide valuable insights into these factors. By understanding and incorporating these factors into their teaching practice, practitioners can create a more engaging and impactful learning environment for their students. Furthermore, as a practitioner, it is crucial to recognize the impact of different instructional settings on teaching charisma. It is important to take the time to understand the unique challenges and opportunities presented by online and face-to-face teaching as well as adapt one's teaching strategies accordingly to ensure that their charisma translates effectively in both contexts. This may involve exploring different methods of student engagement, communication, and feedback delivery specific to each context. In addition, it is important for teachers to employ content relevant appropriate humour not only to deliver the subject matter of the lesson to the students in an effective and memorable way, but also to enhance student-teacher rapport, especially during low-contact educational processes like ERT.

Limitations

The current study has certain limitations. Firstly, the sampling includes students of a specific (English) major, and the demographic data reflect this segment of student population. This is explained by the fact that the sample respondents had the English language proficiency level sufficient for fully understanding the questionnaire in its original English language. For further investigation, and to include a larger student population majoring in other subjects, the measuring instruments could be translated into the students' first language. Next, the study focuses on finding correlation between charismatic behaviours, perceived learning, and motivation without attempting to prove causal relationships that can be explored in the future. Causal analysis could be the next step in this research.

Ethics Statements

The study was conducted in accordance with the Declaration of Helsinki and approved by Ethics Committee of Sociological Association of Ukraine (protocol code 01-21/11, November 21, 2022). The participants provided their written informed consent to participate in this study.

Conflict of Interest

The authors of this publication declare there are no competing interests.

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Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to IRB restrictions and confidentiality of subjects.

Authorship Contribution Statement

Kuziukova: Conceptualization, methodology, validation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, supervision, project administration. Labadze: Methodology, validation, formal analysis, resources, data curation, writing—original draft preparation, writing—review and editing. Levidze: Resources, writing—original draft preparation, writing—review and editing, visualization, project administration. Zaluzhna: Data curation, investigation, writing—review and editing

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Appendix A

Table A1. Charisma was measured using 31 statements with possible responses from 1 - Strongly disagree to 7 - Strongly agree.

Variable	Obs.	Mean	Std. Dev.	Min	Max
statement~1_1	111	6.153	1.046	2	7
statement~1_2	111	6.225	1.142	2	7
statement~1_3	111	6.108	1.163	1	7
statement~1_4	111	6.000	1.214	1	7
statement~1_5	111	5.910	1.297	1	7
statement~1_6	111	6.018	1.168	2	7
statement~1_7	111	5.964	1.250	1	7
statement~1_8	111	5.991	1.392	1	7
statement~1_9	111	5.631	1.584	1	7
statement~10	111	5.604	1.521	1	7
statement~11	111	6.072	1.270	1	7
statement~12	111	5.919	1.383	1	7
statement~13	111	5.910	1.276	1	7
statement~14	111	5.919	1.294	1	7
statement~15	111	6.117	1.150	1	7
statement~16	107	5.822	1.180	1	7
statement~17	109	5.789	1.299	1	7
statement~18	111	5.117	1.746	1	7
statement~19	109	5.266	1.531	1	7
statement~20	111	4.694	1.858	1	7
statement~21	109	5.514	1.543	1	7
statement~22	110	5.627	1.262	3	7
statement~23	111	5.955	1.209	1	7
statement~24	111	6.252	1.156	1	7
statement~25	109	6.156	1.140	1	7
statement~26	110	6.200	1.233	1	7
statement~27	109	5.633	1.152	1	7
statement~28	110	6.491	1.082	1	7
statement~29	109	5.716	1.147	1	7
statement~30	109	5.982	1.319	1	7
statement~31	109	5.606	1.361	1	7

Note: refer to the list of statements in the original paper (Archer, 1994)

Appendix B

Table B1. Motivation is based on 9 statements with possible responses from 1 – strongly disagree to 7 – strongly agree.

Variable	Obs.	Mean	Std. Dev.	Min	Max
statemen~2_1	109	5.798	1.332	1	7
statemen~2_2	108	6.148	.945	3	7
statemen~2_3	109	5.872	1.241	1	7
statemen~2_4	109	5.991	1.143	2	7
statemen~2_5	109	5.211	1.522	1	7
statemen~2_6	108	6.037	1.093	2	7
statemen~2_7	109	6.009	1.159	1	7
statemen~2_8	108	6.028	1.098	2	7
statemen~2_9	108	6.222	.970	3	7

Note: refer to the list of statements in the original paper (Pintrich & De Groot, 1990)

Appendix C

Table C1. Perceived learning is measured based on 9 statements with possible responses from Never (0) to Very often (5).

Variable	Obs.	Mean	Std. Dev.	Min	Max
statemen~3_1	109	4.239	.792	2	5
statemen~3_2	109	3.780	1.057	1	5
statemen~3_3	109	3.532	1.127	1	5
statemen~3_4	109	3.927	.997	1	5
statemen~3_5	107	3.953	.946	1	5
statemen~3_6	107	3.925	1.079	1	5
statemen~3_7	107	3.907	.947	1	5
statemen~3_8	108	4.111	.900	1	5
statemen~3_9	109	4.404	.818	2	5

Note: refer to the list of statements in the original paper scale (Frymier & Houser, 2009).