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EXPLORING AGE AND GENDER DIFFERENCES IN NARCISSISM AND PERFECTIONISM AND THEIR MENTAL-HEALTH CORRELATES

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ABSTRACT. The changes occurring in modern society can significantly influence individuals' well-being, mental health and even personality traits such as narcissism and perfectionism. Since studies investigating age and gender differences in narcissism and perfectionism have produced mixed results, and the number of studies conducted in Romanian population is scarce, the main aims of this study were to investigate possible age and gender differences in narcissism, perfectionism and several mental-health indicators in a sample of healthy participants, as well as specific association patterns between these variables within each group of participants. Our sample included 465 millennials and 149 participants over 35 years of age. The results indicate that millennials reported significantly lower levels of narcissism and self-oriented perfectionism than the older generations, higher levels of depressive symptoms and lower levels of autonomy, environmental mastery, purpose in life, and self-acceptance. Female millennials reported lower levels of narcissistic traits and higher levels of socially-prescribed perfectionism, depressive symptoms, personal growth, and positive relations with others than male participants. Older females indicated significantly higher levels of depressive symptoms and loneliness than male participants. Regarding association patterns, in the group of millennial women narcissism was positively correlated with self-oriented, socially-prescribed perfectionism and subjective well-being, and negatively with loneliness, environmental mastery and purpose in life. In millennial males, we found significant positive correlations only between narcissism and subjective well-being and environmental mastery. Our findings may have important implications for the literature regarding millennials and can contribute to the interventions and prevention programs designed to improve their well-being.

Keywords: *millennials, narcissism, perfectionism, mental health indicators, age and gender differences*

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Introduction

Presently, we live in a society which some sociologists call the late or liquid modernity (Bauman, 2007), characterized by intense feelings of uncertainty determined by the frequent changes in life-style, working style, basic value systems, long-term goals or ways in which we can achieve happiness, etc. Society intensely '*recommends'* people to assert their individuality, however, in this process of individuation the individual moves away from the traditional, more group-centered ways of living, simultaneously losing a very important source of support (Bauman, 2000). Briefly put, today's adult life requires one to face a much greater number of challenges than the adult lives of past generations (Goodman, Schlossberg, & Anderson, 2006), especially on the younger generations (Oeppen & Vaupel, 2002; Robinson & Godbey, 1999; Roser, 2020). The Millennials (born 1985-1999) (Fry, 2018; Martin, 2018) for example, have to face challenges that previous generations did not encounter: instability in the workplace, financial insecurities, changes in values systems, less stable relationships, growth of income inequity, social media consumption, changes in personality traits, increase in the type of daily stressors - all of these factors may negatively impact the well-being of present generations etc. (Oishi, Kesebir, & Diener, 2011; Twenge & Kasser, 2013; Banyard, Edwards, & Kendall-Tackett, 2009; Curran & Hill, 2017). In addition to all these changes, younger people are subject to increasing external pressures, are urged to compete against each other, to constantly excel, and to achieve perfection (Curran & Hill, 2017; Twenge, 2014; Collishaw, Gardner, Maughan, Scott, & Pickles, 2012; Verhaeghe, 2014).

Not surprisingly, in the same time a growing tendency of mental health problems was noticed (depression, anxiety disorders, loneliness, etc.). This phenomenon happens even if increasingly larger number of people started reporting symptoms, the popularization of mental health problems increased, stigma got significantly reduced, criteria in diagnostic manuals have changed (Collins, Patel, Joestl, March, Insel & Daar, 2011; Erzen & Çikrikçi, 2018; Hawkley & Cacioppo, 2010; Perissinotto, Stijacic Cenzer, & Covinsky, 2012; Victor & Bowling, 2012; WHO, 2017). Anxiety and depression are among the most common mental health issues, statistics showing that in 2017 over 264 million people suffered from anxiety (i.e., over 3.4% of the world's population) and over 298 million people from depressive symptoms (i.e., over 4.4% of the population of the world) (Ritchie & Roser, 2018: WHO, 2017). According to scientific predictions, by 2030 depression will become the second most serious illness worldwide, significantly affecting the suffering individuals' personal and professional life, simultaneously representing significant socio-economic burdens as well (Gustavsson et al., 2011; Wittchen et al., 2011). Recent studies indicate that

these results are valid for the millennials as well, affecting more seriously the female, than the male millennials, since they are more at risk for mental ill-health than males (Bor, Dean, Najman, & Hayatbakhsh, 2014; Patalay & Fitzsimons, 2017; Patalay & Gage, 2019).

Moreover, related to the growing tendencies of depression and anxiety, in the last decades an increasing number of people worldwide reported significant levels of loneliness, constellation of reactions and states that are strongly associated with depression and anxiety (Cacioppo & Patrick, 2008; Erzen & Çikrikci, 2018). Contrary to expectations, high levels of loneliness were reported by young adults and children as well (e.g., Cigna U.S. Loneliness Index, 2018; Perlman, 1990; Pinquart & Sorensen, 2003; Qualter et al., 2015). All these negative changes in mental health may significantly impact individuals' subjective and psychological well-being regardless of age (Yang, 2008; Moirangthem & Panda, 2018).

Narcissism and Perfectionism

With the beginning of the 21st century, investigations conducted by different groups of researchers indicated increases in narcissism, especially among youth (Twenge, 2006; Twenge & Campbell, 2008). Twenge and colleagues' (Twenge, Campbell, & Freeman, 2012; Twenge, Campbell, Hoffman, & Lance, 2010) repeatedly found that within the category of narcissistic traits young adults tend to exhibit increased: positive self-view, interest in leisure, extrinsic goal orientation, vocational orientation mostly towards financial benefits and less towards real interest, reduction of the interest in environment and civic activities, significant increases in psychopathology, etc. Moreover, recent generations of college students were also found to report higher levels of extraversion and self-confidence than previous generations (e.g., Curran & Hill, 2017; Twenge, 2001a; Twenge, Campbell, & Gentile, 2012; Twenge, Konrath, Foster, Campbell, & Bushman, 2008). Recent studies regarding age and gender differences in narcissism traits show mixed results. According to Foster, Twenge, and Campbell's (2003) study and recent two meta-analyses (Twenge, Freeman, & Campbell, 2012; Twenge et al., 2008), generational differences predicted more narcissism in younger people, who grew up in eras characterized by high levels of individualism (Lasch, 1979; Twenge & Campbell, 2001). On the other hand, other groups of investigators have come up with studies that sustain that there would be very little evidence regarding a generational increase in narcissism (Arnett, 2013; Trzesniewski, Donnellan, & Robins, 2008a; Trzesniewski, Donnellan, & Robins, 2008b). The debate regarding this issue is still going on – mostly due to

methodological issues (mainly cross-sectional studies) it is not yet clear if the age-related differences in narcissistic traits are the result of period, cohort, developmental, cultural effects, or a combination of them (Paulsen, Trzesniewski, & Syed, 2015). Regarding gender differences, few studies have provided an integrative evaluation of the nature of sex differences in narcissism, a recent meta-analysis showing that men are more narcissistic than women, but the overall size-effect is debatable and not conclusive (Grijalva et al., 2015).

According to DSM-5, clinical manifestations of narcissism are represented by a "*pervasive pattern of grandiosity (in fantasy or behavior), a constant need for admiration, and a lack of empathy*" (American Psychiatric Association, 2013, p. 669). Raskin and Hall's (1979) conceptualization is derived from social psychology, where narcissism is conceptualized as a personality trait, a concept different from that of Narcissistic Personality Disorder. Narcissistic traits encompass characteristics such as: entitlement, frequent need for validation, grandiose sense of self-importance and superiority, justification, high self-esteem, tendency to exploit interpersonal relationships for own purpose, great emphasis on social status, permanent comparison with others, envy and the feeling that one is envied, sensitivity to criticism, reduced capacity of self-reflection, arrogance, etc. (Paulhus & Wiliams, 2002).

There is a heated debate in literature regarding the (mal)adaptational values of narcissism. Some approaches consider narcissistic traits on a continuum with healthy and pathological forms situated on the extreme ends (Pincus & Lukowitsky, 2010). Depending on the prevalence, intensity and frequently of symptoms, some characteristics of narcissism have proved to be adaptive in specific contexts and situations, while others maladaptive (Hill & Lapsley, 2011; Paulsen et al., 2015). A plethora of studies indicated that narcissistic traits, especially its adaptive forms, are positively associated with self-esteem (Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), subjective well-being (Egan, Chan, & Shorter, 2014; Jonason, Baughman, Carter, & Parker, 2015), and optimism (Hickman, Watson & Morris, 1996) and are negatively associated with depressive symptoms, and experiences of daily and dispositional loneliness (Sedikides et al., 2004).

Simultaneously, research indicated that perfectionism has also increased worldwide in the last decades (Curran & Hill, 2017). A possible motive proposed by different researchers traces these modifications back to cultural factors and changes in modern culture, which cannot be attributed to genetic factors (Klerman & Weismann, 1988; Twenge, 2011). According to Curran and Hill's (2017) study, just as culture produces individual differences between countries, the culture of different time-periods may also produce generational differences in personality traits.

Cultural values in the western society (individualism, materialism, consumerism) have undergone a remarkable change in recent decades, negatively influencing two somewhat interrelated aspects of malfunctioning – narcissism and maladaptive perfectionism (Curran & Hill, 2017; Markus & Kitayama, 1991; Twenge & Campbell, 2009; Verhaeghe, 2014). Recent studies have investigated the dimensions of trait perfectionism and their relationship with narcissism (Flett, Sherry, Hewitt, & Nepon, 2014). Perfectionism represents a central feature of narcissism, mirroring its characteristic ways of thinking, behaving, relating and feeling (Beck, Freeman, & Davis, 2004; Rothstein, 1999). Empirical studies show that narcissism and perfectionism are moderately correlated, this relationship being generalized in both genders (Hewitt et al., 2003; Sherry et al., 2014). Perfectionism is usually defined as the tendency to strive toward personal improvement and to set excessively high standards for oneself (Short & Mazmanian, 2013). As in the case of narcissism, literature indicates that perfectionism has both positive, adaptive forms which lead to tangible benefits (i.e., higher levels of accomplishment) (Hewitt, Flett, & Mikail, 2017), and maladaptive variations, which are considered factors of vulnerability in terms of personality characteristics (Hewitt et al., 2017). People characterized by excessively high levels of perfectionism impose unrealistic standards both themselves or for those around them. Consequently, they may end up overreacting to failure, to encountered problems or stressful situations (Hewitt et al., 2017). Hewitt and Flett (1991) conceptualized perfectionism as a multidimensional construct, and distinguishes between self-oriented perfectionism, other oriented perfectionism, and socially prescribed perfectionism (Hewitt & Flett, 1991). The main difference between the three dimensions of the model consists in the object towards which the attitudes and the perfectionist behavior are directed (Hewitt & Flett, 1991).

Self-oriented perfectionism (SOP) is characterized by setting exceptionally high standards and unrealistic goals for the self, completed with critical self-evaluation. SOP contains the belief that striving for perfection and being perfect are extremely important (Hewitt & Flett, 1991; Stoeber, 2015; Curran & Hill, 2017). This dimension also has an important motivational component, which directs the individual to achieve perfection and to avoid failure. Studies show that SOP is often associated with achievement-related behaviors (Hewitt & Flett, 1991), however it can also become a vulnerability factor in situations when the individual relates his/her self-worth to personal achievements. Studies show that SOP is also positively associated with greater psychological reactivity, clinical depression, anorexia nervosa, suicidal ideation, and negative affect in general (Hewitt & Flett, 1991, 1993; Besser, Flett, & Hewitt, 2004; Besser, Flett, Hewitt, & Guez, 2008; Enns & Cox, 2005; Fry & Debats, 2009).

Persons scoring high on *Other-oriented perfectionism (OOP)* are characterized by having unrealistic expectations from others, combined with a highly critical evaluation of those who fail to meet these expectations. When significant others cannot meet the required standards, they end up being blamed, criticized and even treated with hostility by persons high on OOP (Hewitt & Flett, 1991; Stoeber, 2015 Hewitt, Flett, & Mikail, 2017). Compared to the other dimensions of perfectionism, OOP is more evident in interpersonal behaviors. Literature indicates that OOP is frequently associated with negative interpersonal traits such as lower agreeableness, neuroticism, narcissism, arrogance and vindictiveness (Hewitt & Flett, 1991; Hill, Mcintire, & Bacharach, 1997; Hill, Zrull, & Turlington, 1997; Smith, et al., 2016). In addition, due to exaggerated demands and expectations from others, OOP is linked to lower levels of altruism, trust and compliance (Hewitt & Flett, 1991; Hill, McIntire, & Bacharach, 1997; Hill, Zrull, & Turlington, 1997).

Socially prescribed perfectionism (SOP) involves the belief that the social context or significant others are excessively demanding, have unrealistic standards and expectations, judge harshly, and put pressure on one being perfect (Hewitt & Flett, 1991; Curran & Hill, 2017). A person with a high level of SPP perceives that the standards imposed by others are exaggerated and uncontrollable, and the inability to achieve them often leads to intense emotional states such as anxiety, anger or depression (Sherry, Hewitt, Flett, & Harvey, 2003; Smith et al., 2016). Literature indicates that socially prescribed perfectionism is the most debilitating of the three dimensions of perfectionism, longitudinal and experimental studies showing its positive associations with various forms of major psychopathology (e.g., anxiety, depression) and even suicidal ideation (Martin, Flett, Hewitt, Krames, & Szanto, 1996; Hewitt, Flett, & Weber, 1994; Sherry, et al., 2003; Smith et al., 2016).

Research indicates there is an association of moderate intensity between narcissism and multidimensional perfectionism, the association appearing in both genders (Hewitt et al., 2003; Sherry et al., 2014). Furthermore, in most studies, narcissism has been positively correlated with both SOP and SPP, but in terms of OOP, studies are inconsistent, showing mixed results (Trumpeter, Watson, & O'Leary, 2006; Flett, Sherry, Hewitt, & Nepon, 2014; Smith et al., 2016). However, even in the light of these data, the relationship between narcissism and perfectionism remains complicated, the explanations regarding the causality between the two is in need of clarification.

Well-being

In recent decades, the issue of well-being has gained more and more attention in the social and behavioral sciences and especially in psychology (Ryan & Deci, 2001). The World Health Organization defines health as *"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"* (WHO, 2018). Researchers claim that well-being is a multidimensional concept, composed by both elements of the subjective (hedonic) and psychological (eudaimonic) approaches (King & Napa, 1998; McGregor & Little, 1998). The hedonic approach defines well-being in terms of pleasure and happiness attainment and pain avoidance (Kahneman, Diener & Schwartz, 1999). The main indicator used for this approach is the subjective well-being (SWB) which refers mostly to positive self-evaluation of one's life (Diener, 1984; Andrews & Robinson, 1991; Ryan & Deci, 2011). The eudaimonic approach, on the other hand goes beyond mere pleasure, sustaining that well-being is mostly represented by finding meaning, purpose and realization of one's true potential (Ryff, 1989; Ryff & Keyes, 1995).

Ryff and Singer (1998, 2000, 2006) conceptualized psychological well-being (PWB) as consisting of six different components:

1. ***self-acceptance***- involves a positive attitude towards oneself and acceptance of all aspects of the self, both good and bad qualities along with acceptance of personal past. This dimension of non-judgmental acceptance of one's self together is considered as one of the fundamental aspects of mental health and optimal functioning.
2. ***positive relations with others***- this dimension refers to the development and maintenance of warm, satisfying, and trusting relations with others, care for the welfare for others and appreciation for human relationships. This dimension was found to be related to empathy, affection and intimacy proving to be a protective factor in confrontation with adversity.
3. ***autonomy***- requires a sense of self-determination and the ability to think and behave in specific ways to resist social pressures. People with a high level of autonomy regulate their own emotions and behavior according to their own standards and evaluate themselves according to their own opinions.
4. ***environmental mastery***- involves the ability to effectively navigate one's life and the surrounding environment, and the ability to establish contexts that are relevant to one's needs and values. The individual is able to control his/her external environment in order to adapt and function better (Ryff, 1989).

5. ***purpose in life***- it refers to the feeling that there is meaning and purpose in present and past life. The individual has an aim for living, thus sustaining a creative and productive life. Literature indicates that meaning and purpose in life contribute to the maintenance of mental and physical health (Hill & Turiano, 2014; Boyle, Barnes, Buchman, David, & Bennett, 2009).
6. ***personal growth***- refers to people's need for self-actualization through continuous development, growth, experiences and realization of the one's true potential. This dimension of psychological well-being is closest to Aristotle's approach to eudaimonia and is strongly associated to mental health and flourishing (Ryff, 1989).

Many studies in this field have attempted to identify factors that are associated and may affect well-being, as: age, wealth, satisfaction with income, relationship status, social support networks, personality factors, adaptive emotion regulation strategies etc. (Diener, Gohm, Suh, & Oishi, 2000; Folkman & Moskowitz, 2004; Diener, Lucas, & Oishi, 2002; Chang & Farrehi, 2001). Regarding personality factors, maladaptive forms of narcissism and perfectionism were found to be associated with more intense psychological symptoms, including depression, anxietyand loneliness (Frost, Marten, Lahart, & Rosenblate, 1990; Chang, Sanna, Chang, & Bodem, 2008; Wang, Yuen, & Slaney, 2008; Gnilka, Ashby, & Noble, 2012; Carter & Douglass, 2018). In the case of narcissism, the results are mixed, with some studies showing positive associations between narcissism and happiness, while/and others emphasized that narcissism is associated with some indicators of psychological well-being (Kohut, 1977; Rhodewalt, Madrian, & Cheney, 1998; Rhodewalt & Morf, 1995; Watson, Hickman, & Morris, 1996; Watson, Little, Sawrie, & Biderman, 1992; Rose, 2002; Egan, Chan, & Shorter, 2014). Also, three dimensions of psychological well-being, namely, autonomy, environmental mastery and purpose in life are associated with socially-prescribed perfectionism (Chang, 2006).

Objectives

Literature indicates that psychopathology may vary depending on the individual's personality traits (Widiger, 2011), namely, different personality factors may have a strong relationship with symptoms of psychopathology (Papageorgiu, Denovan, & Dagnall, 2019). Lately, one of the topics of major interest in this area has been the investigation of the relationship between narcissism and mental health indicators, especially depression. This far, the

synthesis of extant research indicates somewhat mixed results, some investigations reporting a positive association between pathological narcissism and depression (Kealy, Laverdière, & Pincus, 2020), while other studies consider that narcissistic traits may encompass adaptive behaviors that might guard the person from the development of depression (e.g., Veselka, Schermer, & Vernon, 2012). Furthermore, literature also indicates that perfectionism is a central feature of narcissism (Ronningstam, 2010, 2011), and is a strong predictor of depression (Hewitt, Flett, & Ediger, 1996). Unfortunately, based on demographic variables, literature offers mixed results regarding the groups of populations that are highest at risk for developing maladaptive forms especially in relation to narcissism and perfectionism. Some studies indicate that younger generations present higher levels of narcissism, with narcissistic traits decreasing over time (Foster, Campbell, & Twenge, 2003, Roberts, Edmonds, & Grijalva, 2010), while other studies sustain that there is no direct evidence for such claims (Arnett, 2013; Trzesniewski, Donnellan, & Robins, 2008a; Trzesniewski, Donnellan, & Robins, 2008b; Twenge, Campbell, & Freeman, 2012; Twenge, Campbell, Hoffman, & Lance, 2010). Furthermore, besides systematically recorded differences in depression between men and women, literature has no stable results indicating similar gender-related differences in narcissism and perfectionism (Sherry et al., 2014).

Since these relationships are under studied in the Romanian population, our study has two major aims, to investigate:

(1) possible age and gender differences in narcissism, perfectionism and mental-health indicators (depression, happiness, loneliness and psychological well-being) in a sample of healthy participants.

(2) specific association patterns between narcissistic traits, perfectionism and mental health indicators (depressive symptoms, loneliness, happiness and psychological well-being) within each group of participants (age – millennials and above 35 years of age, and gender).

Study

Participants

Our study included 614 participants, 465 millennials (under 35 years of age) and 149 participants over 35 years of age. Mean age in the millennial's group was: 22.36 years (SD=3.77), and in the group of older generation 46.56 (SD=7.18). Of the millennial-group 373 were female and 94 male participants,

and in the group with ages over 35 years, 94 were females and 55 males. All participants resided Transylvania, the Western part of Romania. After providing informed consent, participants completed either online questionnaire packets that took 45 minutes to fill, or were evaluated in a face-to-face assessment session with the researcher. Data collection started in September 2019 and ended in December 2019. In order to be able to collect as many data as possible, some of the participants who were available were assessed in a face to face session, while those who were not available, were assessed with an online questionnaire. Participation was voluntary.

Instruments

Demographic variables were: age and gender.

Depression tendencies were measured with the Beck Depression Inventory-II (BDI, Beck, Rush, Shaw & Emery, 1979; Romanian adaptation David & Dobrean, 2012). The BDI is a 21-item, multiple-choice format inventory, designed to measure the presence of depression in adults and adolescents. Each of the 21 items assesses a symptom or attitudes specific to depression, inquiring its somatic, cognitive and behavioral aspects. By its assessments, single scores are produced, which indicate the intensity of the depressive episode. Internal consistency indices of the BDI are usually above .90. For the present sample, the internal consistency indices for the BDI was .88.

Subjective-well-being was measured with the 29-item Oxford Happiness Questionnaire (OHQ) (Hills & Argyle, 2002; translated and adapted into Romanian by the authors). The OHS measures happiness as a unidimensional compact construct. Examples of items: "*Life is good*", "*I am very happy*", "*I often experience joy and elation*". The has 29 items, with 12 reverted items, using a Likert scale with answers from 1 to 6 (1=strongly disagree, to 6=strongly agree). The psychometric properties of OHQ are very good (Cronbach α =.90).

Loneliness and ***perceived social isolation*** was measured with the 20-item UCLA Loneliness Scale (revised UCLA Loneliness Scale; Russell, Peplau, & Cutrona, 1980; translated and adapted into Romanian by the author). Participants are asked to respond to each item on a 4-point Likert scale, from 'never' to 'always'. The scale's items are worded to suggest a general, present-day experience that relate to both social and emotional dimensions of loneliness (e.g., "*No one really knows me well*"; "*My interests and ideas are not shared by those around me*", and "*I feel in tune with the people around me*"). The UCLA Loneliness Scale consists of both positively and negatively worded items, with a possible total score

of 20 to 80 points with no identified cut-off score that would define loneliness. The scale has good internal consistency with a Cronbach's α of 0.94 (Russell et al., 1980). Mean scores for university students usually vary between 36 and 39 (Anderson, Miller, Riger, Dill, & Sedikides, 1994).

Narcissistic traits were measured with 16-item Narcissistic Personality Inventory (NPI-16, Ames, Rose, & Anderson, 2006; translated and adapted into Romanian by the author) derived by the authors from the long, 40-item NPI scale (Raskin & Hall, 1979). Examples of items: "*I really like to be the center of attention*", "*It makes me uncomfortable to be the center of attention*". The test consists of sixteen pairs of statements, and for each pair subjects should select the one that they feel best reflect their personality. The NPI-16 is a short measure of subclinical narcissism, presenting a good face, internal, discriminant, and predictive validity (Ames et al., 2006). The internal consistency of the NPI-16 for the present sample was .82.

Perfectionism was measured with the 45-item self-report Multidimensional Perfectionism Scale (MPS, Hewitt & Flett, 1991; translated and adapted into Romanian by the author). The MPS contains three sub-scales: self-oriented perfectionism (SOP) (e.g., "*One of my goals is to be perfect in everything I do*"), other-oriented perfectionism (OOP) (e.g., "*Everything that others do must be of top-notch quality*"), and socially-prescribed perfectionism (SPP) (e.g., "*I find it difficult to meet others' expectations of me*"). Responses are given on a 7-point Likert scale, from 1 (strongly disagree) to 7 (strongly agree). The psychometric properties of the scale (reliability and validity) were found across studies to be very good (Hewitt et al., 2003). Cronbach's alpha for the present sample ranged from .73 to .89.

Psychological well-being was measured by the 44-item scale developed by Ryff (1989) and adapted into Romanian by Kállay and Rus (2014). This scale has 6 sub-scales measuring the basic components of eudaimonic well-being: self-acceptance (PWB-SA), positive relations with others (PWB-PRO), autonomy (PWB-A), environmental mastery (PWB-EM), purpose in life (PWB-PL), and personal growth (PWB-PG). Items are assessed along a 6-point scale, 1 = total agreement, and 6 = total disagreement. Examples of items: "*In general, I feel I am in charge of the situation in which I live*", "*I have a sense of direction and purpose in life*.". The psychometric properties of the Romanian translation are good (.81-.88). On each sub-scale high scores mean high WB, while low scores mean low levels of psychological well-being. The internal consistency of the Psychological Well-being scale for the present sample ranged from .81.

Results

Data were analyzed with IBM SPSS Statistics 20. After cleaning the data base, we run statistical tests to identify descriptive characteristics of the sample. Firstly, we present the descriptive characteristics of our data (see Table 1).

Table 1. Descriptive statistics

	N	Min.	Max.	Mean	SD	Shapiro-Wilk	p
NPI	614	0	16	8.30	5.09	.92	.000
MPS SOP	609	24	103	64.43	12.98	.99	.013
MPS OOP	611	30	102	59.97	9.80	.98	.000
MPS SPP	612	29	95	62.89	11.41	.99	.243
BDI	593	0	44	10.00	8.47	.91	.000
UCLA	613	23	79	51.50	7.66	.93	.000
OXFORD	609	49	164	108.32	15.08	.97	.000
PWB AUT	614	12	42	32.03	6.13	.97	.000
PWB EM	614	8	48	35.27	7.19	.96	.000
PWB PG	615	10	54	45.63	6.49	.92	.000
PWB PRO	614	6	36	29.11	4.64	.94	.000
PWB PL	614	7	101	32.67	7.32	.88	.000
PWB SA	615	7	42	31.59	7.01	.95	.000

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, UCLA- Loneliness scale, Oxford = Happiness Scale, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PG = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance

Next, we continued our analysis by comparing the assessed variables depending on the two age groups, namely participants born before and after 1985 (Group 1 – before 1985, Group 2 - Millennials). Since our data did not follow a normal distribution (see Table 1), we opted for non-parametric analyses, and effect sizes were calculated according to the formula: $r=Z/\sqrt{N}$. Significant differences are presented in Table 2.

Table 2. Significant differences between millennials (group 1 – younger than 35 years of age) and participants older than 35 years of age (group 2) in narcissism, multidimensional perfectionism, depressive symptomatology, loneliness, happiness, and components of psychological well-being

SCALES	Group	Mean	SD	Z	*p*	*r*
NPI-16	Gr1 (N=464)	8.06	5.10	-4.43	.000	0.18
	Gr2 (N=149)	10.19	4.71			
MPS_SOP	Gr1 (N=464)	64.65	12.51	-2.90	.004	0.12
	Gr2 (N=149)	68.64	13.98			
MPS_OOP	Gr1 (N=464)	59.11	9.07	-3.34	.001	0.13
	Gr2 (N=149)	62.97	11.67			
BDI	Gr1 (N=464)	10.66	8.53	-4.48	.000	0.18
	Gr2 (N=149)	7.39	7.44			
PWB-AUT	Gr1 (N=464)	31.50	6.23	-4.43	.000	0.18
	Gr2 (N=149)	34.01	5.45			
PWB-EM	Gr1 (N=464)	35.27	7.08	-5.59	.000	0.23
	Gr2 (N=149)	38.67	6.78			
PWB-PL	Gr1 (N=464)	32.19	6.85	-3.57	.000	0.14
	Gr2 (N=149)	34.88	7.99			
PWB-SA	Gr1 (N=464)	31.43	6.95	-2.31	.021	0.09
	Gr2 (N=149)	32.83	6.88			

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, BDI – Beck Depression Inventory, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance

Our results indicate that millennials reported a significantly lower levels of narcissism (Z=-4.43, *p<.001*), self-oriented (Z=-2.90, *p<.01*) and other oriented perfectionism (Z=-3.34, *p<.001*) than the older generation, with rather low effect sizes (r=0.18, 0.12, 0.13). Regarding mental health indicators, millennials reported significantly higher levels of depressive symptoms than the older generation (Z=-4.48, *p<.001*), and lower levels of psychological well-being on the following dimensions: autonomy (Z=-4.43, *p<.001*), environmental mastery (Z=-5.59, *p<.001*), purpose in life (Z=-3.57, *p<.001*), and self-acceptance (Z=-2.31, *p<.001*). In these cases, too, effect sizes were small (see Table 2).

We continued our investigation with investigating possible gender differences between the two gender groups, on the same variables. Results are presented in Table 3.

Table 3. Significant differences between female and male participants in narcissism, multidimensional perfectionism, depressive symptomatology, loneliness, happiness, and components of psychological well-being

SCALES	Group	Mean	SD	Z	*p*	*r*
NPI-16	F (N=467)	8.15	5.23	-3.31	.001	0.13
	M (N=147)	9.88	4.36			
MPS_SPP	F (N=467)	63.40	11.35	-2.71	.01	0.10
	M (N=147)	60.99	11.36			
BDI	F (N=467)	10.63	8.48	-4.45	.001	0.18
	M (N=147)	7.40	7.60			
PWB-AUT	F (N=467)	31.70	6.23	-2.95	.01	0.12
	M (N=147)	33.42	5.66			
PWB-PRO	F (N=467)	29.48	4.45	-3.38	.001	0.14
	M (N=147)	27.96	5.05			

Note: NPI-16=Narcissistic traits, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, PWB-AUT = Psychological Well-Being – Autonomy, PWB-PRO =Psychological Well-Being – Positive Relations with Others

Our results indicate that on the entire sample, female participants indicated significantly lower levels of narcissism (Z=-3.31, *p<.001*), but significantly higher level of socially prescribed perfectionism (Z=-2.71, *p<.01*), significantly higher levels of depressive symptoms (Z=-4.45, *p<.001*), significantly lower levels of autonomy (Z=-2.95, *p<.01*) and significantly higher levels of positive relations with others (Z=-3.38, *p<.001*). In all cases, the effect-sizes of the differences between female and male participants were small.

Next, we conducted a nonparametric t-test to investigate gender differences within age groups. Significant results are presented in Table 4a (millennials) and Table 4b (participants older than 35 years of age).

Table 4a. Significant gender differences in narcissism, socially prescribed perfectionism, depressive symptoms, personal growth and positive relations with others in millennials

SCALES	Group	Mean	SD	Z	*p*	*r*
NPI-16	F (N=373)	7.72	5.21	-2.56	.01	0.12
	M (N=94)	9.35	4.42			
MPS_SPP	F (N=373)	63.47	11.03	-2.65	.01	.012
	M (N=94)	60.37	10.67			
BDI	F (N=373)	11.13	8.50	-2.89	.01	0.13
	M (N=94)	8.66	8.41			
PWB-PG	F (N=373)	45.96	6.02	-2.41	.01	0.11
	M (N=94)	43.81	7.71			
PWB-PRO	F (N=373)	29.48	4.37	-3.67	.001	0.17
	M (N=94)	27.35	5.41			

Note: NPI-16=Narcissistic traits, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, PWB-AUT = Psychological Well-Being – Autonomy, PWB-PG=Personal Growth, PWB-PRO = Psychological Well-Being – Positive Relations with Others

Table 4b. Significant gender differences in depressive symptoms and loneliness in participants older than 35 years of age

SCALES	Group	Mean	SD	Z	*p*	*r*
BDI	F (N=94)	8.60	8.16	-2.31	.02	0.19
	M (N=55)	5.25	5.39			
UCLA	F (N=94)	53.44	4.00	-2.31	.02	0.19
	M (N=55)	51.61	6.16			

Note: BDI – Beck Depression Inventory, UCLA- Loneliness scale

As presented in Tables 4a and 4b, split on the two investigated age-groups (millennials and participants over 35 years of age), our results indicate that in the case of millennials, there are significant gender differences in the following variables: male participants report significantly higher levels of narcissistic traits than female participants (Z=-2.56, *p<.01*). Nevertheless, female millennials attain significantly higher levels of socially prescribed perfectionism (Z=-2.65, *p<.01*), depressive symptoms (Z=-2.89, *p<.01*), personal growth (Z=-2.41, *p<.01*), and positive relations with others (Z=-3.67, *p<.01*). In all these differences effect-sizes were rather small, ranging from 0.11 to 0.17.

Regarding participants older than 35 years of age, our investigation found significant differences in only two variables: depressive symptoms and loneliness. More specifically, female participants in the older age-groups reported significantly higher levels of depressive symptoms (Z=-2.31, *p<.02*) and loneliness (Z=-2.31, *p<.01*) than male participants. In this situation too, the effect sizes were small (0.19).

Finally, we investigated association patterns between narcissistic traits, multidimensional perfectionism, depressive symptoms, happiness, loneliness and psychological well-being within age and category groups. Results are presented in Tables 5a,b and 6a,b.

First, we will present the correlation matrixes for the assessed variables for women in both age groups in Tables 5a and 5b.

Table 5a. Significant correlations in millennial females between narcissistic traits, multidimensional perfectionism, depressive symptoms, happiness, loneliness and psychological well-being within age and category groups

MILLENNIAL WOMEN		NPI	MPS SOP	MPS OOP	MPS SPP	BDI	UCLA	OXFORD
	NPI	1						
	MPS-SOP	.15**	1					
	MPS-OOP	NS	.54**	1				
	MPS-SPP	.12*	.64**	.46**	1			
	BDI	NS	.12*	NS	.34**	1		
	UCLA	-.26*	NS	.19**	.16**	.37**	1	
	OXFORD	.26**	.14**	NS	NS	-.28**	-.48**	1
	PWB-AUT	NS	NS	NS	NS	-.32**	NS	.25**
	PWB-EM	.11*	.18**	NS	NS	-.56**	-.23**	.36**
	PWB-PG	NS	NS	NS	NS	-.34**	NS	.32**
	PWB-PRO	NS	NS	NS	NS	-.26**	-.19**	.36**
	PWB-PL	.14**	.14**	NS	NS	-.53**	-.30**	.36**
	PWB-SA	NS	NS	NS	NS	-.55**	-.27**	.36**

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, UCLA- Loneliness scale, Oxford = Happiness Scale, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PG = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance
*p<.05; **p<.01

Table 5b. Significant correlations in female participants above 35 years of age between narcissistic traits, multidimensional perfectionism, depressive symptoms, happiness, loneliness and psychological well-being within age and category groups

WOMEN OVER 35		NPI	MPS SOP	MPS OOP	MPS SPP	BDI	UCLA	OXFORD
	NPI	1						
	MPS-SOP	NS	1					
	MPS-OOP	NS	.52**	1				
	MPS-SPP	NS	.66**	.52**	1			
	BDI	NS	NS	.22*	.32**	1		
	UCLA	NS	.31*	.30**	.36**	NS	1	
	OXFORD	NS	NS	.24*	NS	-.21*	NS	1
	PWB-AUT	NS	NS	NS	NS	-.21*	NS	.20*
	PWB-EM	NS	NS	NS	NS	-.26*	NS	.28**
	PWB-PG	NS	NS	NS	NS	-.54**	-.21*	.23*
	PWB-PRO	NS	NS	NS	NS	-.40**	-.28**	NS
	PWB-PL	NS	NS	NS	NS	-.44**	NS	.30**
	PWB-SA	NS	NS	NS	NS	-.57**	NS	.35*

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, UCLA- Loneliness scale, Oxford = Happiness Scale, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PG = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance
*p<.05; **p<.01

As seen in Table 5a, in the case of millennial women (under age of 35), there was a weak positive correlation between narcissism and self-oriented perfectionism (r=.15, *p<.01*), socially prescribed perfectionism (r=.12, *p<.05*), happiness (r=.26, *p<.01*), environmental mastery (r=.11, *p<.01*), and purpose in life (r=.14, *p<.01*), and a negative correlation between narcissism and loneliness (r= -.26, *p<.05*). Self-oriented perfectionism was positively correlated with both depression (r=.12, *p<.05*) and happiness (r=.14, *p<.01*), as well as emotional mastery (r=.18, *p<.01*), and purpose in life (r=.14, *p<.01*). Other oriented perfectionism was significantly correlated only with: loneliness (r=.19, *p<.01*), and socially prescribed perfectionism was narcissism (r=.12, *p<.05*), depressive symptoms (r=.34, *p<.01*), and loneliness (r=.16, *p<.01*). Loneliness was positively correlated with other oriented perfectionism (r=.19, p<.01), socially prescribed perfectionism (r=.16, p<*.01*), and depressive symptomatology

(r=.37, *p<.01*), and negatively correlated with subjective well-being (happiness) (r=-.48, *p<.01*), environmental mastery (r=-.23, *p<.01*), positive relations with others (r=-.19, p<.01), purpose in life (r=-.30, *p<.01*), and self-acceptance (r=-.27, *p<.01).* Depression was positively correlated with two scales of MPS (self-oriented perfectionism, r=.12, *p<.05*; SPP, r=.34, *p<.01*), and negatively correlated with subjective well-being (r=-.28, *p<.01*). In this age and gender groups, depressive symptoms also presented significant negative correlations with all the components of psychological well-being: autonomy (r=-.32, *p<.01*), environmental mastery (r=-.56, *p<.01*), personal growth (r=-.34, *p<.01*), positive relations with others (r=-.26, *p<.01*), purpose in life (r=.-.53, *p<.01*), and self-acceptance (r=-.55, *p<.01*).

In the case of women over 35 years of age, there was no correlation whatsoever between narcissism and the other assessed variables. As seen in Table 5b, in the case of women in this age group, self-oriented perfectionism was positively correlated only with loneliness (r=.31, *p<.05*), while other oriented perfectionism was also positively correlated with loneliness (r=.30, *p<.01*), depression (r=.22, *p<.05*), and also positively correlated with subjective well-being (r=.24, *p<.05*). Furthermore, in this category of participants, socially prescribed perfectionism was positively correlated with loneliness (r=.36, *p<.01*) and depression (r=.32, *p<.01*), while depression was negatively correlated with subjective well-being (r= -.21, *p<.05*), autonomy (r=-.21, *p<.05*), environmental mastery (r=-.26, *p<.05*), personal growth (r=-.54, *p<.01*), positive relations with others (r=-.40, *p<.01*), purpose in life (r=0.44, *p<.01*), and self-acceptance (r=.57, *p<.01*). Regarding the relationship between loneliness and the components of psychological well-being, our results indicate that loneliness is negatively correlated with personal growth (r=-.21, *p<.01*), and positive relations with others (r=-.28, *p<.01*), while subjective well-being is positively associated with autonomy (r=.20, *p<.05*), environmental mastery (r=.28, *p<.01*), personal growth (r=.23, *p<.01*), purpose in life (r=.30, *p<.01*), and self-acceptance (r=.35, *p<.01*).

Next, we will present the correlation matrixes for the assessed variables for male participants in both age groups in Tables 6a and 6b.

As seen in Table 6a, in the case of millennial males, there was a positive correlation between narcissism and subjective well-being (r=.21, *p<.05*), and environmental mastery (r=.20, *p<.05*). Self-oriented perfectionism was positively associated with autonomy (r=.24, *p<.01*), and purpose in life (r=.26, *p<.05*). Other oriented perfectionism was positively associated only with autonomy (r=.22, *p<.01*). Socially prescribed perfectionism was positively correlated with depression (r=.32, *p<.01*) and loneliness (r=.22, *p<.05*), results similar to those of women under 35 years old. Depressive symptoms presented a significant

negative association pattern with: autonomy (r=.-37, *p<.01*), environmental mastery (r=-.74, *p<.01*), personal growth (r=-.50, *p<.01*), positive relations with others (r=-.51, *p<.01*), purpose in life (r=.-64, *p<.01*), and self-acceptance (r=-.62, *p<.01*). Finally, similar to women under 35 years old, subjective well-being was negatively correlated with depression (r=-.43, *p<.01*) and loneliness (r=-.36, *p<.01*), and positively with: autonomy (r=.37, *p<.01*), environmental mastery (.48, *p<.01*), personal growth (r=45, *p<.01*), positive relations with others (r=.47, *p<.01*), purpose in life (r=.51, *p<.01*), and self-acceptance (r=.43, p<.01).

Table 6a. Significant correlations in millennial males between narcissistic traits, multidimensional perfectionism, depressive symptoms, happiness, loneliness and psychological well-being within age and category groups

MILLENNIAL MEN		NPI	MPS SOP	MPS OOP	MPS SPP	BDI	UCLA	OXFORD
	NPI	1						
	MPS-SOP	NS	1					
	MPS-OOP	NS	.46**	1				
	MPS-SPP	NS	.55**	.482**	1			
	BDI	NS	NS	NS	.32**	1		
	UCLA	NS	NS	NS	.22*	NS	1	
	OXFORD	.21*	NS	NS	NS	-.43**	-.36**	1
	PWB-AUT	NS	.24**	.22**	NS	-.37**	NS	.37**
	PWB-EM	.20*	NS	NS	NS	-.74**	NS	.48**
	PWB-PG	NS	NS	NS	NS	-.50**	NS	.45**
	PWB-PRO	NS	NS	NS	NS	-.51**	NS	.47**
	PWB-PL	NS	.26*	NS	NS	-.64**	NS	.51**
	PWB-SA	NS	NS	NS	NS	-.62**	NS	.43**

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, UCLA- Loneliness scale, Oxford = Happiness Scale, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PG = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance
*p<.05; **p<.01

Table 6b. Significant correlations in male participants above 35 years of age between narcissistic traits, multidimensional perfectionism, depressive symptoms, happiness, loneliness and psychological well-being within age and category groups

MEN OVER 35	NPI	MPS SOP	MPS OOP	MPS SPP	BDI	UCLA	OXFORD
NPI	1						
MPS-SOP	.29*	1					
MPS-OOP	NS	.71**	1				
MPS-SPP	NS	.77**	.77**	1			
BDI	.42**	.33*	.29*	.31*	1		
UCLA	NS	NS	NS	NS	.38**	1	
OXFORD	.35*	.51**	.44**	.49**	NS	NS	1
PWB-AUT	NS	.42**	.40**	NS	NS	NS	.52**
PWB-EM	NS	.40**	.39**	NS	NS	NS	.31**
PWB-PG	NS	.40**	.36**	.27*	NS	NS	.43**
PWB-PRO	NS	NS	NS	NS	NS	NS	.36**
PWB-PL	NS	.44**	.36**	NS	NS	NS	.36**
PWB-SA	NS	.30*	NS	NS	NS	NS	.34*

Note: NPI-16=Narcissistic traits, MPS-SOP=Multidimensional Perfectionism–Self-Oriented-Perfectionism, MPS-OOP=Multidimensional Perfectionism–Other-Oriented-Perfectionism, MPS-SPP=Socially-Prescribed Perfectionism, BDI – Beck Depression Inventory, UCLA- Loneliness scale, Oxford = Happiness Scale, PWB-AUT = Psychological Well-Being – Autonomy, PWB-EM =Psychological Well-Being – Environmental Mastery, PWB-PG = Psychological Well-Being – Personal Growth, PWB-PG = Psychological Well-Being Positive Relations with Others, PWB-PL = Psychological Well-Being – Purpose in Life, PWB-SA = Psychological Well-Being – Self-Acceptance
*p<.05; **p<.01

In the case of male participants over 35 years of age, as we see in Table 6b, there was a positive correlation between narcissism and self-oriented perfectionism (r=.29, *p<.05*), depression (r=.42, *p<.01*) and subjective well-being (r=.35, *p<.05*). Self-oriented perfectionism presented significant positive correlations with: depression (r=.33, *p<.05*), subjective well-being (r=.51, *p<.01*), autonomy (r=.42, *p<.01*), environmental mastery (r=.40, *p<.01*), personal growth (r=.40, p<.01), purpose in life (r=.44, *p<.01*), and self-acceptance (r=.30, *p<.01*). Within this age group, other oriented perfectionism was found to be significantly correlated with:depressive symptoms (r=.29, *p<.05*), subjective well-being (r=.44, *p<.01*), autonomy (r=.40, *p<.01*), environmental mastery (r=.39, *p<.01*), personal growth (r=.36, *p<.01*), purpose in life (r=.36, *p<.01*), and socially prescribed perfectionism was significantly associated with depressive symptoms (r=.31, *p<.05*), subjective well-being (r=.49, *p<.01*), and personal growth (r=.27, *p<.05*). Loneliness was positively correlated with depression (r=.38, *p<.01*). As in all previous age and gender groups, in male participants over 35 years if age subjective well-being presented similar correlational patterns with

all the components of psychological well-being, namely: autonomy (r=.52, *p<.01*), environmental mastery (r=.31, *p<.01*), personal growth (r=.43, *p<.01*), positive relations with others (r=.36, *p<.01*), purpose in life (r=.36, *p<.01*), and self-acceptance (r=.34, *p<.01*).

Conclusions and Discussions

Scientific literature has rigorously documented alarming tendencies regarding significant increases in mental-health problems (depressive symptoms, anxiety, loneliness) (Collins, Patel, Joestl, March, Insel, & Daar, 2011; Erzen & Çikrikçi, 2018; Hawkley & Cacioppo, 2010; Perissinotto, Stijacic Cenzer, & Covinsky, 2012; Prina, Victor, & Bowling, 2012; WHO, 2017), as well as maladaptive forms of personality characteristics (narcissism, perfectionism) (Curran & Hill, 2017; Twenge, 2006; Twenge & Campbell, 2008; Twenge & Campbell, 2009). The extant research indicates mixed results. Some investigations report a positive association between pathological narcissism and depression (Kealy, Laverdière, & Pincus, 2020;), while other studies indicate that narcissistic traits might protect the person from the development of depression (e.g., Veselka, Schermer, & Vernon, 2012). Furthermore, literature also indicates that perfectionism is a central feature of narcissism (Ronningstam, 2010, 2011), and is a strong predictor of depression (Hewitt, Flett, & Ediger, 1996). Unfortunately, based on demographic variables, literature offers mixt results regarding the groups of populations that are highest at risk for developing maladaptive forms especially in relation to narcissism and perfectionism. Some studies indicate that younger generations present higher levels of narcissism, with narcissistic traits decreasing over time (Foster, Campbell, & Twenge, 2003, Roberts, Edmonds, & Grijalva, 2010), while other studies sustain that there is no direct evidence for such claims (Arnett, 2013; Trzesniewski, Donnellan, & Robins, 2008a; Trzesniewski, Donnellan, & Robins, 2008b; Twenge, Campbell, & Freeman, 2012; Twenge, Campbell, Hoffman, & Lance, 2010). Furthermore, besides systematically recorded differences in depression between men and women, literature has no stable results indicating similar gender-related differences in narcissism and perfectionism (Sherry et al., 2014).

Since the number of studies investigating these relationships in the Romanian population are scarce, our present study intended to investigate: (1) possible age and gender differences in narcissism, perfectionism and mental-health indicators (depression, happiness, loneliness and psychological well-being) in a sample of healthy participants, and specific association patterns between narcissistic traits, perfectionism and mental health indicators (depressive symptoms, loneliness, happiness and psychological well-being) within each group of participants (age – millennials and above 35 years of age, and gender).

Our results indicate that in our sample the millennials reported significantly lower levels of narcissistic traits than the older generation, a rather surprising finding, especially if we consider that in the majority of the studies conducted in the Anglo-Saxon societies this tendency seems to be inclined in the opposite direction. The situation is the same in the case of multidimensional perfectionism, namely, in our sample, the older generation (those above 35 years of age) presents significantly higher levels of self- and other oriented perfectionism. These differences may be attributable to cultural specificities of our sample, but further investigations are required to find the more specific underlying motives of these controversial results. Moreover, the older generations indicated significantly lower levels of depressive symptoms and significantly higher levels of autonomy, environmental mastery, purpose if life, and self-acceptance. Corroborated with the differences in depression and psychological well-being, these results may indicate to some degree that in the case of participants older than 35 years of age, narcissism and self-and other-oriented perfectionism may play a protective role in face of depression (Foster, Campbell, & Twenge, 2003; Roberts, Edmonds, & Grijalva, 2010).

Regarding gender differences, for the entire sample, our results indicate that our male participants reported significantly higher levels of narcissism and autonomy, while female participants reported significantly higher levels of socially prescribed perfectionism, depressive symptoms, and positive relations with others. Split on gender and age groups (millennial females and males, and above 35 years of age females and males), results become a bit more specific. Within the millennials' age group, male participants report significantly higher levels of narcissistic traits, while female participants significantly higher levels of socially prescribed perfectionism, depressive symptoms, personal growth, and positive relations with others. This gender difference is no longer maintained in the group of older participants, where we found only two significant differences: female participants indicated significantly higher levels of depressive symptoms and loneliness than male participants. Thus, this far we may conclude that in our sample, the gender differences regarding narcissism and perfectionism are valid only in the case of millennials. What is also very important to keep in mind is that depression is significantly higher in the group of female participants in both age groups.

Our second objective was to investigate correlation patterns in both age and gender groups. Results indicate that in the group of millennial women narcissistic traits are positively correlated with self-oriented and socially-prescribed perfectionism and subjective well-being, and negatively with loneliness, environmental mastery and purpose in life. These results are somewhat in line with the results obtained in the literature, which indicate that there is a significant association between narcissistic traits and perfectionism, and dysfunctional emotions (in this case loneliness). In the case of millennial

male participants, the only associations we found positive correlations only between narcissism and subjective well-being and environmental mastery, which is also in line with the research suggesting these kinds of relationships (Egan, Chan, & Shorter, 2014; Jonason, Baughman, Carter, & Parker, 2015; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). Within the group of participants with age above 35 years, we found no significant associations between narcissism and the assessed variables in the case of female participants. Regarding males, within this age group narcissism presented quite surprisingly significant positive correlation with self-oriented perfectionism, depressive symptomatology and subjective well-being.

Based on our results, we may conclude that regarding narcissism and perfectionism the most vulnerable population seems to be that of millennial females, who present significantly higher levels of these variables both compared to males and their older counterparts. By the same token, in their group these variables present maladaptive association patterns with the assessed mental health indicators.

Limitations

Besides the results presented in this pilot study, our investigation has several limitations of which we are fully aware and take responsibility for. First of all, our study is a cross-sectional research and can only hint towards possible vulnerabilities, without having the possibility to drive rock-solid conclusions regarding vulnerabilities and subjacent mechanisms. Also, our study involved a relatively low number of participants, within a specific geographic area, and the gender distribution was also quite unequal in the two age-groups. Next, since we used for brevity's sake the NPI-16, we could not refine our results regarding the different types of narcissism (grandiose and covert), which might have significantly improved the informative value of the conclusions of our investigation. Thirdly, in our study, the number of millennials was larger than that of persons older than 35 years of age. Future studies should also concentrate on similar representations in number of age-groups. We propose that this aspect be also taken into consideration by future investigations. The results of our investigation may have informative value for the continuation of more thorough investigations within this area of interest. Furthermore, we also consider that our results may be useful for further studies.

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THE ROLE OF GENDER IN THE RELATIONSHIP BETWEEN NARCISSISM AND PERFECTIONISM IN HUNGARIAN PHYSICAL EDUCATION STUDENTS

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ABSTRACT. Literature indicates a strong relationship between narcissism and perfectionism, however, there is little information about this relationship in sports, and even less regarding the way gender affects this relationship. Our paper aims to answer the following questions, in a sample of 202 Hungarian physical education students: (i) are there gender differences in narcissism and perfectionism and how large are these differences?, (ii) how strong is the relationship between narcissism and perfectionism?, (iii) does this relationship vary as a function of perfectionism's components?, and (iv) are there any gender differences in the relationship between narcissism and perfectionism?

Our results indicate that the male participants attained significantly higher levels of narcissism than the female participants. Furthermore, we found no significant gender differences in any of the three components of perfectionism a low to moderate association between narcissism and Self-oriented perfectionism and Other-oriented perfectionism, while on the entire sample, narcissism did not correlate with Socially-prescribed perfectionism. Analyzing this relationship separately in the two genders, our investigation indicates a moderate association between narcissism and all the three components of perfectionism only in the case of male participants, these relationships being non-significant for the female participants. These findings indicate that narcissism, in this specific population, is just one of the predictors of perfectionism (and maybe not even the most relevant one). We propose that future studies should focus on exploring other predictive factors of perfectionisms.

Keywords*: narcissism, perfectionism, gender, sports*

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As a personality trait, narcissism was studied in several performance areas, where individuals with high levels of such traits have the opportunity to receive admiration and glory (Roberts, Woodman, & Sedikides, 2018). Sports and physical exercise are also contexts where such traits are relevant, but researchers only recently started to focus their attention upon it. Perfectionism is another trait which is highly relevant in sports. Research indicates that perfectionism considerably impacts cognitions, emotions and behavior of athletes and regular exercisers (Miller & Mesagno, 2014). Even if researchers investigated the relationship between narcissism and perfectionism in more general contexts (Flett, Sherry, Hewitt, & Nepon, 2014; Hewitt, Flett, Sherry, Habke, Parkin, Lam, et al., 2003), and with heterogeneous results, there is still little information about the relationship between narcissism and perfectionism in sports, and even less about the way gender could affect this relationship. Also, gender differences regarding narcissism and perfectionism in sports are still far from being well-established. Consequently, our paper aims to establish, in a sample of physical education students, gender differences related to narcissism and perfectionism, the relationship between narcissism and perfectionism, and the role of gender upon this relationship.

Narcissism in sports and exercise

Narcissism implies high levels of grandiosity, authority, superiority, exhibitionism, entitlement, exploitativeness, etc. (Sherry, Gralnick, Hewitt, & Flett, 2014). Driven by a need for external validation (Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 2009), individuals scoring high on narcissistic traits frequently engage in strategic self-regulatory processes and behaviors to develop/maintain a positive, but fragile/vulnerable self-image (Smith, Sherry, Chen, Saklofske, & Flett, 2019).

Narcissism has received an increasing attention also in sports. Davis (1992) talks about exercise as a potential vehicle for narcissistic aims, focusing on appearance. In a correlational study involving 210 participants, Spano (2001) found that higher levels of narcissism were associated with higher levels of physical activity. Also, Miller and Mesagno (2014) investigating 90 regular exercisers, found a moderate correlation between narcissism and exercise-dependence. Even if such a trait is considered maladaptive, narcissism is perceived as a key factor in getting ahead and achieving goals disregarding others' emotions and priorities, mostly in competitions where gains can be obtained by deceit or self-interest (Vaughan, Madigan, Carter, & Nicholls, 2019). The same study revealed higher levels of narcissism for male athletes compared

to female athletes, higher levels for elite athletes compared with amateurs and non-athletes, and also higher levels for individual, than for team sports. Similar results were also found for cyclists (Gat & McWhirter, 1998) and soccer players (Elman & McKelvie, 2003).

In line with the above-mentioned studies, there are several studies that investigated the relationship between narcissism and performance in sports and physical activities. Studies conducted on handball players revealed that narcissistic players performed better in arenas full of spectators or when being video-taped than in training sessions (Guekes, Mesagno, Hanrahan, & Kellmann, 2012). Other authors found a significant relationship between improvements in performance from training to public competitions and narcissism for figure skaters (Roberts et al., 2013) or female rugby players (Roberts, Woodman, Lofthouse, & Williams, 2014). Roberts, Woodman, Hardy, Davis, and Wallace (2018) concluded that narcissistic athletes' performance is context-specific, being higher when opportunity for personal glory is provided.

As far as gender differences are concerned, Furnham, Richards, and Paulhus' (2013) review revealed that men had higher levels of narcissism than women. In a recent study conducted on a mixt sample (elite athletes, amateurs and non-athletes), Vaughan et al. (2019) confirmed a higher level of narcissism in men. Explanations for such differences are generally explained by higher levels of testosterone in men or by stereotypical gender roles (Jonason & Davis, 2018). However, there is still a deficit of information regarding gender differences of narcissism in sports.

The role of perfectionism

Perfectionism was defined as a combination between unrealistically high personal standards, and strive towards flawlessness, and exaggerated critical self-evaluation (Smith, et al., 2019). Hewitt and Flett (1991) proposed a multidimensional approach of trait perfectionism, comprising: (1) *self-oriented perfectionism* (SOP) – unrealistic demands from oneself; (2) *other oriented perfectionism* (OOP) - unrealistic demands and expectations from others and extremely critical evaluations, and (3) *socially prescribed perfectionism* (SPP) – the perception that the social context is demanding perfection, thus one has to display a perfect image of oneself (Curran & Hill, 2017).

SOP has a strong motivational component, which stimulates the individual to strive towards perfection (Hewitt & Flett, 1991), and is strongly associated with achievement-related behaviors (Hewitt & Flett, 1991). The flip side of SOP is that by connecting self-worth to achievements and satisfaction

with accomplishments, individuals become highly vulnerable. SOP is positively associated with depressive symptomatology, anorexia nervosa, greater physiological reactivity, suicidal ideation and negative affect (Smith, Sherry, Gautreau, Olsson, Saklofske, & Snow, 2017).

Persons high on OOP tend to blame others for not rising to their expectations, and treat them with hostility and vindictiveness (Hewitt, Flett, & Mikail, 2017). OOP is negatively correlated with altruism, compliance and trust (Hill, Zrull, & Turlington, 1997), negatively impacts intimate relationships, and is strongly associated with the narcissistic desire to obtain admiration (Nealis, Sherry, Sherry, Stewart, & Macneil, 2015).

The most debilitating of the three dimensions of perfectionism is SPP, determining the person to believe that others have excessive, unfair, and uncontrollable, expectations of them, which leads to intense negative feelings, and occasionally major psychopathology (Smith, Sherry, Rnic, Saklofske, Enns, & Gralnick, 2016).

Studies concerned with the development of perfectionism in athletes revealed the role of parents through different pathways instill perfectionism in their children (Curran, Hill, & Williams, 2017).

Regarding the role of perfectionism in sports, several studies point out the negative consequences of perfectionism. Madigan et al. (2018) found a moderate correlation between perfectionistic concerns and training-distress in junior athletes, while Hall, Kerr, and Matthews (1998) revealed perfectionism as a predictor of anxiety for competitive runners. In a study including 274 university athletes Croker, Gaudreau, Mosewich, and Kljajic (2014) tested the role of sport perfectionism (personal standards and concern over mistakes) in perceived goal progress, cognitive appraisals, coping, and affect (positive and negative). They found that personal standards (perfectionistic striving) positively correlated with control appraisal, challenge appraisal, goal progress, and positive affect. Moreover, concern over mistakes (perfectionistic concerns) correlated positively with avoidance coping, threat appraisal and negative affect and negatively with control and challenge appraisal.

Reviews on this topic suggest that perfectionistic concerns of athletes are associated with negative outcomes such as burnout, distress, lack of motivation while perfectionistic striving is associated with both negative (negative affect, fear of failure), and positive outcomes (positive emotions, engagement) (Gotwals, Stoeber, Dunn, & Stoll, 2012; Hill, Mallinson-Howard, & Jowett, 2018).

Another line of research in this field is the relationship between perfectionism and exercise dependence. For instance, Gulker, Laskis, & Kuba, (2001) found that excessive exercise was positively associated with perfectionism.

Moderate relationships between exercise-dependence and perfectionism were also found in middle-distance runners (Hall et al., 2007) and regular exercisers (Miller & Mesagno, 2014).

As far as gender differences regarding perfectionism are concerned, a large set of studies conducted on the general population revealed no gender differences (Hewitt & Flett, 1991). Other studies (Caglar, Bilgili, Karaca, Ayaz, & Aşçi, 2010) found gender differences, in an adolescent sample, with higher self-oriented for females and lower socially-prescribed perfectionism for males. However, in sports, there is still a deficit of information related to gender-related differences in perfectionism.

The relationship between narcissism and perfectionism

Regardless the fact that the role of perfectionism in narcissism seems extremely complicated and the relationship between them is still unclear (Sherry et al., 2014; Smith et al., 2016), several theoretical models indicate that perfectionism might be one of the central features of narcissism (Beck, Freeman, & Davis, 2004). Some studies indicate that usually perfectionism and narcissism are moderately correlated (Hewitt, Flett, Sherry, Habke, Parkin, Lam, et al., 2003). Other investigations indicate that some individuals diagnosed with Narcissistic Personality Disorder are inclined to demand perfectionism from others, and manifest perpetual dissatisfaction with others' perceived shortcomings and flaws (Beck et al., 2004).

Several studies indicated that there is a moderate positive association between OOP and narcissism (Trumpeter, Watson, and O'Leary, 2006), while other studies show that SOP and SPP were related to narcissism (Flett, Sherry, Hewitt, & Nepon, 2014). The relationship between OOP and narcissism was found to be inconsistently related (Flett et al., 2014), and there is only a small number of studies testing gender differences in these relationships (Sherry et al., 2014). Sherry et al.'s (2014) investigation conducted on 983 undergraduates yielded that OOP was positively related to narcissism, and the perfectionism-narcissism relationship generalized across gender. In sports and exercise, Miller and Mesagno (2014) found positive moderate to large correlations between narcissism and perfectionism for men and non-significant correlations for women. Besides this, we think that there is still little information about the relationship between narcissism and perfectionism in sports, and about the way gender could affect this relationship.

Objectives

Based upon the literature presented above, our paper aims to answer the following questions in physical education students:

1. Are there gender differences in narcissism and perfectionism and how large are these differences?

2. How strong is the relationship between narcissism and perfectionism?

3. Does this relationship vary as a function of perfectionism's components?

4. Are there any gender differences in the relationship between narcissism and perfectionism?

Study

Participants

Our study includes 202 first, second and third year students from the University of Physical Education, Budapest, Hungary. Of the 202 participants 118 were male, and 84 female, with a mean age of 23.24 (SD=7.13). After providing informed consent, participants completed the questionnaire packets that took 45 minutes to fill, in a face-to-face assessment session with the researchers.

Instruments

Narcissism was measured with 16-item Narcissistic Personality Inventory (NPI-16, Ames, Rose, & Anderson, 2006) derived by the authors from the long, 40-item NPI scale (Raskin & Hall, 1979). NPI-16 has sixteen pairs of statements, and for each pair subjects should select the one that best reflect their personality (e.g., "*I really like to be the center of attention - It makes me uncomfortable to be the center of attention*"). The NPI-16 is a short measure of subclinical narcissism, presenting good psychometric properties (Ames et al., 2006). The internal consistency of the NPI-16 for the present sample was .80.

Perfectionism was measured with the 45-item self-report Multidimensional Perfectionism Scale (MPS, Hewitt & Flett, 1991). The MPS contains three subscales: self-oriented perfectionism (SOP), other-oriented perfectionism (OOP), and socially-prescribed perfectionism (SPP) (e.g., "*When I am working on something, I cannot relax until it is perfect*", "*Everything that others do must be of top-notch*

quality", "*The people around me expect me to succeed at everything I do*"). The psychometric properties of the MPS were found to be very good (Hewitt et al., 2003). Cronbach's alpha for the present sample ranged from .71 to .89.

Results

In the first step of our analysis, we performed a comparison between genders for both narcissism and perfectionism. Results are presented in Table 1.

Table 1. Narcissism and perfectionism as a function of gender

Variables	Females		Males		t	d
	M	SD	M	SD		
Narcissism	27.47	15.77	34.18	19.94	-2.62**	.37
Self-oriented perfectionism	49.89	7.07	49.34	7.70	.49	.07
Other-oriented perfectionism	44.24	5.82	45.73	5.65	-1.76	.25
Socially-prescribed perfectionism	47.59	7.90	45.88	6.79	1.59	.01

Notes: ** significant at p<.01, t= independent samples t test, d= effect size (Cohen's d)

As Table 1 shows, the level of narcissism in the male group (M=34.18, SD=19.94) is higher than the level identified in the females group (M=27.47, SD=15.77) with a significant difference (t=-2.62, p<.01) and a low to moderate effect size (d=.37). There were no gender differences regarding the components of perfectionism.

In the next step, the bivariate correlation was performed upon the entire sample between narcissism and each component of perfectionism (Table 2). The analysis revealed a significant low to moderate and positive relationship of narcissism with SOP (r= .20, p= .006), a significant moderate and positive relationship with OOP (r= .29, p< .001) and a non-significant relationship with SPP (r= .14, p= .058).

Table 2. Correlation matrix between narcissism and dimensions of perfectionism (all participants)

Variables		1	2	3
1.	Narcissism	-		
2.	Self-oriented perfectionism	.20**	-	
3.	Other-oriented perfectionism	.29**	.27**	-
4.	Socially-prescribed perfectionism	.14	.27**	.42**

***significant at p<0.01*

In order to identify potential gender differences regarding the relationship between narcissism and perfectionism, we performed a bivariate correlation between narcissism and the three dimensions of perfectionism, separately on each gender sub-group. Results are presented in Table 3.

Table 3. Correlation matrix between narcissism and dimensions of perfectionism as a function of gender

Gender			1	2	3
Females	5.	Narcissism	-		
	6.	Self-oriented perfectionism	.13	-	
	7.	Other-oriented perfectionism	.17	.30**	-
	8.	Socially-prescribed perfectionism	-.09	.16	.35**
Males	1.	Narcissism	-		
	2.	Self-oriented perfectionism	.26**	-	
	3.	Other-oriented perfectionism	.35**	.26**	-
	4.	Socially-prescribed perfectionism	.33**	.36**	.51**

**significant at p< 0.05, **significant at p<0.01*

As it can be seen in Table 3, for women, narcissism has low and non-significant relationships with SOP (r= .13, p= .250), OOP (r= .17, p= .120) and SPP (r= .09, p= .421). For men, narcissism has a significant moderate relationship with all dimensions of perfectionism (r= .26, p= .008 for SOP, r= .35, p<.001 for OOP and r= .33, p< .001 for SPP).

Conclusions

Literature has evinced that both narcissism and perfectionism have a considerable significance in sport-performance, seriously impacting the cognitive, emotional, and behavioral functioning of sportsmen both during practice and competition (Smith et al., 2016). Also, studies indicated inconsistent patterns of association between narcissism and some of the three different components of perfectionism, and the role played by gender in this relationship is even less understood. The major aims of our investigation were to answer the following questions in physical education students: (1) are there gender differences in narcissism and perfectionism and how large are these differences? (2) how strong is the relationship between narcissism and perfectionism? (3) does this relationship vary as a function of perfectionism's components? (4) are there any gender differences in the relationship between narcissism and perfectionism?

Our results indicate that the male participants attained significantly higher levels of narcissism than the female participants (low to moderate size effect), results similar to those found in the literature regarding both the general population and sportsmen. These differences are usually attributed to higher levels of testosterone in men or by stereotypical gender roles (Jonason & Davis, 2018).

Also, our study found no significant gender differences in any of the three components of perfectionism (SOP, OOP, and SPP). Despite the fact that Caglar et al.'s (2010) study indicated sample gender differences in an adolescent, with higher SOP for females and lower SPP for males, our results are in line with those investigations that have not found significant gender differences in the general population (Hewitt & Flett, 1991).

Furthermore, ignoring the gender variable, our investigation has identified a low to moderate association between narcissism and SOP and OOP, while on the entire sample, narcissism did not correlate with SPP. On the general population, research has not found any consistent patterns of association between narcissism and SOP, OOP, SPP. Some studies reported results in which narcissism correlated with SOP, while in others with OOP and SPP (Flett et al., 2014; Trumpeter et al., 2006). Even if studies found strong correlations between narcissism and perfectionism in men, there are no studies investigating these relationships of narcissism and the three components of perfectionism in sportsmen. Analyzing this relationship separately in the two genders, our investigation indicates a moderate association between narcissism and all the three components of perfectionism only in the case of male participants, these relationships being non-significant for the female participants. Our results confirm the findings of Miller and Mesagno (2014) who revealed positive moderate to large correlations between narcissism and perfectionism for men and non-significant correlations for women.

Overall, the most important implications of our study for the domain of sport psychology reside in indicating the intensity of the relationship between narcissism and the different components of perfectionism for male participants included in our study (narcissism explaining 6-12% of the variance of the different dimensions of perfectionism). These findings indicate that narcissism, in this specific population, is just one of the predictors of perfectionism (and maybe not even the most relevant one). We propose that future studies should focus on exploring other predictive factors of perfectionisms (biological factors, mastery, parenting style, trainers' style, attachment style, etc.) (Schruder, Sharpe, & Curwen, 2020).

Our study has also several limitations. One of them refers to the characteristics of our participants, since the sample is relatively homogeneous regarding age, education (students) and professional profile (students at a university of physical education). Based on our results, we propose that future studies investigate the same relationships on a larger, more heterogeneous sample regarding the socio-demographic variables (age, level of education, professional profile, etc.). Moreover, we also propose the use of instruments that assess narcissism in a more nuanced manner, highlighting the difference between its vulnerable and grandiose forms.

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A METHODOLOGICAL APPROACH TO THE INVESTIGATION OF LANGUAGE FLEXIBILITY IN PRESCHOOLERS: THE ROLE OF TOYS AND PARENTAL BELIEFS

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ABSTRACT. The aim of the present study was to investigate the influence of the toy-type and parental beliefs about play in the development and use of language in a flexible manner by preschool children. Namely, we defined language flexibility as the ability to use multiple labels for the same object, in response to a particular verbal context. Children's language flexibility was evaluated with a newly-designed task that comprised several story-like situations in which the main character needed the child's help to solve a problem.

The main results failed to prove a statistically significant difference between the two groups of children in the language flexibility task. But the performance on the language flexibility task was positively and significantly associated with some free time activities that children are frequently involved in and with parent's willingness to let their children play with a toy in a different way than its prescribed mode. In contrast, the frequency and time spent by the child watching TV or playing on the computer was negatively and significantly associated with the performance on the language flexibility task.

As a conclusion, we discussed the current results side by side with some proposals regarding both methodological improvements on the current experimental procedure and future research attempts at investigating language development and language flexibility of preschoolers.

Keywords: *play, toy type, language flexibility, parental beliefs, preschoolers*

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Introduction

Parent-child interactions during play: the importance of the distinction between simple and electronic toys

Play is a central activity in the first years of life of a child, with major benefits for language development, self-regulation, symbolic thinking, and socio-emotional development (Healy & Mendelsohn, 2019). Although what we call "play" has not changed that much over time, the category of "toy" has expanded very much over the last century. With respect to what we call "play" or "playful activity", the scientific literature offers a constant definition that includes bouts of interaction between two or more partners, interaction that is usually accompanied by different objects, linguistic utterances, gestures, and actions (Roopnarine, 2012). If we turn our focus towards the objects used in play interactions, namely toys, there is a number of scientific studies that offer a classification of toys, distinguishing between "traditional" or "simple toys", or in other cases, between "complex" or "electronic" toys (Healy & Mendelsohn, 2019). Healy and Mendelsohn (2019) offer a taxonomical categorization for traditional toys. In their view, there are several categories in which toys can fit in. We can talk about toys that can serve symbolic or pretend play, toys that can aid gross/fine motor skill progress, or toys that can foster language development. On the other hand, electronic toys usually mean just battery toys (that have lights and make sounds, that can move, etc.) and are a distinct category from video games and other screen devices (Healy & Mendelsohn, 2019).

From an intuitive perspective, we can infer that the toys with which children play in their first years of life influence and contribute to their cognitive and socio-emotional development. In this direction, there are several studies focusing on the impact of the toy type used in play interactions on the dynamics of social exchange between play partners. Some toys inflict a more directive approach to play (e.g., playing with Legos), whereas others encourage frequent naming of objects or addressing questions (e.g., playing with dolls) or using more sounds than words (e.g., playing with cars) (O'Brien& Nagle, 1987). There are also studies that show that preschool children can adjust their pattern of play interaction depending on the play partner (Leaper & Gleason, 1996). More recent studies have also focused on how electronic toys mediate both the interaction with the play partner and the cognitive and socio-emotional development of infants and preschoolers (Miller, Lossia, Suarez-Rivera, & Gros-Louis, 2017). The interest in how electronic toys shape the play activities and further, the development of children, is supported by the abundance of these toys which are

usually presented under the label of "educational toys". Some of these toys are claimed to have certain characteristics that support language development and other cognitive abilities of infants and preschoolers (Sosa, 2016).

Despite their wide production and support from social media advertisers, there is no clear picture of how certain features of electronic toys (sounds, music, etc.) influence the dynamics of parent-child play interactions (joint attention episodes, linguistic utterances, the direction and frequency of episodic interaction, etc.) and children's cognitive and socio-emotional development (Zosh, Verdine, Filipowicz, Michnick Golinkoff, Hirsh-Pasek, & Newcombe, 2015). Zosh et al. (2015) showed that when electronic toys are used during parent-child play episodes, the quality - but not the quantity - of the spoken language produced by the parent is affected. Moreover, Woolridge and Shapka (2012) have also shown that the quality of the parent-child interactions (e.g., the degree of parental contingency and responsiveness during episodes of play, frequency of verbal utterances) during play instances is affected when electronic toys are used: mothers are less responsive, offer fewer explanations and ask fewer questions. Also, when the same type of toys is used during play, mothers are less supportive of the child (they are more directive and give the child fewer chances to explore the toys) (Woolridge & Shapka, 2012). Sosa (2016) has also investigated the quality and quantity of parent-child communication during play, while interacting with two types of toys: traditional (objects that encourage more free play such as puzzles, chunks of wood) and electronic (objects that operate via batteries and have buttons or make sounds) and also storybooks for children. The results have shown that the interaction was most negatively affected when the play interaction was mediated by electronic toys; the story books for children were associated with the greatest number of vocalizations both from the child and the parent (Sosa, 2016). In the same line, Clemens and Kegel (2020) have shown that as early as the first year of life, shared book reading is the most powerful tool in stimulation language development for the child. Furthermore, Miller et al. (2017) have confirmed the results of the previous studies that have looked at how the quality and quantity of communication during play is influenced by the type of toys used (traditional toys vs. toys that offer feedback). Moreover, the researchers have shown that the type of toys used during play can impact upon certain cognitive measures: the children involved in this research have manifested stronger sustained attention while interacting with toys that offered feedback, than while playing with the more traditional toys. A possible explanation for these results could be found in the novelty factor offered by the sounds and movements featured by the toys that offer feedback. Also, during play with traditional toys, parents more often reoriented the attention of their children, a behavior that can interfere with a

longer, uninterrupted interaction with a toy (Miller et al., 2017). More recent studies that have looked into how digital versus non-digital toy play can impact on the quantity and quality of children's speech have also taken into consideration the parental factor: whether parental intervention during play matters to the language development process of the child. Ewin, Reupert, McLean and Ewen (2021) have shown that children's language development benefits most when they engaged with their parents in non-digital play because this type of context prompted parents to talk more with their children. Interestingly, joint media engagement with the parent can also benefit the child in developing his vocabulary, given that the parent constantly interacts with him.

Drawing from the results of the studies mentioned above, we can conclude that parent-child interactions during play with electronic toys differ from playing interactions that include traditional toys on certain parameters (quality and quantity) of the communication process. Play episodes involving electronic toys result in fewer utterances from both the child and the parent, and less willingness to engage in symbolic play. Moreover, during play with electronic toys, parents tend to offer fewer contingent responses and elaborations pertinent to the play context and are more predisposed to initiate and direct the play interaction.

Parental attitudes and beliefs towards play

Scientific studies show that parents orient their child's rearing, and they structure childhood activities based on their belief systems. These beliefs often tell them when and how children acquire common developmental tasks or how they should interact with their children in accord with a given developmental phase in their lives (Parmar, Harkness, & Super, 20040. Moreover, these theories that parents hold about child rearing have been shown to influence the organization of their children's environments of learning and development (Taggart, Becker, Rauen, Kallas & Lillard, 2020; Ban & Uchiyama, 2020). For example, one study has shown that Euro-American parents who appreciated play for its educational and cognitive benefits, were more likely to join their children in play and to provide encouragement and support in pretend play, for example. On the other hand, Asian parents who viewed children's play as just for amusement and almost not at all important in preparing their children for entering school, did not tend to engage that much with their children during play (Parmar et al., 2004; Roopnarine, 2010).

It is already settled that play is a universal activity among young children, but studies show that its nature varies across cultures in response to specific constraints and differential degrees of encouragement. Most studies that have investigated parent's beliefs (mostly mother's belief systems) about play seem to

fall along a continuum – from views about play as a central activity fostering cognitive and social development to beliefs of play as peripheral to childhood development (Parmar et al., 2004). Generally, in agricultural countries, with close-knit interdependent social ties, parents see play as not so much a mechanism through which children can develop early skills and competences, but an activity intrinsic to the child, almost automatic; therefore, the parent's partnership and guiding role is less important. On the other hand, in Western technologically developed societies, parent-child interactions during play contain more language, gestures and might contribute more and in unique ways to language and cognitive development. Specifically, joint-coordinated play activities between parents and children in the technologically developed societies are more likely to co-occur with objects and to involve labeling, gesture and motion and have thus been related to better language skills (Parmar et al., 2004).

Corroborating these findings, we can assert that during infancy and preschool years, play is a frequent activity in children's daily routines, with important contributions to the cognitive and socio-emotional development. Also, play is culturally situated in the familial and social experiences of the child, often reflecting the values within a specific cultural community. At this age, parents, close relatives, and peers are typically children's play partners. In Western and other technologically developed societies, play is valued for its role in the growth of cognitive and social skills. Therefore, parents from these cultures adopt an active role in play, by initiating meaningful interactions, by offering guidance, support, and contingent responses during play. Because parent's beliefs about play seem to influence their involvement (both qualitatively and quantitatively) within bouts of play interactions with their children, one should expect that the same child-rearing theories should also influence the play activities and what toys parents choose to be appropriate for their children (Liu, Escudero, Quattropani & Robbins, 2020). For example, in their study, Kollmayer, Schultes, Schrober, Hodosi and Spiel (2018) have shown that parents' beliefs about whether there are toys that are suitable only for children and only for girls influence their ratings. with regards to the suitability of a set of toys to be used in play with their children. Specifically, parents with traditional gender-role attitudes consider cross-gendered-typed toys to be less desirable for their children's play, than gender neutral toys, whereas parents with egalitarian gender role attitudes found cross-gendered-typed toys as more desirable for their children. Also, the study has shown that egalitarian parents permit a wider range of interests and behaviors in their children, compared to traditional parents, by creating a less stereotypical environment for their children (Kollmayer et al., 2018).

Our sample of participants belongs to an Eastern-European society. To our knowledge, there are no studies looking into how these theories that parents hold about the role of play and toys in the cognitive and social development of their

children, can influence their view about their role as a parent in play, the play activities and the toys chosen for their children. Therefore, for the purpose of our research, we believe it is important to take this factor into consideration and see whether it contributes to the language flexibility performance at the preschool age.

Language development and language flexibility at preschool age

For the current study, we subsume language flexibility to the broader concept of cognitive flexibility as a property of the cognitive system (Deak, 2003; Ionescu, 2012). Deak (2003) defines cognitive flexibility as the ability to build and dynamically change our behavior and representations of reality, in accordance with the linguistic and non-linguistic information coming from the environment. Consequently, we can state that language proves to be flexible when it successfully manages to mediate the relation between the growing variability of the developmental experiences of a person and his/her changing conceptual and cognitive repertoire (Deak, 2003). So, it might be that through play and other relevant activities, children become more and more flexible in using language, depending on the context (Schaffer, 2009). The studies that have investigated how the type of toys children interact with during play shape their development have mainly focused on vocabulary aspects (i.e., quality and quantity) that are visible in play interactions between the child and the parent. But there are studies showing that, early on in their development, children reveal their ability to use language in a flexible manner. For example, studies show that by 12 months of age, children can map together similar sounds (Hollich, Hirsh-Pasek, & Michnick Golinkoff, 2000). At 17 months of age, children can attribute to novel words different symbols: hand signs, nonverbal sounds, and pictograms (Namy, 2001). Also, Thom and Sandhofer (2009) have shown that 20-month-olds' that were trained to learn the labels of multiple examples of a category (colors) managed to have a superior performance at learning and extending new labels, than children who simply saw instances of color. By 2 years of age, children prove a strong preference for words as a symbolic form and they do not choose a hand gesture or a sound as a symbol for a novel object (Woodward & Hoyne, 1999; Namy & Waxman, 1998; Namy, Campbell, & Tomasello, 2004). Their language flexibility "reappears" at the preschool age and can be seen, for example, in the ease with which children can adapt their verbal discourse to an ongoing social context (Poole, Nunez, & Warren, 2007). Studies that have looked at flexibility in early verb use (Naigles, Hoff, Vear, 2009), show us that children's ability to use verbs in a flexible manner depends on vocabulary growth. The authors used a diary method approach, in which mothers kept a record of their children's (aged between 16

and 20 months) verb acquisition for a total of 12 months. The results showed that in the early period of verb-use, children used their verbs both to command and describe, about multiple persons/objects and to describe a variety of actions or outcomes (Naigles et al., 2009). Also, all children included in the study displayed semantic and syntactic flexibility before 24 months of age. Despite these results, questions remain as to when and how a child can extend a verb. For example, we know that first comes the ability of the child to extend a verb to another agent, and afterwards comes the ability to extend a certain verb to a different outcome/action (Naigles et al., 2009).

Most studies that have investigated the early development of language flexibility, had to use tasks or other methods (e.g., observational measures) borrowed from the study of categorization or other child development aspects. Therefore, the construction and validation of a task that taps into language flexibility at the preschool age would be a methodological addition, that will hopefully offer us an instrument to observe and measure language flexibility in this period. And this is especially important, because in the preschool years the child starts to familiarize with a more formal learning environment that provide him/her with multiple activities and contexts in which he/she is challenged to use language in a flexible manner.

The current study – outline and main objectives

Previous studies that have focused on the role of toy-type on the dynamic interaction between play partners have almost exclusively looked at the quality and quantity aspects of vocabulary displayed by parents and children during play. Although Miller et al (2017) found some implications of the toys used during play on cognitive development (i.e., sustained attention), there are not many studies that sought to investigate in depth the impact of contextual factors on cognitive development. Also, previous studies have taken into consideration the role of parental theories about play and toys' benefits to child development, but mainly from a culturally focused approach (Roopnarine, 2010; Parmar et al., 2004). Also, they have not looked so much at how these beliefs shape parents' actions which are further reflected in their children' proximal environment.

Deriving from this, the current study aims to investigate whether the type of toy with which preschool children (3-4year-olds) interact during play with a partner (i.e., the experimenter), can have an influence on their language flexibility, evaluated with a language task developed and validated in a preliminary pilot study. And because language development and its flexible use – as every aspect of human development- is influenced by a dynamic interplay of internal

and external factors, we also sought to investigate the role that parent's belief systems and the activities their children are involved in, can have a word into their language development.

As such, we hypothesized that in the language flexibility task, preschool children that interact with "simple toys" during play with an experimenter have a better performance than those children that play with "complex" toys. We also expect a higher performance in the task for those children who are constantly involved in more unstructured activities (that implicitly might require more verbal and nonverbal interactions between partners), and whose parents have a more relaxed and apprehensive approach to play and to the role of play activities for language development at the preschool age.

We first conducted the pilot study in which we sought to test validate the experimental task and make sure that it is appropriate to measure language flexibility in the age range included in our research. Specifically, the pilot study was used to verify if the toys (simple and complex) chosen by the researchers, and the flexibility task are suited for the preschool age. We will present first the pilot study and further on, we will describe the findings of the main study, in which we investigated if the toy type used in play interactions by preschool children can influence their performance in using language in a flexible manner (evaluated with the same language flexibility task as the one used in the pilot study).

Also, we considered the role of parental beliefs and activities that their children are regularly involved in, in the development of language flexibility. Finally, we concluded with a general discussion about the results and their implications for language flexibility development at an early age.

Pilot study

Method

In the pilot study, all children interacted with both the simple and complex toys to see whether they recognize the toys, can interact with them and if the objects chosen by the experimenter can be easily used in a dyadic play interaction. Also, all children completed the language flexibility task, in their second encounter with the experimenter.

Participants

The participants were preschool children (N = 18, mean age = 40 months, SD = 6.88), from a kindergarten from the city of Cluj-Napoca, in Cluj county, Romania. The initial study sample comprised 19 participants, but one participant

refused to complete the language flexibility task, so he was excluded from the study. Only the children whose parents signed the informed consent were included in the study. After the completion of the pilot study, all children received a sticker, as a reward for their participation.

Instruments

Toys

The toys included in the study were chosen as to fit the simple and complex toys categories, namely simple and complex toys. In this study, we distinguished between "simple" and "complex" toys based on previous research on this topic (Zosh et al., 2015; Sosa, 2016; Miller et al., 2017; Healy & Mendelsohn, 2019). Therefore, a "simple" toy is one that does not immediately imply a single mode of playing with it during the play activity (ex., play dough – can be used in several ways, such as creating animals, different objects, food dishes, etc.), whereas a "complex' toy has certain features that direct the play activity more overtly (e.g., a toy car can be used in a race, or to drive somebody with it). There were three toys for each of the two categories, so there was a total of six toys. The toys chosen for the study corresponded to three categories: animals, colors and geometrical figures, and there were two toys for each category (one simple, one complex) (see **Appendix 1** for a description including pictures of the toys). We have chosen toys to match these three object categories for two reasons: 1) developmentally, it is likely that objects matching these categories are familiar to preschool children; 2) previous studies relevant for our research purpose have used two or three thematic categories, so as to balance the experience of the child with the stimuli in the experimental setting (avoiding the situation wherein a child plays with more simple or more electronic toys, or with more toys pertaining to a category than to another category).

Language flexibility task

To evaluate children's language flexibility, we developed a task that consisted in six short stories in which the participant is asked to name and use an object according to a new function ascribed by a current problem he is asked to help solving., and not according to the name and function he has for that object. The design of the task was inspired from tasks used in studies that assess flexible categorization in preschoolers and that usually seek to prove if children can use more linguistic labels for the same object. Each story had a main character that needed help from the child to solve a critical problem. The stories were presented to the child on laminated cards (three cards for each story). The cards contained original drawings made by the first author and were presented

in the chronological order of the plot. For each story, the "help" offered by the child consisted in choosing - from a set of three cards picturing different objects - one, two or all three of them, that would replace a typical solution (the target word) from the story and solve a critical problem. For example, in the first story, the child must replace a broken vase (here, the typical solution) by choosing between a ball, a cup and a boot. (the complete story can be found in **Appendix 2**). The three cards chosen for each story, comprised objects ranked after the similarity (of shape or function to the target-word). Therefore, there was a closely associated and a remotely associated object to the target-word, and a distractor. This distinction (closely vs. remotely associated to the target-word) was made based on a ranking-task given to 20 adults (16 females and 4 males, mean age = 26 years). They were given an answering sheet that could be completed online or by paper and pencil, wherein they had to read a set of target-words. For each of these words, they were given several words (e.g.: a cup, a boot, and a ball) that they had to rank based on their closeness (function or shape) to a target-word (e.g.: a vase). For each group of three/four words, a word was given the highest rank when it was voted closest to the target-word by most participants. The word that received the fewest votes from the participants was considered the distractor, whereas the remotely associated word was the one whose ranking laid between the closely- associated word and the distractor word. Because the purpose of the pilot study was to verify the appropriateness of the toys chosen for the play interactions and the task developed, the performance of the children was evaluated using an answering sheet wherein the experimenter recorded the child's choice/es of objects for each story. For the statistical analysis, every chosen object received a numerical value of "1" and every object that was not opted for received a value of "0". This permitted us to perform a frequency analysis that checked into the percentage and the number of children who chose every object for all six short stories from the language flexibility task.

Procedure

Each child participated in two sessions of play with the experimenter, in a quiet room in the kindergarten. Between the play sessions there was a maximum 4-day lag, to prevent the children from remembering the toys and their features. In the first play session, each child interacted with all six toys, for approximately 15 minutes. The child was encouraged to manipulate and explore the toys and received contingent feedback whenever necessary: the experimenter responded promptly to the questions, actions, or the requests of the child during the play interaction, whenever was the case. In the second session (that lasted about 25 minutes), the child interacted again with the same

six toys from the first session, and afterwards he was tested with the language flexibility task. Each child was presented in succession with all of the six short stories. For instance, in one of the short stories, the child is being told that Ann is a smart and well-behaved girl that went to visit her grandmother. One morning, Ann goes out in her grandmother's garden and notices all the beautiful flowers surrounding the house. She picks up some to form a bouquet and ran into the kitchen to find a vase. Because she is very excited to surprise her grandmother, she breaks the only vase that her grandmother has (in this case, the target-object was the **vase**). At this point in the story, the child is asked to help Ann find another vase for the flowers and he is shown three cards picturing three distinct objects: a closely associated object (in this case, a cup), a remotely associated one (a boot) and a distractor (a tennis ball). The experimenter tells the child to offer him a "vase" and writes down (on the evaluation sheet) the child's choice/choices. Also, to make sure the children knew what the objects on the cards were, the experimenter asked the children to name the object on each card. This was required because, if the label for an object is not acquired, we cannot talk anymore about language flexibility. Flexibility in this case meant that the child was capable to find another object for the problem and offer this another label, appropriate to the particular context. With regards to the rating of the children's performance in the task, for each of the six stories, every child received a numerical value of "0" if he did not choose any object or if he chose the distractor. Further, each child received a numerical value of "1" if he chose either one of the three objects but the distractor, and a value of "2" if he chose both the closely related and the remotely related objects, but not the distractor. Based on this algorithm, each child received a "flexibility score" at the task, in which we added the number of stories wherein the participants showed maximum flexibility – they opted only for the closely-related and the remotely-related objects. We considered a child to be "linguistically flexible" only if he obtained a score of "2" at a minimum of 4 stories (the minimum flexibility score could be 8 and the maximum, 12).

Results

Because the purpose of the study was to verify the appropriateness of the toys and of the language flexibility task for the target age range, we did not split the children into groups based on the type of toys. Therefore, at this level, we only observed that the toys chosen for the study were appropriate: the children showed interest when engaging with them and they were willing to share the toys with the experimenter. Most children remembered the toys from one encounter to another, but that did not constitute an impediment to the study (they did not seem bored or unwilling to play). We decided to replace only

one toy (the animal origami), due to children's difficulty in playing with it: except from one participant, the children could not follow the steps after which the pieces of paper had to be folded to obtain the correct animal. With respect to the performance on the language flexibility task, in general, most children opted for the closely related object as a first option to replace the target-word in each story. Only in Story 6 did the children opted equally often for the closely related and the remotely related option. **Table 1** summarizes the responses of each child for the six short stories included in the task:

Table 1. Children's toy-choice percentage-response for the six stories

Story	Answer options	Percentage	Number
Story 1	closely related	100%	18
	remotely related	28%	5
	distractor	17%	3
Story 2	closely related	61%	11
	remotely related	44%	8
	distractor	6%	1
Story 3	closely related	78%	14
	remotely related	56%	10
	distractor	17%	3
Story 4	closely related	78%	14
	remotely related	50%	9
	distractor	6%	1
Story 5	closely related	78%	14
	remotely related	44%	8
	distractor	28%	5
Story 6	closely related	78%	14
	remotely related	78%	14
	distractor	6%	1

Discussion

For this study, we concluded that most of the toys were suited for the developmental age of the children. The participants could easily engage with the toys, both alone and in interaction with the experimenter and they manifested interest when playing with them. We decided to replace only one toy: the animal origami, because almost all (except one) of the children could not fold the papers correctly, to obtain the animals. Regarding the language flexibility task, the stories were easy to comprehend by the children and they were not too long for their age: except from one participant, every child managed to follow the plots of the stories and to give an answer at the end of each one of them. Because another goal of the study was to verify children's vocabulary knowledge of the

objects pictured on the small cards, we decided to eliminate those pictures of the objects that were not recognized by most of the children (badge, paperclip, necklace, closed book). The final cards used in the main study are shown in **Appendix 2**. Regarding children's performance at the language flexibility task, a frequency analysis computed for each story showed us that for the most stories, children often chose the closely associated object to replace the target-word. The only exception was story number 6, where the remotely associated object (the orange) was chosen equally often as the closely associated one (the thread ball). The distractor in each story was rarely chosen as a viable option to replace the target-word. Only in Story 3 and Story 5, the distractor was chosen more than 1 time (3 times and 5 times, respectively). Even though for all the stories (except Story 6), the closely-related object was the preferred choice for all the children, we can observe from the data that they also chose the remotely-associated object on quite a few occasions (more than 40% of the time for each story). This can offer us an idea about how language flexibility is manifested at this age when solving a verbal task.

Main study

The purpose of the study was to investigate the influence of toy type on preschool children's performance at a language flexibility task. We wanted to see if the children who interacted with the simple toys would prove to use language more flexibly than those that played with the complex toys. A second purpose of our study was to investigate whether contextual factors such as parental attitudes and play activities can influence language flexibility development. Therefore, we collected self-report data from the parents regarding the play activities in which their children are involved and their parental attitudes towards the play activities of their children.

Method

We used an experimental design, with the type of toy (simple/complex) used in the play interactions as the independent variable, therefore resulting in two experimental groups: one group of children who interacted during the two play sessions with simple toys, and another one wherein the children played with complex toys. The dependent variable in the study was the performance at the language flexibility task. Because we wanted to obtain as much information about the contextual factors that influence the development of language flexibility at this age, we also obtained self-report data from the parents regarding the play activities in which their children are involved and their parental attitudes

towards the play activities of their children. We used this data in a corollary analysis that verified if certain play activities or parental attitudes towards play are somehow related to the preschooler's ability to use their language in a flexible manner.

Participants

The participants of the study were preschool children (N= 26, mean age= 45 months, SD= 4.88) from a kindergarten from the city of Cluj-Napoca, in Cluj county. Initially, the experimental sample comprised 30 participants, but two of them dropped out due to medical problems, and the other two were excluded because they did not participate in the second play session (with the evaluation of the language flexibility). Only the children whose parents signed the informed consent were included in the study. The final sample of participants was divided in two groups, based on the toy-type used in the play interactions. Therefore, the "simple toys interaction" groups was comprised of 14 children, whereas the "complex toys interaction" group consisted of 12 participants. After the completion of the study, all children received a sticker as a reward.

Instruments

Toys

The toys included in the study were the same as those used in the pilot study, except for the animal origami, that was replaced by an animal domino game. Like for the pilot study, there were three toys for each of the two categories (see **Appendix 1** for pictures of the toys and their description), so there was a total of six toys. The toys chosen for the study corresponded to three categories: animals, colors and shapes, and there were two toys for each category (one simple, one complex per category).

Language flexibility task

To evaluate children's language flexibility, we used the same task as the one described in the pilot study. The only difference was the cards replaced after the feedback received from the children included in the pilot study. A pictographic example of one story from the task can also be found in **Appendix 1**. The replacements are also listed in **Appendix 2.** With regards to the rating of the children's performance in the task.

Self-report questionnaires for parents

The parents who agreed with the participation of their children in the study completed two short questionnaires that were attached to the informed consent. The first questionnaire was taken from Woolridge and Shapka (2012)

and it has eight items that evaluate the main play activities in which a preschool child can be involved (interaction with toys, children's books, screen time, physical playing activities, etc.) and the time spent doing those activities. The items are evaluated on a 7-point Likert scale (*> 1/day, 1/day, 3–4/week, 1/week, < 1/week, sporadic, never)*. For each of the 8 items, the questionnaire also evaluates (on a 5-point Likert scale, < 5 min, 5–10 min, 10–20 min, 20–30 min, > 30 min) the time spent doing those activities. Besides these items, the questionnaire has an item that evaluates the amount of electronic toys present in the household (on a 4-point Likert scale, *none, a few, about half, most, almost all*) and another item that evaluates the importance that parents place on play, as an activity. Moreover, the questionnaire has an item that evaluates the main play partners of the child. For this questionnaire, we calculated the frequency and the average time the children spend in various play activities. Besides this questionnaire, the parents also filled a short questionnaire (three items, on a 5-point Likert scale) that evaluates parent's attitudes towards their children's play interactions (*"I agree that my child plays with an object/toy in a different manner than the one that is socially approved or suggested in the instructions"; "I encourage my child to include objects from the household - other than toys – in his playing activities", "I agree when my child chooses to interact during play with toys that are thematically unmatched or toys that differ one from another in terms of way of interaction – for example, your child decides to imagine a play plot in which he/she includes farm animals and toys that are usually used at the sand pit"*). For each of these items, we calculated the frequency with which parents agree with either of the statements.

Procedure

The procedure was the same as the one followed in the pilot study. The only additional feature was that every interaction with the child was video-recorded and the child interacted only with three toys per play session, according to the condition that the child belonged to. The testing procedure was the same as the one used in the pilot study, after the experimenter obtained the informed consents and the self-reported questionnaires from the parents. At the end of the testing, each child from the two groups (including those children that did not participate in the study) received a sticker as a reward.

Results

Performance at the language flexibility task

To see if there were any differences between the two groups at the language flexibility task, given by the toy condition, we computed a Mann-Whitney U test, a nonparametrically statistical test that is used to compare unpaired groups. The results of the study have shown that there was no

statistical difference between the two groups (simple toys vs. complex toys), for all three types of relatedness of the word to the target-word (closely related, remotely related or the distractor), in all six stories. That is, the type of toy with which the children interacted did not result in a tendency to choose more often both the closely related and the remotely related pictures, as we have expected for the simple toys group. We further compared the performance of the two groups at the language flexibility task by computing the frequencies with which the children showed flexibility at the language flexibility task. The results have shown that in the "simple toys" play interaction group (N=14 children), 4 children (29%) did not show language flexibility in the task, 5 children (39%) showed flexibility at one of the stories in the task, 1 child (7%) showed flexibility at 2 stories, 3 children (21%) showed flexibility at three stories and only one child (7%) proved to have flexible performance at all six stories. For the complex toys play interaction group, the frequency analysis has shown that out of 12 children, three (25%) did not manifest language flexibility in the task. Two children (17%) manifested flexibility at one story from the task, 3 children (25%) showed flexibility at two stories, 2 children (17%) showed flexibility at five stories and two children (17%) proved to be flexible at all six stories comprised in the task. The results are summarized in **Table 2**:

Group	Number of stories	Number and percentage of children who proved language flexibility
Simple toys interaction N = 14	no stories	4 (29%)
	1 story	5 (36%)
	2 stories	1 (7.1%)
	3 stories	3 (21%)
	all stories	1 (7.1%)
Complex toys interaction N = 12	no stories	3 (25%)
	1 story	2 (16.7%)
	2 stories	3 (25%)
	5 stories	2 (16.7%)
	all stories	2 (16.7%)

Because for this age the coding procedure might have been too "strict", we reconsidered it and we decided to recalculate the U test and frequency analysis. This time, we considered that a child prove language flexibility if he chose either one of the closely or remotely related objects as replacement for the target-word. After this modification, the Mann-Whitney U test still showed

no statistical difference between the two groups (simple toys vs. complex toys), for all three types of relatedness of the word to the target-word (closely related, remotely related or the distractor), in all six stories. As for the frequency analysis, we saw that in the "simple toys" interaction group, four of the children (28.6%) have shown language flexibility at three stories, three children (21.4%) have shown language flexibility at four stories, and six children (42.9%) have proven to be flexible at all the six stories. As for the "complex toys" play interaction group, three children (25%) have shown language flexibility at the task at three stories, one child (8.3%) has shown language flexibility at four stories, four children (33.3%) have shown language flexibility at five stories, whereas four children (33.3%) have shown language flexibility at all the six stories. The results are summarized in **Table 3:**

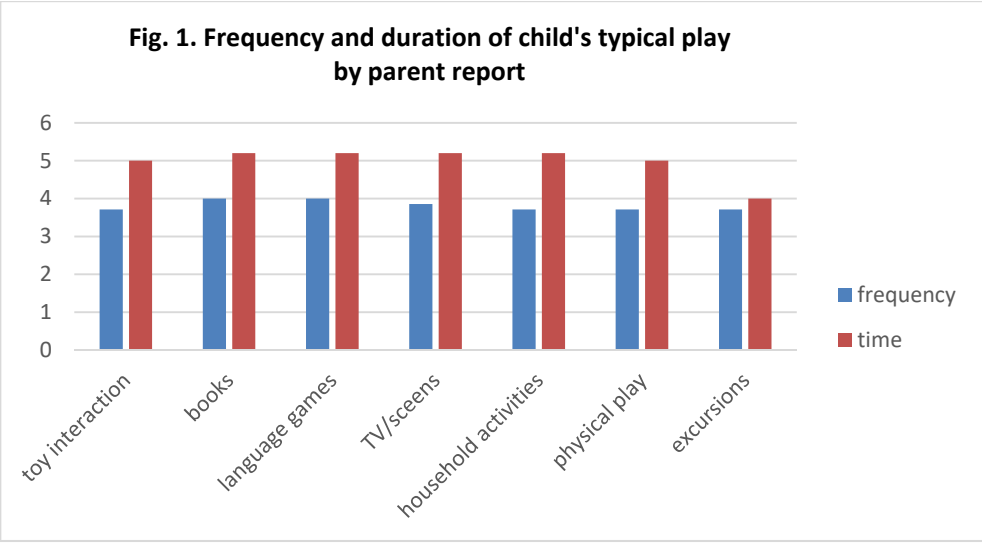
Group	Number of stories	Number and percentage of children who proved language flexibility
Simple toys interaction N = 14	0 stories	1 (7.1%)
	3 stories	4 (28.6%)
	4 stories	3 (21.4%)
	all stories	6 (42.9%)
Complex toys interaction N = 12	3 stories	3 (25%)
	4 stories	1 (8.3 %)
	5 stories	4 (33.3%)
	all stories	4 (33.3%)

Self-reported data

For the questionnaire regarding the play activities of the child, most parents reported (68%) to have only a few electronic toys in the household, and some of them (20%) reported that half of the toys their children play with are electronic/with batteries (M= 2.44, SD= 0.71). Also, all parents considered play to be important for their child's cognitive and socio-emotional development. Regarding the most common play partners of the child, their parents were the most frequent response (53%), followed by siblings (20%) and friends (16%), and ultimately caregivers (11%).

Parents also reported the frequency and time spent by their children in seven different types of play. Therefore, on average, parents reported that their children interact with their toys at least once a day, for at least 20-30 minutes. Also, children in this sample interact with children's books/reading materials at least once a day, for about 20-30 minutes and engage in language games 3-4

times per week, for about 10-20 minutes. Parents reported that their children spend time watching TV/ other screen media on an average of once a day, for about 20-30 minutes and participate in household activities (e.g., setting the table) 3-4 times a week, for about 20-30 minutes. Finally, parents reported that their children engage in physical play at least once a day, on an average of 20-30 minutes and they go in excursions/walks less that once a week for an average of at least 30 minutes. The average frequencies and time spent in all seven play modes are summarized in **Figure 1**, below:



***Frequency** (0=never, 1=sporadic, 2=<1/wk, 3=1/wk, 4=3 or 4/wk, 5=1/day, 6=>1/day)
***Time/Play duration average in minutes** (1=<5, 2=5-10, 3=10-20, 4=20-30, 5=>30)

We also analyzed the data from the parental attitudes towards their children's play interactions and we found out that, on average, parents totally (44%) or partially agree (36%) to accept and encourage their children to play differently with a toy (not according to predefined rules of play). Also, most parents (72%) are willing to let their children play with objects that are not usually designed or considered to be suited for use in play activities (e.g., cutlery items, knick-knacks, etc.), whereas 16 percent strongly disagree to do so. Also, parents reported in 76% of the cases that they would let their children use during play toys that differ under certain aspects: type of interaction, category (e.g., a child that decides to include in a play episode farm animals and items used at the sand pit) and only 16% percent of the parents partially agree with this practice.

Moreover, a one-way between subjects ANCOVA analysis was calculated with the responses of the two questionnaires as covariates, to see if the lack of differences between the two groups in terms of language flexibility performance is maintained, after we controlled for the effects of the parental attitudes towards play and the regular play activities that the children are involved in. The results supported the main result of the study, showing no influence of the toy type (independent variable) on the performance at the language flexibility task, after eliminating the effects of the play activities the children are generally involved and the parental attitudes towards play. Nevertheless, there were a few exceptions showing that the time spent by the child in interaction with reading materials is significantly and positively related to language flexibility, $F(1,21) = 7.437$, $p = .029$. Also, the frequency and time spent watching TV or playing the computer was significantly, but negatively related to language flexibility, $F(1,21) = 7.900$, $p = .026$ and $F(1,21) = 5.286$, $p = .05$, respectively. Finally, the time spent by the child helping their parents at household activities was significantly and positively related to the performance in the language flexibility task, $F = 5.563$, $p = .05$. Regarding the importance of parental attitudes towards their children's play activities, we found that parent's consent in allowing their children to play with a toy in a different way than its default mode was significantly and positively related to language flexibility, $F = 5.007$, $p = .03$.

Discussion

The purpose of the main study was to see if the type of toy the children interacted with in two play sessions can have an impact on their performance in a language flexibility task. The results failed to show any difference in language flexibility performance between the children who played with simple toys vs. the children who interacted with complex toys. Although the children managed to choose the closely related object to replace the target one at almost all occasions, they did not manage to go further and ascribe the target object's label to the remotely related object. Or they did, but not in a constant manner: only one child from the simple toys condition and two children from the complex toys condition managed to show language flexibility in all six stories present in the task. Also, the ANCOVA analysis did not show any change in the results after we controlled for the effects of the parental attitudes towards play and the play activities in which children are involved on a regular basis. Nevertheless, we observed that some play activities that the children are involved in are positively and significantly related to language flexibility, such as the time spent by the child reading children's books or other age-appropriate reading materials. This can be related to other relevant results that found a

positive link between young children's interaction with children's books and aspects of vocabulary development (quality and quantity) (Sosa et al., 2016). Maybe while involved in reading a book, both the child and the parent have multiple opportunities to talk about different concepts and how they relate to each other and to other concepts or context wherein they can appear. Moreover, language flexibility was also associated with the frequency and time spent watching TV and other media and with the time spent helping parents at household activities. Regarding the relevance of certain parental attitudes towards play, we discovered that language flexibility was positively associated with parent's approval of their children to play with a toy in an unconventional way. Maybe if parents have a flexible approach not only in verbal interactions with their child, but also indirectly, in certain learning contexts, children might feel more encouraged to explore the environment.

General discussion

The general purpose of this paper was to propose an alternative approach on how to investigate language flexibility in preschool years, taking into consideration two contextual factors that might influence vocabulary development and its flexible use in different verbal interactions. We sought to see if the type of toy that preschool children use during play interactions can have an influence on their ability to use language flexibly in an experimental task. For this purpose, we developed a language flexibility task, that requires the child to adapt existent verbal labels in his vocabulary to a specific linguistic context. Therefore, our research had a methodological purpose, in which we tested if the task we have built is suitable for evaluating language flexibility for this age range. So, the first part of the research presented the piloting of the toys and the experimental task that was later used in the main experimental study. From the pilot study, we concluded that the toys were easy to play with, either alone or in interaction with the experimenter. The stories contained in the language flexibility task proved to be easy to understand and almost all children managed to follow the rationale of the task (choosing one or more cards with objects that could replace the target object).

As regards to the main study, we did not find an influence of the toy type on preschooler's performance in a language flexibility task. This might be because the children interacted with the toys only two times, or because the interaction lag was too big. Although almost all children managed to identify the closely related object as fit to replace the target one, most of the time they chose to consider the remotely-related object, therefore failing to show language

flexibility, as it was defined in this study. This might be because the children's vocabulary at this age is still expanding, and they are not yet able to integrate fully the linguistic label of an object with its appearance and function. Therefore, they might succeed to use language flexibly in easier contexts, wherein these connections are more transparent, but encounter difficulties when that must use their language at a more abstract level. Also, the lack of difference in performance at the language flexibility task might be attributed to the task because it might have appeared a bit "artificial" to the children. Therefore, their lack of flexibility might be a result of a lack of understanding on "what it is requested from them" in a task that might look like a card game, and not come from a lack of ability.

Besides the role of the toy type in shaping the language flexibility performance of the children included in this study, we wanted to see if certain beliefs and practices that parents might have about play and the play activities their children are involved in might have an impact on their language flexibility. We saw that the time spent by the child reading and helping their parents in the household was significantly and positively related to language flexibility, whereas the frequency and time spent watching TV or playing the computer was significantly and negatively related to language flexibility. Moreover, it seems that the more open the parents prove to be when shaping the rearing environment of the child, the more children use their vocabulary in a flexible manner. These data prove that there is a complex interplay of factors that shape how children's vocabulary develops and reaches a flexible state at the preschool age.

The present study is not without limitations. First, we did not test the children with the language flexibility task before the play sessions, only after the second meeting, therefore we cannot state that the differences in performance (if there are any) are given by the toys that the children interacted with. Another limit might be the fact that we did not compare the two group's performance while the children interacted with different play partners (e.g., parents vs. experimenter). When engaging with a parent, the child might be more willing to interact and to produce more utterances, maybe leading to a better performance at a linguistic task. There are studies that have shown that engaging with the parent in dialogic reading (using prompting and questioning more often) resulted in a raised performance in children at vocabulary tests and also in an improvement in expressive language skills (Parish-Morris et al., 2013). Maybe a similar effect could be observed in playing interactions, independent of the toy used.

Another limit of the current research might be the small sample included in the main study. Maybe a bigger sample would have made visible a possible effect of the type of toy on children's performance at the language flexibility task. Also, the task might have been a bit different to the natural contexts in which

children at this age are seen to manifest language flexibility. The children had to listen to a story and then chose from three images of objects printed on cards. This is a bit unusual for their age, although studies on categorization have proven that real, palpable objects (as compared to cards depicting those objects) do not make any difference in performance. Furthermore, apart from the characteristics of the task and its procedure, we might also add that children's performance in the pilot study was not compared with their performance in other tasks that measure language or flexibility in other domains, such as categorization. If done so, maybe we could have adjusted the task in a more suitable way that could assure a better evaluation of language flexibility in preschool children.

Also, future studies could investigate if play interactions with different partners (i.e., parents, siblings, or other caregivers) can result in different outcomes in terms of performance at the language flexibility task.

In conclusion, our study sought to investigate how language flexibility manifests at a preschool age and how can this ability be influenced by several contextual factors, here type of toys that children interact with and parental attitudes towards play. Therefore, we have built a new language flexibility task that we tested in two separate studies. The first one was a pilot study that sought to verify the toys' and task's appropriateness to children's developmental stage. In the second and main study, we applied the measurements (after proper adjustments) to a new sample of preschool children that were ascribed in two experimental groups, according to the toys they interacted with during the two sessions of play. According to the existent literature, play and toys are important factors that shape language development in early years. And recent studies have shown that the type of toys that children engage frequently during their play time can moderate the quantity and quality of communication between play partners (citation). Therefore, we went further to investigate if the type of toy can influence language flexibility performance in a task. Unfortunately, we did not manage to prove this hypothesis. But we did find out that language flexibility was positively associated with some other activities that children take part to frequently, such as reading books together with their parents or interacting with various social media sources Also, language flexibility was also positively associated with parent's openness and positive attitudes towards letting their children play with toys in a more unconventional way – not just according to play rules.

Although our study did not manage to prove that the type of toy that the child interacts with plays a part in language flexibility development at this age, we did point out the need to build new tasks to measure language development and flexibility in preschoolers. Also, we pointed out that there a more indirect factors at play for language flexibility development, such as parental attitudes towards play. The beliefs that we have regarding certain activities and practices

can be flexible and can influence our parental decisions of, for example, the activities we decide for our children, or the time we spend in interaction with them. We do not yet know all the factors that influence language flexibility at this age and more importantly, we do not yet know how these factors interact to produce an outcome in a child's flexible use of his vocabulary. But what we do know is that an integrative approach is probably the best route to this discovery, an approach that better permits us to study language flexibility as a process.

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Appendix 1 A

The toys used in the study:

Animals:

- **complex toy:** a sensory mat with 6 animals and musical notes that made sounds when touched by the child or the experimenter.
- **simple toy:** a set of colored sheets of paper on which were drawn animals (a total of six animals) that the child had to fold by following certain steps, to obtain a certain origami in the shape of an animal.

Colors:

- **complex toy:** a set of puzzle cards that contained images of different objects/animals that had to be grouped together by color.
- **simple toy:** a set of play dough, with 12 colors.

Geometric figures:

- **complex toy:** a game called "Oaki knows everything", in which the child had to answer several questions listed in small cards by pressing with a frog-shaped pencil; and whenever the answer given was a correct one, the pencil would make a sound.
- **simple toy:** a set of geometric figures (sphere, triangle, square, cone) with magnets, which could be manipulated so as to build different constructions.

Appendix 1 B

Pictures of the toys:

SIMPLE TOYS

construction game

play-dough

animal domino

COMPLEX TOYS

Oaki knows everything" color match puzzle animal learning mat

TOY REMOVED AFTER PILOT STUDY

animal origami

Appendix 2 –
Example of story used in the language flexibility task.

Story 1

Ann is a smart and well-behaved girl that went to visit her grandmother. One morning, Ann goes out in her grandmother's garden and notices all the beautiful flowers surrounding the house. She picks up some to form a bouquet and ran into the kitchen to find a vase. Because she is very excited to surprise her grandmother, she accidentally broke the only vase that her grandmother has. Now Ann is very sad, because she thinks she ruined her grandmother's surprise and asked for our help. **Let's find her a vase! Give me a vase?**
(in this case, the target-object is the **vase**)

The cards presented to the child for this story pictured:

Closely associated object: a cup
Remotely associated object: a boot
Distractor: a tennis ball

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THE RELATIONSHIP BETWEEN BASIC PSYCHOLOGICAL NEEDS, MOTIVATION AND SELF-EFFICACY IN A SAMPLE OF SECONDARY AND HIGH-SCHOOL CHILDREN FROM CLUJ-NAPOCA, ROMANIA

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ABSTRACT. Motivation is the key force that drives the individual. According to Self-Determination Theory (Ryan & Deci, 2000), human motivation is regulated by the degree to which personal intentions are autonomous or controlled. On the other hand, human behaviour is determined by three basic needs (competence, autonomy and relatedness) which contribute to intrinsic motivation and psychological health. This study has investigated the relationship between basic psychological needs and different types of motivation in an educational context. The research included a large sample of school students from 5th to 12th grade, enrolled in two schools from Cluj-Napoca, Romania (N = 363). All participants completed an online survey aimed to evaluate student's fulfilment of their basic psychological needs, their motivation and self-efficacy regarding Romanian literature lessons. Results showed that autonomy, competence and relatedness correlated with intrinsic motivation. Moreover, the regression results showed that basic psychological needs predicted half of the variance in intrinsic motivation. The outcomes of this study also revealed that girls displayed higher scores on self-efficacy, autonomy and identified regulation as compared to boys.

Keywords: *self-determination theory, self-regulated learning, intrinsic motivation, basic psychological needs, autonomy, competence, relatedness, self-efficacy*

ZUSAMMENFASSUNG. Motivation ist die Schlüsselkraft welche das menschliche Wesen aktiviert. Laut der Selbstbestimmungstheorie (Ryan & Deci, 2000), wird die menschliche Motivation durch den Grad der Autonomie oder Kontrolle der persönlichen Absichten reguliert.

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Andererseits wird das menschliches Verhalten durch drei Grundbedürfnisse (Kompetenz, Autonomie, Bezogenheit) bestimmt, die zur intrinsischen Motivation und psychischen Gesundheit beitragen. In dieser Studie wurde die Beziehung zwischen psychologischen Grundbedürfnissen und Motivationstypen im Bildungskontext an einer großen Stichprobe von Schülern der 5. bis 12. Klasse untersucht, die in zwei Schulen aus Cluj-Napoca, Rumänien, eingeschrieben waren (N= 363). Alle Teilnehmer haben eine Online-Umfrage ausgefüllt, die darauf abzielte, die Befriedigung ihrer psychologischen Grundbedürfnisse, Motivation und Selbstwirksamkeit innerhalb des rumänischen Literaturunterrichts zu bewerten. Die Ergebnisse zeigen, dass Autonomie, Kompetenz und Verbundenheit mit intrinsischer Motivation korrelieren. Darüber hinaus sagt Autonomie den größten Teil der Variante der intrinsischen Motivation voraus. Die Ergebnisstudie zeigt auch, dass Mädchen im Vergleich zu Jungen höhere Werte bei Selbstwirksamkeit, Autonomie und Selbstbestimmung aufweisen.

Stichworte: *Selbstbestimmungstheorie, selbstreguliertes Lernen, intrinsische Motivation, psychologische Bedürfnisse, Autonomie, Kompetenz, Bezogenheit, Selbstwirksamkeit*

Introduction

Both teachers and parents often evaluate students' school performance only by looking at their school grades. Given this aspect, we aimed to analyze in more depth the predictors of learning motivation with direct impact on students' academic results and school performance in a public educational setting.

Basic psychological needs in Self-Determination Theory

Motivation is a central force that influences all human activities. When performing different actions, people express different levels of interest, engagement and persistence (Ryan & Deci, 2000a). Self-Determination Theory (SDT) is a well-known framework for understanding the motivation towards learning (Ryan & Deci, 2000). Before this theory emerged, learning motivation was explained based on a dichotomic division as intrinsic and extrinsic motivation. Ryan and Deci (2000) revealed that motivation can be seen on a continuum ranging from amotivation to extrinsic motivation and intrinsic motivation. People are naturally prone towards psychological growth, but this requires supportive environmental conditions. The three basic needs that must be satisfied are the need for autonomy, competence and relatedness. *Autonomy* refers to the sense of initiative in an action, *competence* refers to the idea of being successful and having a feeling of mastery, and *relatedness* refers to a feeling of belonging and connection with others (Ryan & Deci, 2020).

Self-Determination Theory's Taxonomy of Motivation

According to Ryan and Deci (1985), motivational orientations can vary depending on a person's level of self-determination and can be seen on a continuum with six different levels. First is amotivation, then extrinsic motivation which has itself four different levels (external regulation, introjected regulation, identified regulation and integrated regulation) and intrinsic motivation. *Amotivation* is characteristic to people who have low perceived competence and are not motivated intrinsically or extrinsically. Such individuals do not find a meaning in taking any action (Ryan & Deci, 2000a).

Extrinsic motivation is characterized by engaging in an activity to obtain an outcome and not performing it for the pleasure of that activity. *External regulation* is a type of motivation that involves an external source of energy for a person to take an action, such as executing an action in order to obtain a reward or to avoid a punishment. *Introjected regulation* is more self-determined than external regulation and the pressure source is internal and not based on personal choice. The focus of this type of motivation is on receiving self-approval and others' approval. Therefore, the individual is doing the activity in order to avoid feelings of guilt, anxiety, failure or shame (Ryan & Deci, 2020). This type of motivation often takes the form of ego-evolvement. *Identified regulation* is somewhat internal and displaying self-endorsement of goals. Hence, even if the action itself is not always interesting the person understands the value of the activity. The most autonomous form of extrinsic motivation is *integrated regulation*, in which the individual has internalized the reasons for performing a certain action.

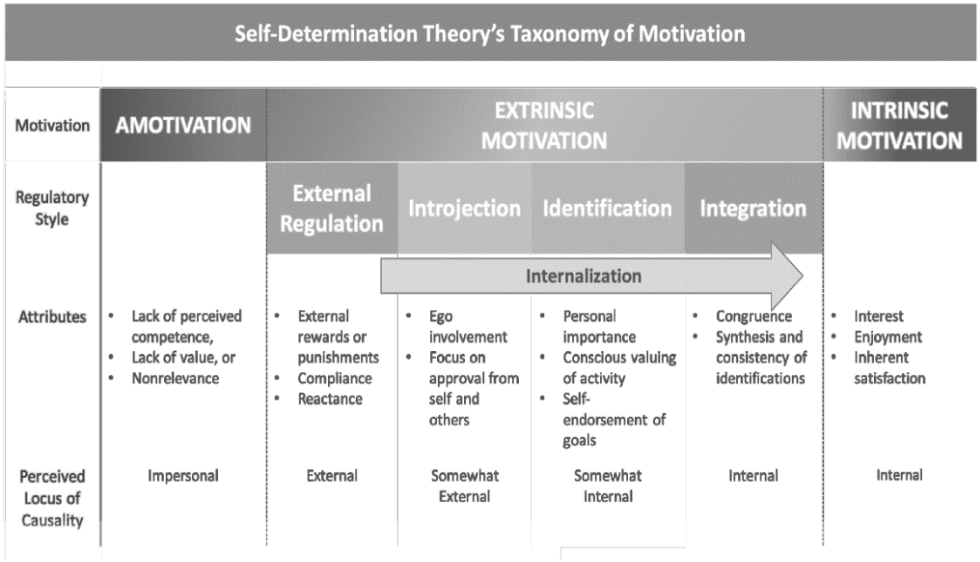
Intrinsic motivation is highly self-determined with the person being interested in the activity and enjoying the process of doing it without necessarily having an external reason (see Figure 1).

Self-Determination Theory suggests that identified regulation and intrinsic motivation are autonomous forms of motivation (Vansteenkiste et al., 2010), whereas external regulation and introjected regulation are controlled and less self-determined forms of motivation.

Students' perceptions of autonomy, competence and relatedness were previously positively associated with higher intrinsic motivation (Standage et al., 2005) as well as higher school satisfaction and improved subjective well-being (Tian et al., 2014). Several studies have shown that intrinsic motivation was associated with higher academic performance (Taylor et al., 2014) and better student engagement in the learning process (Froiland & Worrell, 2016). The degree of internalization determines the level of autonomy or self-determination. Intrinsic motivation and identified regulation are correlated

with better social functioning, greater persistence and psychological wellness in school and sports (Black & Deci, 2000), more positive emotions and better grades (Guay et al., 2010). Identified regulation and intrinsic motivation are less differentiated (Kusurkar et al., 2013), both having in common the self-endorsement of goals (Deci & Ryan, 1985).

Fig. 1. Self-Determination Theory's Taxonomy of Motivation
(Ryan & Deci, 2020)



Studies have shown that girls have a higher motivation when it comes to learning foreign languages, whereas boys show less learning persistence (Carreira, 2011; Oga-Baldwin & Nakata, 2014). When it comes to external regulation for learning languages, this need is more prevalent in boys as opposed to girls (Oga-Baldwin & Fryer, 2020).

More autonomous forms of motivation will increase students' learning, engagement and wellness. This type of motivation will be stimulated when the basic psychological needs of a student are satisfied through the involvement of teachers and parents (Ryan & Deci, 2020). Students' participation in school depends on how much teachers and the school environment satisfy their autonomy, competence and relatedness (Deci & Ryan, 2012), which then have effects on their self-efficacy and achievements.

Self-efficacy in school

Self-efficacy is a concept introduced by Albert Bandura and it refers to one's perceived capabilities for performing actions at proposed levels (Wentzel & Miele, 2016). It was also defined as "*people's judgments of their capabilities to organize and execute courses of action required in order to attain designated types of performances*" (Bandura, 1986, p. 391). Academic self-efficacy refers to the perceived ability to succeed in learning activities in general and is differentiated from the ability to successfully master a specific academic subject (Dorfman & Fortus, 2019). General self-efficacy refers to a global confidence a person has in his/her abilities across a large variety of situations. Self-efficacy sources can be mastery performances, vicarious experiences, forms of social persuasions ("I know you are capable of doing that") and physiological and emotional states (such as anxiety, stress etc.) (Dogan, 2015).

Researchers found that self-efficacy for science tends to decline in the middle school for girls more than for boys (Rittmayer & Beier, 2008; Barth et al., 2011; Rice et al., 2013). In contrast, girls have higher self-efficacy in languages compared to boys. Children who study in an urban school have higher self-efficacy compared to those from rural regions (Mahyuddin et al., 2006). Self-efficacy was positively related to intrinsic motivation (Zimmerman & Kitsantas, 1997). Also, some studies have shown that self-efficacy in English language correlates with intrinsic motivation and that male students have greater intrinsic interest towards the mathematics discipline (Fan & Williams, 2009). Self-efficacy has a positive effect on academic learning, self-regulation and achievement (Schunk & Zimmerman, 2012), and people with a high level of self-efficacy prefer thorough learning to superficial learning (Liem et al., 2008). In contrast, some studies show that academic self-efficacy moderately correlates with academic performance (Dogan, 2015; Honicke & Broadbent, 2016).

It is very important that the classroom environment supports individual mastery, self-improvement and collaboration as well as gives attention to the effort one puts in an activity. Students' individual interests help them maintain or increase their positive perceptions towards self-efficacy (Anderman & Midgley, 1997; Schunk & Meece, 2006).

Current study

The main goal of the present study is to investigate the association between basic psychological needs (autonomy, competence and relatedness), motivational orientations (intrinsic motivation, identified regulation, introjected regulation, and external regulation) and self-efficacy for learning.

The study hypotheses are:

1. Basic psychological needs (autonomy, competence and relatedness) will predict intrinsic motivation for learning;
2. Self-efficacy for learning will be positively correlated with intrinsic motivation;
3. Self-efficacy for learning will be positively correlated with integrated regulation;
4. Self-efficacy for learning will negatively correlate with external regulation;
5. Girls will have higher self-efficacy than boys;
6. Girls will have a higher intrinsic motivation than boys;
7. Boys will have a higher external motivation than girls.

Method

Participants and procedure

Participants in this study were 363 middle and high school adolescents with an average age of 15.54 (*SD* = 2.00). Regarding gender distribution, 251 were girls and 112 boys. In addition, 299 students lived in urban areas and 64 in rural areas. Participants were 5th to 12th grade and were attending 2 public schools, 331 children from one traditional public school and 32 children from an alternative Waldorf school, both located in Cluj-Napoca, Romania. See Table 1 for demographic data.

Table 1. Demographic data

Variable	N = 363	SD
Gender		
Female	251	
Male	112	
Age	15.54	2.00
Area		
Urban	299	
Rural	64	
School type		
Public	331	
Waldorf	32	

Schools were contacted and asked to participate in the study. After receiving approval from school boards, parental written consent was obtained before data collection began. Confidentiality and anonymity were guaranteed, and the student's participation was voluntary.

The questionnaires were administrated online at the beginning of the pandemic period in March 2020 and took approximately 10 minutes to complete. Participants completed the survey outside of their regular school time. The students were asked to complete an online questionnaire focused on their academic self-regulation strategies, their basic psychological needs satisfaction (regarding the academic subject of Romanian literature lessons) and academic self-efficacy.

Instruments

Basic Psychological Needs. The questionnaire is based on the principles of Self-Determination Theory and it measures students' basic psychological needs. The instrument was translated by the authors from the standard version of BPNS (adapted from Carreira, 2012) and were adapted to refer to Romanian language. The items were translated using a back-translation procedure. The basic psychological needs were assessed through the following 3 scales with 4 items each measuring respectively students' perceptions of autonomy (e.g., "I am willing to participate in Romanian lessons"), students' perceptions of competence (e.g., "I consider myself good at Romanian language"), and students' perceptions of relatedness (e.g., "Everybody in the class enjoys Romanian lessons"). Cronbach's alpha values of autonomy, competence and relatedness were, respectively, .81, .78 and .71. For our sample, the Cronbach's alpha values were .87 for autonomy, .73 for competence and .74 for relatedness.

Academic Self-Regulation Questionnaire. The Romanian version of the instrument was translated by the authors from the standard version of SRQ-A (based on Ryan & Connell, 1989) and were adapted to refer to Romanian language. The items were translated using a back-translation procedure. The responses to each item are on a 4-point scale, where "Very true" is scored 4 and "Not at all true" is scored 1. The SRQ-A has four subscales: *external regulation* ("I do my homework because that's what I'm supposed to do"), *introjected regulation* ("I do my homework because I want the teacher to think I'm a good student"), *identified regulation* ("I do my homework because I want to understand the subject"), and *intrinsic motivation* ("I enjoy doing my homework"). The Alpha Cronbach values in our study were .75 for external regulation, .79 for introjected regulation, .86 for internal regulation and .87 for intrinsic regulation.

Self-efficacy from MSLQ. The Motivated Strategies for Learning Questionnaire (MSLQ) made by Pintrich et al. (1993) is a self-report scale used to identify students' motivational orientations. Items for self-efficacy are scored on a 7-point Likert scale, where 1 is "not at all true for me" and 7 (very true for me). The coefficient Alpha is .93 for self-efficacy. In our study, the Alpha Cronbach was also .93.

Data analysis and results

The data collected was analysed with SPSS 21.1 Statistics program. To test the first hypothesis, we performed a linear regression analysis. The results showed that basic psychological needs (autonomy, relatedness and competences) predicted intrinsic motivation (r^2 = .53, p < .001). Hence, the model explained 53% of the variance in intrinsic motivation (β coefficients were .42 for autonomy, .20 for competence and .22 for relatedness, p < .001). The second, third and fourth hypotheses were tested by performing a correlational analysis (see Table 2) and the results indicated that self-efficacy was positively related to intrinsic regulation (r = .41, p <. 01) and identified regulation (r = .29, p < .01), and negatively related to external regulation (r =. −14, p < .01).

Table 2. Correlations between studied variables

	1	2	3	4
1. Self-efficacy (MSLQ total score)	–			
2. Intrinsic regulation (SRQ)	.417**	–		
3. Identified regulation (SRQ)	.295**	.698	–	
4. Introjected regulation (SRQ)	.071	.373	.488	–
5. External regulation (SRQ)	−.142**	.041	.227	.578

Note. ** p < .001, N = 363, SRQ = Self-Regulation Questionnaire; MSLQ = Motivated Strategies for Learning Questionnaire

Regarding gender differences, the t-tests revealed significant differences between female students and male students on learning self-efficacy (t = 2.48, p =.01), with girls having a higher self-efficacy (M = 46.96, SD = 8.7) than boys (M = 44.38, SD = 9.9); Cohen's d was .27. In addition, girls reported higher identified regulation than boys did (t = 2.63, p =.01; M = 22.41, SD = 4.56, M = 20.93, SD = 5.67) and Cohen's d was .28. On the other hand, boys reported higher external regulation than girls did (t = 2.08, p =.003; M = 24.43, SD = 5.1, M = 23.17, SD = 5.39) and Cohen's d was .24. There were no significant differences between boys and girls in introjected regulation scores.

Discussion

The present study aimed to explore the relations between basic psychological needs (autonomy, competence, and relatedness), motivational orientations (intrinsic motivation, identified regulation, introjected regulation, and external regulation) and self-efficacy for learning on a sample of secondary and high school students in Romania.

First, our findings revealed that students whose basic psychological needs were fulfilled, had higher intrinsic motivation to learn. More specifically, autonomy, competence and relatedness predicted 53% of intrinsic motivation for a specific discipline (Romanian Language and Literature), which is in line with previous studies emphasizing the idea that girls are more interested in learning languages. In contrast, boys displayed less curiosity, enjoyment (Carreira, 2011) and engagement (Oga-Baldwin & Nakata, 2014) in those school subjects.

Second, students with positive beliefs of self-efficacy for learning reported a higher identified and intrinsic motivation. Hence, such students are more able to connect their learning to meaningful goals and find inherent interest in learning. On the other hand, having a high self-efficacy was negatively related to external motivation. Therefore, students who believed in their capabilities to succeed were less prone to be influenced by external rewards and less likely to avoid negative consequences.

Third, another important result of our study reflects gender differences in motivation and self-efficacy. Specifically, regarding self-efficacy, female students reported more positive beliefs about their learning capabilities than male students, which is a finding confirmed in previous studies. In one recent study (Oga-Baldwin & Fryer, 2020), girls with higher self-efficacy displayed higher identified motivation. In contrast, boys reported lower self-efficacy, which was associated with external regulation for language learning.

Fourth, girls in our study showed a stronger identified regulation than boys, while boys were more externally regulated. More specifically, girls were more able to set meaningful learning goals and to connect their learning with their values, while boys were more motivated to gain external rewards or to avoid negative consequences (Dorfman & Fortus, 2019). A recent study has shown that girls had a lower level of intrinsic motivation in mathematics but not a lower performance than boys (Lazarides & Lauermann, 2019). This lower motivation in girls leads to a preference for careers in language-related fields.

Stereotype effects might also contribute to the differences between academic performance and self-perceptions (Steel, 1997). Teachers and parents believe that the mathematics discipline is a “typically male” subject and because of that girls have a lower confidence in their math abilities, despite their high

achievements. A similar situation might occur with regard to boys' tendency to score lower grades and display lower self-efficacy in language learning (Watt, 2004).

Limits and future directions

As with any study, both strengths and limitations exist in this research. One strength is the large number of students that were included in this study and also the diverse educational system that they represented as children learned in two different public schools: one traditional and the second, an alternative educational system.

Certain limitations were present in this study. One limitation is the exclusive use of self-report questionnaires, which might increase the subjectivity of the data. One possible solution to counteract for a potential bias due to socially desirable responses would be to collect data from various sources (parents and teachers). At the same time, the gender distribution was not equally represented in our sample, hence future studies could better address this issue.

Moreover, future research could also investigate children's interest for the researched domain because this variable can influence their motivation to learn at this discipline and its' association with students' fulfilment of basic psychological needs. In addition, children's level of depression and anxiety should be taken into account in future studies as it can influence their satisfaction with life and school. Also standardized achievement test scores (e.g., grade point average) could be included to consider the effects generated by motivation on achievement outcomes.

Furthermore, it would be relevant to include more educational systems such as Step by Step, Montessori etc., as Waldorf schools in Romania are state funded and it would be interesting to see whether there are differences between public and private educational systems. Additionally, future studies might use multi-rate designs to improve the sources that can have direct influence on basic psychological needs and on the types of learning motivation (e.g. teachers, parents, peers).

Conclusion

The present study brings valuable insights into the relations between basic psychological needs, intrinsic motivation and self-efficacy for learning on a sample of Romanian secondary and high school students from Cluj-Napoca,

Romania. Meeting the needs for autonomy, control and relatedness, significantly improved intrinsic motivation for learning. Our findings emphasise the importance of meeting students' basic psychological needs in school settings. Moreover, student's internal regulation (integrated and intrinsic) was strongly related to high self-efficacy for learning. Last but not least, our study highlighted gender differences in motivation showing the particularities that appear in learning motivation between boys and girls. Hence, girls had higher intrinsic motivation to learn Romanian language, whereas boys where more externally motivated. On a deeper level, one mechanism explaining this difference could be self-efficacy. In our sample, girls had higher self-efficacy for learning as compared to boys, which can explain their better engagement and their internal regulation for learning. Self-efficacy in Romanian language was higher for girls than for boys. In addition, self-efficacy was positively correlated with intrinsic motivation and identified regulation, and negatively correlated with introjected regulation and external motivation. Therefore, students who have a higher self-efficacy would also display intrinsic motivation to study that specific discipline and be less influenced by external motivators.

The results of this study show us the importance of raising awareness among decision makers in schools with regards to upholding students' personal motivation as a way to increase academic engagement and school performance.

Abbreviations: SDT = Self-Determination Theory, SRQ-A = Academic Self-Regulation Questionnaire.

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GROUP DEVELOPMENT STAGES. A BRIEF COMPARATIVE ANALYSIS OF VARIOUS MODELS

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ABSTRACT. Group Development is one of the most important cornerstones of social life. It dictates how our work and social circles develop and influences the relationships in our lives, and in turn, these relationships dictate the levels of satisfaction we report in our lives. Teamwork is also important in our experiences as it is strongly related to group development and is linked with many aspects, such as professionalism and efficiency in teams. In this paper, we discuss the importance of group development for any forming teams and analyze the concept within nine models (Bass and Ryterband, Tubb, Cog's Ladder, Homan, Woodcock, Fisher, Jones, Tuckman and Wheelan), with a particular accent on the last two (Tuckman and Wheelan).

Keywords: *groups, teams, development, model, work, stages.*

Introduction

Teams have existed for as long as humanity has. From the hunter-gatherer communities who worked together to ensure their survival, to the medieval condottieri who traded their military prowess for coins, and the modern football players who entertained the masses with their coordinated ball-kicking tactics, they have been, are and will continue to be our greatest tool. Though we can greatly attribute our success to our ability to pool our resources together, our odds of surviving the modern socio-political, environmental and technology struggles of the 21st century require us to have a closer look at how we work together and how we take on the challenges as a group.

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However, we would not be the first to do so. In 1939, as the Second World War was raging in Europe, a German American named Kurt Lewin coined this concept in a Three Styles Model. Thus, highlighting a set of team leading philosophies generally used in all types of organizations, according to their focus. As a result, the Delegative, Authoritarian and Participative models were established. The Authoritarian style best fits high-risk situations that develop under a short time span and is marked by the order-like style of goal setting and method choosing of the leader. The Delegative style is the opposite of the former, centered around a laid-back perspective of work and allowing as much as possible self-governing ability to the team. The middle ground is met by the Participative model. However, all this only increasingly added stress on the literature and pointed out the lack of a proper model and analysis of how teams truly perceived work and their members.

One of the main authors of such an analysis has been Bruce Tuckman, who in 1965 has proposed his famous team-development model. The model highlighted four stages that all teams must go through, to function at their full capacity.

The first stage, *Forming*, is marked by a lack of role clarity and a desire of assessing the capacities and desires of fellow team-members. Within this stage, most teams assign a leader and form an opinion about the others and the tasks at hand.

The second stage, *Storming*, is characterized by an innate struggle for leadership roles, compromises, uncertainties, and a risk of dismantling through emotions and relational causes.

The third stage, *Norming*, is heavily marked by a movement towards progressing the task through establishment of rules, roles, and processes, it is usually the stage in which discontent drops and acceptance of the team's style prevails.

The fourth stage, *Performing*, is generally marked by peak efficiency and coordination within the team as most of the processes go smoothly and relationships between members flourish.

However, over the next decade, Tuckman added a fifth stage, *Adjourning*, which is crucial to our understanding of how the model is anticipating the separation of a group and processes that accompany it. As Natvig (2016, p 678) carefully observed, "During the adjourning stage, the group performs a self-evaluation and analysis and reviews the outcomes of the project. This stage may include separation anxiety and mourning as the project team disbands, as well as feelings of accomplishment that tasks were completed.". Therefore, it seems that in more recent years the concerns of the transitional periods and disbandment of teams, as well as their consequences have been the focus of researchers.

In this analysis, we have looked at nine models that discuss and define the concept of group development stages, and we present them in the main body of the study, pointing out the characteristics, as well as the plusses and weaknesses.

Tuckman's Team Stages

Stage One: Forming

According to Bonebright (2010), the first prerequisite of a team is establishing a set of relationships between the team members. One must always keep in mind that there can be an infinite number of possibilities when concerning pre-existing relationships between team members. The implications of these pre-existing conditions may or may not greatly affect the experience of the first stage of development.

The first stage is essentially the process of assembling an initial structure for the team. For the average person this is marked by an elevated degree of ambiguity and as our innate instincts dictate that we must be accepted by the new group, by an extensive effort to avoid conflict-generating situations. According to Tuckman's works (1965; 1977), behaviors exhibited by individuals can be politeness, assessment of peers' personality and aligning to them, discussions of problems unrelated to the scope of the team and an attempt to define processes and tasks. The general feelings can be marked down as optimism, anticipation, suspicion, fearfulness, and anxiety related to teamwork. Personal relations are marked by dependency and group members follow safe behavior patterns. In this stage, the preferences for the future subgroups are formed and serious topics and feelings are avoided.

Considering the needs that the team requires, we can identify a need for a team vision, an establishment of ground rules and a role assignment. Therefore, a leader can be expected to give the team structure, guidance, create an atmosphere of acceptance, actively involved in the processes associated with meeting each other and offer the team some breathing room and time for getting acquainted. For the team to advance to the next stage, it is required of it to experience these situations.

Stage Two: Storming

According to Seck (2014), conflict is an inherent part of team progression and inevitable in the normal development of a team. It cannot be avoided if we expect a team to reach its full potential, as it warrants the strengthening of a

team's processes. Seck (2014) further explains how this stage is the time for the stating opinions, concerns, and suggestions. On top of this, the stage seems to exist for the accommodation and acclimatization of those frustrated with the current stratagems. Seck (2014) underlines the importance of communication in this stage, as without it the team can only grow frustrated and may be at risk of not resolving important conflicts. Personal relations in this stage are characterized by competitiveness and conflicts, which inevitably appear when members try to focus on tasks.

Tuckman (1965) himself notes how this stage is dominated by a power struggle and a necessity to question the leadership and structure of a team. Among observable behaviors, we can note arguments, a lack of role clarity and generally lack task progress. Jones (2019) notes how this stage is noteworthy for the incentive properties it has, as team members are challenged to engage further in complex intellectual processes. As the group becomes more and more hostile to itself, it expresses its members' individuality and as a result, Jones (2019) explains how strong emotions may arise during this stage.

Ito & Brotheridge (2008) note that this stage may occur several times during a project, as team members will grow comfortable with one another over time and may desire to make their opinions known later.

What is certain is that, according to Tuckman (1965), at the end of this stage, the team is supposed to have already experienced a series of conflicts from which to discern: a revision of past norms and hierarchies, an inclination towards listening and offering feedback to your fellow team members and a further development of inter and intra-relationships. The leaders are expected to provide the strategies required to move on from unproductive conflict and ease in the feedback processes.

To be able to advance to a next stage, the team members must change their mindset from a "test and check" to a problem solving one and one of the most important features in this stage is the ability to communicate and listen.

Stage Three: Norming

As teams weather the storms of the previous stage and settle in for a more balanced state, it becomes clear that they are required to establish a guideline and focus on working together rather than struggling for power or arguing (Pugalis & Bentley, 2013).

According to Tuckman, norming is the stage in which we can observe a transition from a singular leadership to a more open and shared style. Trust is essential to an effective leadership and thus it is a requirement for the team at this stage to avoid devolution. Bonebright (2010) specifically underlines the nature of the transition in the mindset of team members from the perspective

of single work to one of assimilation to the group as a bigger entity. Thus, as members are crafting an in-group affiliation, they obtain a type of loyalty to the group and encourage the maintenance and improvement of the group itself.

Furthermore, it is notable that the degree of freedom of speech is soaring during this stage. Therefore, it is expected that the group establishes a set of guidelines and focus on establishing the protocols, plans and seek perfecting the performance-related processes. An important part of this stage is also the encouragement of creativity and harmony. Wheelan (1996) adds that behaviors encouraging structure and discovery of roles within the limits of helpfulness are accepted. Gren, Torkar & Feldt (2017) goes even further and explains that the third stage is the backbone for the competence-related abilities of the group. The leader takes a more consultative approach to the process, in a bid to increase flexibility and allow the group to form its own directives. A degree of labor division adjusted to maximize productivity is also noted. Conflicts are still present, but greatly reduced in the degree of damage through more effective management than in the second stage.

Sometimes, there is the fear that the group might dissolve; therefore, there is a moderate resistance to any change.

Stage Four: Performing

This is the stage where most of the task work itself is accomplished. Gren, Torkar & Feldt (2017) maintains that this is one of the longest stages and marks the fulfilment of the group's transition into a team in all its merit. As the focus moves to the bulk of the work itself, team cohesion is maintained diligently, and observers can note a degree of excitement in the team's work. Norms established in the prior stage are used to provide motivational support and high performance. Also, this is a stage that not all teams will reach, which explains why some teams will never have the expected results.

Seck (2014) notes that there are still conflicts, but the management is so effective at this stage that negotiation and communication disarm the destructive potential. In fact, Seck suggests that the relationships that have formed by this stage between members have a positive impact on both conflict management and the overall performance of the team. The work of an author named Brown (1991) is brought into the conversation and according to their paper, this stage can be condensed in two words: intimacy and maturity. Zhen (2017) notes that there is a beneficial cultivation of self-management and discipline at this stage.

However, Ito & Brotheridge (2008) once again points out that there is a risk of deterioration at this stage, too. This deterioration (which can appear through a crisis type of event) can in fact, be used as a crutch to boost the team into a positive state rather than lead to the dissolution of the group.

Stage Five: Adjourning

As mentioned above, Tuckman let the international literature filter his work and after over a decade of papers decided to add a stage that concerned the dissolution of a team. Also called the "termination" stage, adjourning the stage in which the team has fulfilled its purpose and must move on from its current formula due to a variety of reasons. Tuckman's 1977 model suggests that while the group continues to perform, the task itself is no longer the focus of the team. Instead, there is a cycle of emotions that must be handled. These emotions can be strong, and expressions include, but are not limited to crying, termination of interpersonal relationships, denial, and an overall feeling of sadness. This set of behaviors is why Jones (2019) mentions that this stage can itself be surmised as "mourning". Additionally, he mentions that while in environments where education is the product, we rarely see this development; it is widely used in organizational environments due to its re-organizational capabilities.

At this stage, the team members have developed and accomplished their task together and now celebrate their success. Jones (2019) continues to remark how there is an ambiguity and uncertainty shadowing this celebration, as a transition towards the unknown is possible. He recommends leaders to prepare a transitional plan to soften this stage and reduce the negative feelings associated with separation.

Notable for this stage is that it is not a terminus point for the entire group, and some veterans from the old team will carry on towards the next project and assist the formation of a new team with their accumulated experience. A self-analysis occurs at this point, so that the team can better understand their experiences. Several stages may even coexist at the same time during this step. It is also worth considering that this stage can facilitate a leap forward, over the usual timespan of the stages themselves (Zhen, 2017). A proper plan for this stage will include acknowledging all team members' involvement, as well as their achievements and the change to say goodbye and get a closure.

Limitations and strengths of Tuckman's Work

A simple Google Scholar search revealed that Tuckman's 1965 paper has been cited a remarkable 8766 times, while his later 1977 paper has been cited 3722 times, proving that it has held up well to the test of time, especially when compared to Bonebright's 2010 similar report. Given the high number of citations that has occurred over the decade (over 8000 combined citations), one can consider Tuckman's work has stood the test of time and remains relevant to the modern literature.

However, Bonebright (2010) has underlined several limitations of both papers. First and foremost, Tuckman himself acknowledged a lack of representation for non-therapeutic environments due to his specialization as a psychologist. Furthermore, Bonebright (2010) noted that Tuckman's work has been generalized well beyond its original framework and highlighted the work of Cassidy (2007), who extensively described the lack of clarity in the second stage's definition in non-therapeutic groups. Bonebright (2010) continued to express concern regarding the methodology of the studies that treated the subject of the model, which were doubled by Tuckman's own 1977 paper. There have also been some questions raised by the rigidity of the model itself, as the stages may be more flexible than iterated in the model and deeply dependent to the precise size of the group (Sundstrom, De Meuse & Futrell, 1990)

Bass and Ryterband's Model

A model proposed in 1979, Bass and Ryterband's focuses much more on group formation and control rather than a graduality in the group's evolution from end to end. The model is resource-centric and takes an extra step compared to other literature examples to explain how they are used in various development stages.

- *The Stage of Acceptance*

The initial stage of this model is different from other equivalents mentioned in this article due to its positioning in the timeframe of group development. It is only occurring after the initial struggles are overcome and a sense of collaboration and acceptance sediments. Bass and Ryterband (1979) explain that it involves information distribution on both a task-related level and an informal level, carefully patched by interpersonal bonds and tests on job-related experiences and otherwise.

- *The Stage of Communication and Decisions Making*

Based on the strides and advances of the previous step, the group develops an open style of information sharing. This communication style is necessary for quality decision making and can be viewed as a mix of uncovering previously hidden attitudes and opinions related to work tasks, as well as an evaluation of the processes and goals of the group.

- *The Stage of Group Solidarity*

After the group invests more resources and commitment into the project ensuring cooperation without underlying frustrations is achieved, the overall performance of the group skyrockets. This process is characterized by

the advances the group undergoes and the heightened prosperity of the project. Compared to equivalents in literature, this stage is like Tuckman's stage of Performing.

- *The Stage of Group Control*

A stage that takes a dimension fairly ignored by other models, Group Control is characterized by the equity of work and maximization of support within the group. The members have developed enough that it is no longer required to keep a formal relation and cooperation even with tasks not attributed to individuals is noted (Zoltan & Vancea, 2016; Bass and Ryterband, 1979).

Tubb's Model

A model proposed in 1978 and subsequently improved in later years, Tubbs' model, separates group evolution in four linear stages. The model treats group development from a systemic perspective, treating it much more like a process containing subprocesses than a straight developmental line for the group. Thus, it offers an organic dimension, explaining how these processes form the inputs, the outputs and the throughputs that can be extracted from the experiences that people who form teams undergo. As one can assume, the model (as explained by a synthesis in Tubbs' book detailing it) includes three elements that interact with one another: relevant background factors, internal influences, and consequences. This approach ensures that the group is not frozen in the rigidity of procedures set in stone, but that it can learn from the various hurdles it may encounter and integrate feedback into its course of action.

There are four stages within Tubbs' System Model:

- *Orientation*

During Orientation, the group members interact with each other and try to grasp an emerging strategy as set expectations about the work at hand. This stage is highly like other established models' initial steps, proposing that team members are looking for diplomatic solutions to any conflict from within. As the group gets to form connections and members start conjuring opinions on one another, a snapshot forms of how the group will operate and the initial anxieties and uncomfortable lack of social safety dissipate.

- *Conflicts*

During Conflict, the group is comfortable enough in its internal relationships and start focusing much more on the tasks rather than the social aspects of the team. As individuals are committing more and more to the project, they are about to

reach a level of individuality that creates friction and conflicts. Tubbs ascertains that conflict is central to human interaction, therefore they are necessary to answer important questions within the group: who is the leader? what responsibilities belong to whom? does the established structure of the group function effectively? etc. It appears that during this phase the dominant members will inevitably go out of the safety of their positions and explore more and more opportunities, while the subservient ones will opt for a more silent approach.

- *Consensus*

Consensus is the stage that occurs when Conflict ends and presumes that the members understand their roles much better than priorly. During this stage, Tubbs noted a fluid interactive model, with far less friction during team processes and a heightened productivity. The input of each group member is valued and the inner working of problem-solving are based less on strife and desire to ascertain dominance and much more on finding impactful solutions through the best strategies that the group can conjure. While frictions may occasionally occur, they will not impact the group or the end products as heavily as the prior stage would suggest. Members will develop on an individual scale, as well on a group scale. Leadership can and will be passed in a distributed manner.

- *Closure*

During closure, the group has already completed their objective and are assessing the efficiency of processes they have undergone. A post-action phase, this includes the departure to other projects and teams, which other models would consider a different stage entirely. (Tubbs, 2012)

Cog's Ladder

A model that came about in 1972, Cog's Ladder of Group Development is a five-stage group development linear model. George Charrier concluded that there is an orientative "ladder" that all groups naturally follow with or without direct leadership. At the end of this model lays a highly productive stage, with low waste of resources and high performance. One should approach this model with similar expectations as Tuckman's model due to many common points.

- *The Polite Phase*

This phase is highly like other models' initial stages and surmises that members will avoid having behaviors that are not socially acceptable while also trying to assess their teammates. In a bid for approval, they will attempt to complete a jigsaw of interpersonal connections rather than focus on the task at hand.

- *"Why are we here?" Stage*

Following the completion of acquaintances, a group desire to discuss the general objective of the team forms. Thus, the members start delegating tasks and much like the rest of literature seems to suggest, cliques of common goals, abilities and motivations will form. Performance starts improving and communication becomes smoother.

- *The Power Phase*

During the third stage, it becomes abundantly clear if there are any internal struggles as a social hierarchy develops and individuals will be inclined to claim various roles, creating conflict. As strife becomes the main occupation of the group, very rarely can we obtain results from this stage with power plays in the background. Even with moderators or incipient leaders assisting the stage, Charrier makes it very clear that until the internal politics are taking a more permanent form it should not be expected for the group to perform.

- *The Cooperation Phase*

The fourth stage begins immediately after a social hierarchy is defined and the struggles associated with political activity wind down. As leaders take their roles seriously, the author emphasizes the need for a team-wide contribution to decisions and warns against displacing the careful and brittle balance with new members.

- *The Esprit de Corps Phase*

"Esprit de Corps" comes from a military term which points out when a group exudes cohesion and inspires the members to be proud of their belonging to a group. Like the original expression, the fifth stage describes a team that has established its base and built on top of it, creating a safe environment for experimentation and productivity. The most important aspect, communication is at its peak and the main concern the group has is maintaining this high-level stage (Charrier, 1972).

Homan's Model

One of the oldest models covered in this paper is proposed by George Homans (part of the group that identified the Hawthorne effect) in 1950. The proposed model is a dissection of groups in two overarching systems: the external system and the internal system. The author makes a significant author in identifying the complex contexts in which groups can be found - ranging from

explaining the physical surroundings to the technologies they use and the overall state of the organization they are in. Thus, Homans covers three stages that groups undergo, all while keeping in mind a constant pressure of contextual factors. Furthermore, due to the age of the model the reader should also not forget that the perspective is different from our modern understanding of groups and the author describes groups as "set up" by a third party with its own agenda and desired behaviors, rather than an organic process with high organizational flexibility as it is the case in contemporary organizations.

- The first stage concerns needed states and behaviors - actions and activities, interactions, needed norms and emotional experiences that are sought out for the group.
- The second stage concerns emergent states and behaviors - emergent actions, interactions, norms, and emotional experiences that result from the group interacting in time.
- The third stage concerns the results of collective actions - productivity, group members' satisfaction and personal development and evolution.

According to some authors (Curseu, 2007), there is a continuous interactivity and cross-influence between behaviors, states and conditions which come to influence the group and their effectiveness.

Woodcock's Model

Woodcock's 1979 model is a four-stage group development project. It is highly like Tuckman's own proposition and thus there are many overlapping aspects within it.

- Infant team - this is the initial stage and is generally now that a team has an avoidance of direct conversation on difficult topics, an unclear objective, and a heavy reliance on team leadership.
- Exploratory team - the second stage addresses a more direct approach on issues and relies on active listening as well as group introspectiveness for short periods.
- Under Consolidation team - this stage addresses a developing team and its communication and task clarification needs. During this stage, objectives and procedures are experimented with.
- Mature team - the stage is defined by the informal style of communication and open information transmission. Many alternative plans are considered, and a great degree of flexibility is indulged, as well as a clearer leadership style with a greater degree of responsibility taken (Zoltan & Vancea, 2016; Woodcock, 1979).

Fisher's Model

B. Aubrey Fisher is one of the more recognizable names of the literature and for good reason: they proposed a simple, yet efficient model of group development that is used frequently decades after its debut. There are still overlapping concepts and shared phases with other models presented, though it departs slightly from the structure Tuckman presented and has a higher degree of commonality with Tubb's Model.

- *Orientation*

The initial stage is once again about socializing rather than task achievement. Due to the lack of familiarity within the group's members, there is a primary tension that can only be deflated via interaction and norm definition. Fisher suggests that it is better to focus on interactivity rather than the usual performance-seeking behaviors.

- *Conflict*

The second stage is marked by a secondary tension, far more focused on the task rather than the social aspect. Conflict is the namesake of this stage and a degree of positivity is associated with it. Any discussion that turns into an operational debate is encouraged and it helps assess the efficiency of group processes as well as improve overall performance in later stages.

- *Emergence*

The third stage is the one in which the group starts reinforcing the structures and tasks debated during Conflict. It is now that changes begin to appear in attitudes and a degree of ideatic flexibility seeps into the mentality of group members.

- *Reinforcement*

The fourth stage is extremely brief compared to the norm and yet it is incredibly vital to the group. During this stage, a sense of calm and security spreads within the team as commitment halts any damaging conflict and decisions are easily accepted even by opposing team members. In Fisher's view, this stage is much more like a team that becomes something more than the sum of its parts, everyone feels accomplished, and interpersonal relations soar (Ellis and Fisher, 1994).

Jones' Model

A model that details aspects less commonly discussed by its contemporaries, Jones' model has similarities with other models nonetheless, while being independent enough to have its own unique structure. There are several aspects unique to the model, including the final stage - team synergy, which make it stand out as an extra phase where excellence is considered part of the normal development a team should consider while experiencing its constituent processes.

- *Immature Group*
- The initial phase in the Jones Model is one represented by member orientation and an establishment of social interactions with a shift towards a socially acceptable pattern. Generally, the true or complete opinions of members are hidden under the initial contact's appearances.
- *Fragmented Group*
- During this phase conflicts between members have a halving effect on the team, with a divisionary character across opinion lines. Therefore, the group gains a fragmentation and cliques start to form where mutual idea sharing sessions are encouraged and dissent skyrockets.
- *Sharing Group*

During this phase, the team gains maturity and finds a middle ground where high cohesion can be asserted and leadership becomes flexible and attentive, as well as the group members.

- *Effective Team*
- During this phase, the team has consolidated its inner processes and is performing at a heightened rate. Here, like in most theories presented in the article, most of the team members find a balance and put a high degree of effort and commitment into the group's tasks.
- *Team Synergy*
- Team Synergy is where the group becomes more than the sum of its parts. Much like Esprit de Corps from other models, synergy aims for excellence and a melding between leader and team member. (Jones, 1975)

Wheelan's Integrated Model

Wheelan's Integrated Model was created by Susan Wheelan and built upon the work of Tuckman. Based upon the realization that Eastern cultures have embraced the idea that groups as entities can be more than the sum of their distinct parts and can themselves be distinct collectives, it attempts to shift the general view on group intelligence from focusing on "I" and more on "We".

As Briskin et al. (2009) note, the *We* perspective provides more engagement and integration, through the cumulative collective wisdom that a group entail. Studies in the field of neuroscience anchor this way of viewing groups as it has been shown that humans possess a "social brain", which responds and logs the interactions we have with each other (Goleman, 2011). The result is that group norms are essentially the pattern of interactions which have solidified into a group's collective psyche (Frederickson, 2003).

Wheelan (1996) validated her model using the Group Development Questionnaire. Her model remained consistent with the previous theories, particularly the chronology and staging aspects that are part of what we define as a group. Moreover, Wheelan's team discovered stage-specific patterns in the behavior of the teams. Most importantly, they underlined the dependency and trust-specific conversational patterns in the early stages of group development that preceded the work behaviors in the later stages. Adding to that, they propose that both the leaders and the members' way of conduct are equally important and that without a degree of group safety, no quality work can be achieved.

Due to the nature of Wheelan's work, we can see further similarities in the claims she makes compared to the work of Tuckman. As such, we see a level of energy being constantly applied into the interactions of the team members on a dependency and trust level regardless of their specific stages. Moreover, there is a distinct reliance on the leader in the early stages and a degree of developed group independence later. They advocate for a balance between on-task conversation and social-emotional issues, while repeating that there will always be unique development for each group (Wheelan, 2003).

The stages Wheelan (2003) proposes are as follows:

1. Dependency / Inclusion
2. Counter dependency / Conflict
3. Trust / Structure
4. Work / Productivity

The model involves a member-group-leader type of description for every stage and each stage follows a unique set of traits which summed up will describe the current state of the group.

Stage One: Dependency/Inclusion

In this stage, we can talk about the initial contact of the group's members with each other under the pretense of creating a team. Here, members are tentative and polite, highly compliant and are afraid of being rejected. An appropriate response to most issues is conflict avoidance and high conformity. The entirety of the group assumes a consensus, roles are spread out according to external social factors and while there is a centralized communication pattern, there are no potent structural or organizational norms yet.

The leader is seen as a benevolent and competent member, who is expected to provide security and guidance. As such, they are rarely challenged and will be relied on to provide standards, mediate conversation, and provide safety to the group.

Stage Two: Counter dependency / Conflict

As the group progresses, the second stage is marked by an upturn in power towards the members. They will become increasingly participative into the task, thus identifying possible issues with the tasks and disagree about goals and tasks. Thus, they will challenge the leader and be encouraged by the situation to dissent, as the team becomes marked by conflict.

The group is decreasing in conformity, as cliques form and a subsequent intolerance for them is formed. While goals and clarifications are the main elements of this stage, subgroups remain a poignant problem. As such, when conflict resolution occurs, it naturally increases consensus and creates culture, while increasing overall trust and cohesion.

On a leadership level, the trend is not of blind resilience, but much more in favor of accepting changes and encouraging independence over fostering dependence. Therefore, the focus of the leader should be on encouraging a level of operational freedom.

Stage Three: Trust/Structure

On a member level, this stage is seen as a commitment spike point. Groups reaching this stage are dominantly pleased and satisfied and as such are working with elevated efficiency, but not peaking yet.

From the group's standpoint once can observe an increase in clarity and consensus. As this strengthens the bonds within the group, we can also mark the ascent of communication flexibility and task focused topics.

Leadership is even further de-escalated to an advisory role, with the guidance role taking a more pivotal status. Egalitarianism is the preferred approach to decision-making at this stage.

Stage Four: Work/Productivity

This is perhaps the most coveted stage for most leaders. From a member point of view, it is the most clearly defined stage as it defined by goal clarity, agreement with goals, role sedimentation and voluntary conformity. All the above can only be held together by a heightened cooperativity within the group.

From the perspective of the entire group, it can be described as the stage where all the roles are assigned to those who fit them best. Communication is structured to match demands from tasks and is encouraging feedback.

Leadership-wise, we can see an improvement in delegating responsibility, and we can observe an increasing non-leadership model. While this occurs, one must make note of the fact that due to the advanced staging there is a degree of innate flexibility in the adopted style, and it will always strive to match the overall developmental level of the group.

Table 1. Models and stages synopsis.

Model Name/ Stage	**Stage 1**	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5 (Bonus Phase)**
Bass & Ryterband	Acceptance	Communication and Decisions Making	Group Solidarity	Group Control	-
Tubb	Orientation	Conflicts	Consensus	Closure	-
Cog	The Polite Phase	"Why are we here?" Phase	The Power Phase	Cooperation Phase	The Esprit de Corps Phase
Homan	Needed states and behaviors	Emergent states and behaviors	Results of collective actions	-	-
Woodcock	Infant Team	Exploratory Team	Under Consoli-dation Team	Mature Team	-
Fisher	Orientation	Conflict	Emergence	Reinforcement	-
Jones	Immature Group	Fragmented Group	Sharing Group	Effective Team	Team Synergy
Tuckman	Forming	Storming	Norming	Performing	Adjourning
Wheelan	Dependency/ Inclusion	Counter dependency / Conflict	Trust / Structure	Work / Productivity	-

Conclusions

Group development is essential for every aspect of our personal and professional life. Understanding the theoretical models that describe this concept is as important as applying them in real life situations. In this article, we analyzed nine models of group development, to provide a better comprehension of the concept.

The first model we analyzed was the one developed by Bass and Ryterband (1979), which is a four-stage model (Acceptance, Communication and Decision Making, Group Solidarity, Group Control) that takes a different approach from the traditional linear stages, and only begins after the initial contacts have formed. The main plus of this model is that it focuses more on the fluidity of the team and on the interpersonal connections between team members than on the task-only processes. It also attempts and succeeds to explain a well-developed team as one that maximizes support and equity over raw performance scores. The second model in our analysis was Tubbs' (1978), which is a four-stage linear model (Orientation, Conflicts, Consensus and Closure) that takes a well-versed approach to group development. The stages focus on assessing the flexibility of leadership and team members, as well as keeping track of the detailed context of the team. Ranging from the organizational context to the technologies used and several system-related variables, Tubb's Model attempts to emphasize a need for intragroup flexibility and a need for closure and feedback, as opposed to measuring performance separate from the social aspects of the group. The third is called Cog's Ladder (Charrier, 1972) and is a five-stage linear model (*The Polite* Phase, "*Why are we here*?" Phase, *The Power* Phase, *The Cooperation* Phase and *The Esprit de Corps* Phase) inspired from a results-oriented background. Thus, while it includes social-centric phases, it is far more concerned with the performance impact of various processes and phases that lead to the end-product. It is also one of the few models that includes an "excellence stage", concluding that if a group fully develops it can reach a high-performance stage where an idyllic closure can be reached. The fourth was developed by Homan (1950) and is a three-stage model (needed, states, and behaviors; emergent states and behaviors; results of collective actions) which takes a systemic approach to group development. Due to its pioneering status, it reinforces a reliance on contextual factors and internal and external systems, rather than a full overall view of the team development. It is a model heavily reliant on stability and clear developmental stages and tries to explain the evolution of teams via cross-influences between contextual variables. The fifth is proposed by Woodcock (1979) and is a four-stage development model (Infant team, exploratory team, under consolidation team, mature team) which shares a high similarity with

Tuckman's Model in its first iteration. It tries to observe the stages as a more social affair than other models and combines social and operational flexibility with performance as a way of assessing the current stage of a group. The sixth is Fisher's, a four-stage model (Orientation, Conflict, Emergence, Reinforcement), which uses a mixed approach that can be considered a middle ground between the Tubb and Tuckman models. It proposes a social dimension to all stages and a clear distinction between stages that are performance-centric and social-centric, as well as a brief reinforcement stage that surmises the culmination of efforts committed by groups. The seventh is Jones' model that uses five stages, including a bonus one that is centered on excellence (*Immature Group*, *Fragmented Group*, *Sharing Group*, *Effective Team* and *Team Synergy*). This model is heavily focused on interpersonal and social relations, declaring three stages focused on finding balance within the team and a latter one for measuring commitment and performance. The bonus stage is an exemplification of how a group can be more than the sum of its parts and in fact reach a level of informality when it excels. Tuckman's Model is the eight in our analysis and is one of the most widely known four/five stage model (Forming, Storming, Norming, Performing and the later added Adjourning). It involves clearly defined stages, which note both a performance and a social assessment of teams and a cyclical nature of teams, highly organic and close to organizational realities. Finally, the ninth model is Wheelan's, a four-stage model (Dependency/Inclusion, Counter dependency/Conflict, Trust/Structure, Work/Productivity) that combines leadership styles and a more traditional Tuckman-like structure to assess the cohesion and development of a group.

Although it would be interesting and useful to make a ranking of those models, they cannot be presented as such. Instead, depending on the several factors, one might choose to use one model over another.

If you and your team have already formed the initial contacts and if your leadership style is based on the relations and interpersonal connections between team members, and less on tasks, then a good approach is to use the model developed by Bass and Ryterband (1979). This is a more fluid model that allows you to work on diagnosing and developing concepts such as self and other acceptance, improving intra group communication, taking the right decisions for the group and overall improving the group solidarity. If you realize that your team needs constant feedback and closure, then Tubbs' model (1978) is recommended, as it emphasizes the intragroup flexibility, and monitoring the context of the team development. If you are in a high moving industry, where performance is a must, then you might want to have a look at Cog's Ladder (Charrier, 1972), which is the only one in our analysis that has an "excellence stage", for groups that manage to fully develop and reach high performance. If you want to work on a more classic perspective on group development, the two

models proposed by Woodcock (1979) and Tuckman (1965) are best suited, as they follow a four, respectively five stages approach. This allows for a proper assessment of the stage that each group is or advances to. If you want to take the focus of your team and team members from individuality to group thinking and prioritizing, then Wheelan's approach is recommended, as it is a mix between Tuckman's traditional model and diverse leadership styles.

To conclude, no model is superior nor is it better than others are. Depending on the needs of your team, the experience and expertise you have as a leader, and the resources at hand (either financial or time bound), one model can be preferred over the other. What we ultimately recommend is to test these models in real situations and adapt them to the requirements of each specific team and situation.

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THE IMPACT OF COVID 19 PANDEMIC ON THE INSTRUCTIVE-EDUCATIONAL PROCESS IN KINDERGARTEN

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ABSTRACT. We are all going through a difficult period, called into question by so many questions: the COVID 19 pandemic. Without a doubt, this pandemic has had and still has many implications both in the personal life of each of us and in our professional life. In addition to the fact that this virus affects our health, professional life has also been put to the test. The education system was not bypassed by challenges, therefore this period proved to be extremely demanding, with many implications on the instructive-educational activity. Preschool education has not been exempted from the impact of the changes that have occurred as a result of the outbreak of the pandemic. Teachers in the preschool education system have faced many difficulties in terms of teaching in the group. The instructive-educational process suffered in the context of the pandemic, being many variables to consider: the age peculiarities of preschoolers, the ways in which the teaching activities can be carried out through the platforms, the quality of the educational act through them, the lack of training of the teachers in this respect, the availability of parents to be able to supervise the preschooler during the synchronous online activities, etc. The present study presents the results of the application of a questionnaire addressed to teachers in preschool education, on the territory of Romania, which highlights the implications of the pandemic on the instructive-educational process in kindergarten.

Keywords: *"COVID 19 pandemic", "instructive-educational process", "kindergarten"*

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Introduction

The pandemic was and it is a difficult time for everyone. The occurrence of the SARS-CoV-2 virus has turned the whole world upside down. But even at such a time, education continues. The realization of the instructive-educational process represents a clear, well-established objective that must be achieved. We have educational goals, therefore the didactic activity continues. The transition was not easy at all. In March 2020, the closure of schools confused teachers, children, students and parents. We all predicted that this period would pass soon and we would resume the activity we were familiar with - face to face, in the group/ classroom. And even today we have not returned to the "normality" we want and hope for.

We have faced and still face (middle and high school classes) with online learning. This type of learning aims at conveying knowledge through devices. With the help of the online learning environment, both the teacher and the child/ student can communicate online, at a distance. As advantages of online learning we identify: accessibility and flexibility, precise structuring of the contents to be learned, the use of learning guides, the active and interactive involvement of learners, their responsibility in the act of learning, ensuring the rhythm of each child/ student who learns (Bocoş, (coord.), 2017).

For the middle and high school classes, the transition from the classroom activities to the online ones was not made with great difficulty precisely due to the age peculiarities of the students. Obstacles have arisen in the case of preschoolers and primary school children, where the specifics of age make it difficult to adapt to the new context. Regarding the kindergarten, the instructive-educational process has undergone changes due to the multitude of implications of moving it to the virtual environment.

We are aware that the exposure of preschoolers in front of the screen is not indicated or encouraged. Mary Aiken (2019) mentions a suggestion given by Cris Rowan, a pediatric occupational therapist: children aged 3 to 5 are allowed to spend an hour a day in front of the TV. Furthermore, the author mentions that in the UK, the Association of Teachers and Academics has seen an increase in problems associated with the use of tablets by preschoolers, including delays in developing attention, fine motor skills and dexterity, speech and social skills, as well as an intensification of aggressive and antisocial behavior, fatigue and obesity (Aiken, 2019).

In this context, we wonder what is the most appropriate way to continue the instructional-educational process in kindergarten, without causing preschoolers to spend too much time in front of the screen. Kindergarten teachers tried to adapt and find the most appropriate options to meet both the needs and specifics of preschoolers and the availability of parents.

Through the applied questionnaire we wanted to find out what are the ways to carry out online activities identified by teachers in preschool education, as well as the obstacles they faced during the pandemic.

Problem Statement

The questionnaire addressed to teachers was designed by us and it was filled by 193 teachers in preschool education (both urban and rural), which carries out its didactic activity in the counties of Cluj, Sălaj, Mureș, Harghita and the city of Bucharest, on the Romanian territory.

Research Questions

The research questions that guided our study are:

- What are the ways to carry out online activities during the COVID-19 pandemic, in preschool education?
- What are the main difficulties faced by teachers in the transition from on-site activities to online activities in pre-school education?

Purpose of the study

Ascertaining investigation of some aspects related to the development of the instructive-educational process during the COVID-19 pandemic, in preschool education, using a self-designed questionnaire.

Research methods

The research method we used is the questionnaire-based survey. Depending on the ways in which the respondents provided the answers, the survey is indirect, the answers being formulated in writing (Bocoș, 2003). We used the questionnaire as a research tool.

Findings

The questionnaire designed by us included 22 items. Through them, we aimed to identify some aspects regarding the profile of the responding teachers (county, place of origin, type of kindergarten, age of teacher, status, group to which he teaches), as well as the knowledge of some information regarding the instructive-educational process carried out during the pandemic (the way of carrying out the activities, opinions on the most suitable way to carry out the didactic activity, as well as the productivity of the online activities with the preschool children, the platforms/ applications used, the realization of the online activities in the group, the attitude of the parents regarding these

activities, the difficulties encountered by the teacher in the transition from on-site activities to online activities, as well as the personal opinion on the need to train teachers in the field of technology).

Our respondents came from the counties of Cluj, Sălaj, Mureș, Harghita, as well as from Bucharest. The table below shows the distribution of teachers according to the county and their environment of origin.

Table 1. Statistical data on the distribution of teachers by county and area of origin

County	Number of teachers	Of which with the educational unit in the urban environment	Of which with the educational unit in the rural environment
Cluj	166	140	26
Sălaj	20	20	0
Mureș	4	0	4
Harghita	1	1	0
Bucharest Municipality	2	2	0
TOTAL	**193**	**163**	**30**

Analyzing table 1, we notice that most of the respondents came from Cluj County, 166, followed by Sălaj County, where from 20 teachers responded to our request. From Mureș County were 4 teachers involved, from Bucharest we had 2 responding teachers, from Harghita County only one participant. Regarding the environment of origin, we find that most of the respondents come from urban areas, 163 respondents, while 30 participating teachers come from rural areas.

Taking into account the type of educational unit, 98% of the responding teachers come from state kindergartens, while only 2% of the teachers work in private kindergartens.

Regarding the age of the respondents, 17.6% of the teachers are aged between 19-29 years, 34.7% of the teachers are aged between 30-39 years, a percentage of 31.6% of the respondents are between 40-49 years old, and 16.1% of the teachers are over 50 years old. We notice that the highest percentages are held by teachers aged 30-39 and 40-49.

Taking into account the status of the responding teachers, 80% of them are regular teachers and 20% of them are substitute teachers.

Regarding the group they teach, 24% of the respondents teach the preschoolers aged 3-4 years group, 25% of the teachers teach the preschoolers aged 4-5 years group, 32% of them work with the preschoolers aged 5-6 years group, and 19% of teachers teach the combined group (3-6 years).

Figure 1 shows the ways teachers carry out their teaching activity during the COVID-19 pandemic. We remind you that we refer to the period of time in which the educational units were closed (the red scenario).

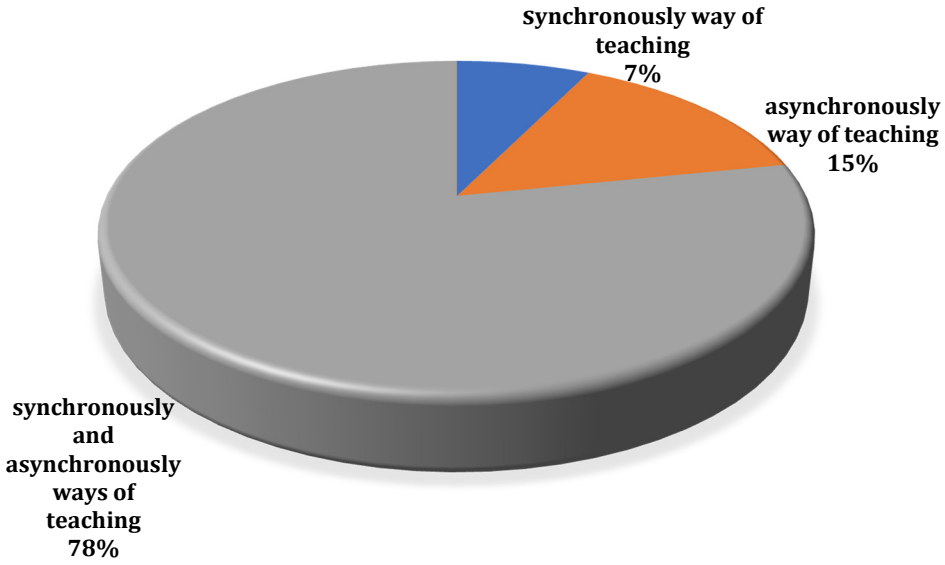

Figure 1. Ways of teaching during the COVID-19 pandemic

Analyzing figure 1, we notice that 78% of the responding teachers carry out their teaching activity alternating the activities synchronously with the asynchronous ones, while 15% of them chose the asynchronous variant, and 7% for the synchronous variant.

Regarding the choice of a certain way of carrying out the instructive-educational process, 26.4% of the teachers state that the way of carrying out the teaching activity was established by the County School Inspectorate, while 54.4% of them claim that the choice belonged to the school, and 19.2% of teachers mention that the option belonged to them. We find that in the case of more than half of the teachers, the decision was made at the kindergarten level.

To the question "What do you think is the most appropriate way to carry out the teaching activity?", The teachers had the opportunity to choose from the existing options or to offer their own answer. Figure 2 captures the responses received.

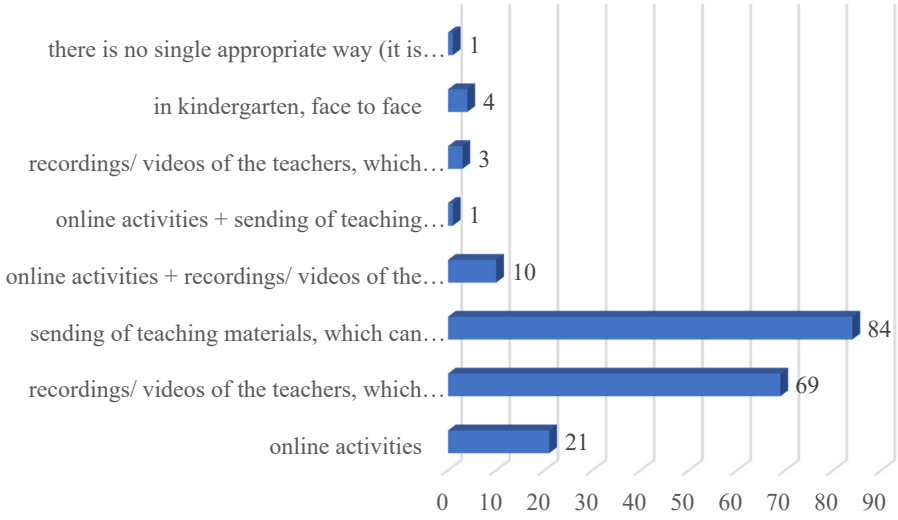

Figure 2. The most appropriate way to carry out the teaching activity, in the opinion of the responding teachers

According to Figure 2, 84 of the teachers consider that the sending of teaching materials, which can be covered with the help of parents, depending on their availability, it is the most appropriate way to carry out activities in preschool education. 69 of the teachers are of the opinion that the recordings/ videos of the teachers, which can be watched by preschoolers at any time, best meet the needs of preschoolers. 21 of the teachers consider that carrying out online activities is the most relevant choice in the pandemic context. 10 of the respondents state that the most appropriate would be the harmonious combination of the three variants mentioned above, namely online activities, recordings/ videos of teachers and sending teaching materials to preschoolers. 3 teachers consider to be opportune both to record/ film the teachers, and to send some teaching materials to the little ones, which can be read with the help of adults, depending on their availability. One teacher is of the opinion that online activities should be associated with the submission of teaching materials, while another teacher argues that there is no single appropriate way to carry

out the educational act, but it is necessary to take into account the type of activity and the theme approached and according to them to establish the way of carrying out the activity. 4 of the teachers claim that in preschool activities must be carried out in kindergarten, face to face, the online environment is not suitable for children in kindergarten. Analyzing the answers received, we notice that the teachers try on the one hand to adapt their activity from the group, capitalizing on the resources of the online environment, and on the other hand they analyze the needs of preschoolers and the possibilities of parents. At this age, children need the help of an adult to be able to participate in online activities or to go through the submitted materials.

Taking into account the views of teachers on the productivity of online activities with preschoolers, 33% of them consider that this type of activity is effective for preschoolers, while 48% of them say that online activities are not productive for preschoolers. 19% of teachers were reluctant about this.

Regarding the argumentation of the chosen answer, we found that many answers are repeated (both in the case of teachers who consider that online activities are productive, as well as in the case of teachers who consider them unproductive or who refrain from making assessments).

The arguments put forward by teachers in favor of online activities are as follows:

- children are happy to see their colleagues and educators again;
- they help preschoolers continue to feel that they belong to a community;
- the emotional connection between educators and children is maintained;
- a close connection is formed/ maintained between the kindergarten and the family;
- preschoolers are eager to be involved in activities such as at the kindergarten;
- children have the opportunity to work at their own pace;
- a program of activities is kept, which prepares them for the school environment;
- the instructive-educational process is continued;
- the materials used in online activities are attractive;
- going through the sent materials proves cognitive acquisitions at the preschool level;
- online activities are productive if the children go through and complete the work tasks sent by the educators;
- parents are more involved.

We note that, in the opinion of some teachers, online activities support both the socio-emotional development of preschoolers, by maintaining an emotional connection between educators and children and between children, as well as their cognitive development (under the conditions of active involvement of preschoolers).

The arguments put forward by teachers who say that the activities are not productive and by teachers who are reluctant to express themselves are the following:

- the educational environment, the community and the direct contact with the child are missing;
- assessment and feedback are delayed and with minimal impact on children's motivation to learn;
- solving the tasks posted on the platform is done by a small number of preschoolers;
- a small number of preschoolers participate in synchronous online activities;
- preschoolers need physical support in carrying out many activities, and parents cannot/ do not know the correct ways to help the child;
- online activities are very difficult to do with preschoolers aged 3-4 years group;
- parents do not have the necessary availability and training to support the preschooler in the proposed activities;
- parents are not consequent in engaging preschoolers and themselves in teaching activities, preferring asynchronous activities;
- parents are not interested in online activities organized by educators;
- parents do not show an appropriate attitude regarding online activities and the effort made by the teacher in carrying out the proposed activities;
- the activity of preschoolers is conditioned by the availability of parents;
- group games cannot be performed to encourage collaboration between children;
- it is not recommended that children spend a lot of time in front of screens at an early age;
- preschoolers are not interested and have no patience for online activities;
- preschoolers lose their motivation along the way;
- the attention of preschoolers is distracted by disturbing factors in the environment, and the preschooler no longer focuses on the didactic content;
- children get tired of synchronous activities;

- group management cannot be performed;
- not all preschoolers have devices and internet connection;
- it is not possible to ensure the achievement of the objectives proposed in the activity;
- grandparents, in whose care the children are, do not know how to use the necessary equipment;
- difficulties are encountered in the socio-emotional development of preschoolers;
- there is a very slow evolution in terms of behavior, cognitive, socio-emotional and language development;
- the children do not make an effort in accomplishing the work tasks, these being solved by the parents; therefore, the feedback is not real;
- there is a stagnation in the work rhythm of children;
- children cannot develop communication, empathy and social skills;
- there is a need for certain teaching materials, which are not available to preschoolers;
- very large volume of work for the teacher;
- the feeling of frustration at the level of the teacher due to the lack of involvement of parents and preschoolers;
- sometimes feedback is missing;
- it is not possible to effectively evaluate the knowledge of preschoolers;
- teaching methods are limited.

At first glance, we find that there are many counter-arguments regarding the productivity of online activities. We notice that some of the answers focus on the preschooler, and others on the parent, on the teacher and on the previous undertaking to carrying out this type of activity. If we take into account the peculiarities of age, we find that at 3-4 years, sometimes at 4-5 years, online activities are more difficult to perform. On the other hand, the lack of attention of preschoolers, lack of motivation and patience are aspects that hinder the successful conduct of online activities. As for parents, they do not have time to engage in children's online activities or they reach the opposite pole, working instead of their own children. What is totally unproductive is the inappropriate attitude of parents regarding the effort made by teachers in designing and conducting online activities.

Analyzing both the arguments and the counter-arguments, we can say that online activities cannot replace the activities that take place face to face, in kindergarten. In the absence of the latter activities, we carry out online activities, through which we try to respond to the socio-affective and cognitive needs of preschoolers.

Figure 3 shows the platforms/ applications used by teachers for conducting online activities, uploading materials and communicating with parents. We mention that the respondents had the opportunity to choose several answer options or, if they considered it necessary, to offer their own option.

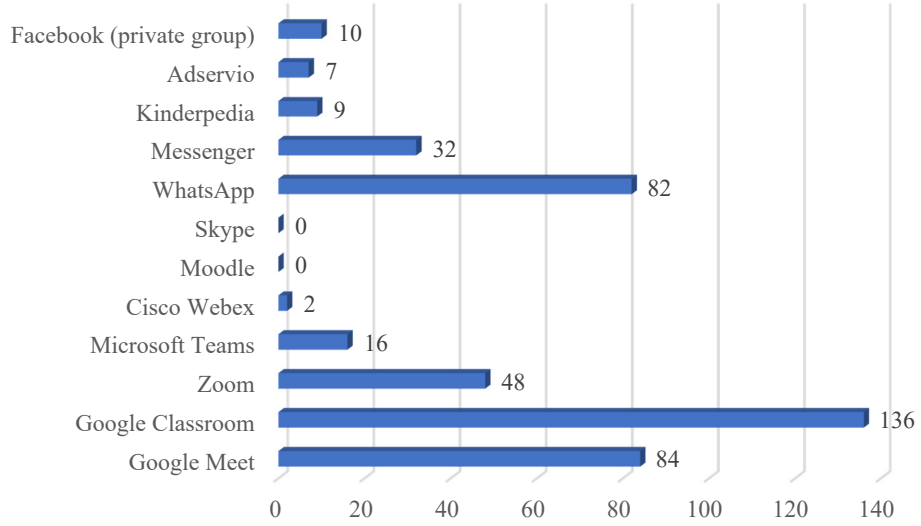

Figure 3. Platforms/ applications used for online activities, uploading materials and communicating with parents

According to Figure 3, the Google Classroom platform is the most frequently used by teachers, being chosen by 136 of them (out of a total of 193 responding teachers). Google Meet is also frequently used for online activities and communication with parents, with 84 respondents opting for this platform. The WhatsApp application is also often used, being chosen by 82 teachers. The Zoom platform is one of the platforms chosen by teachers, 48 of them say they use it in teaching/ to communicate with parents. 32 of the teachers use Messenger, 16 of the teachers have expressed their preference for Microsoft Teams, and 10 teachers use the private group of the group on the social network Facebook. 9 respondents use the Kinderpedia platform, 7 of the respondents use the Adservio platform, and 2 respondents use Cisco Webex. No respondent teacher uses Moodle or Skype platforms. Analyzing the results obtained, we find that a teacher uses, on average, 2 platforms/ applications in order to carry out the instructive-educational activity, to upload the materials for preschoolers, as well as to communicate with their parents.

To the question "How often do you do online activities with preschoolers?" only teachers who stated that they carry out their teaching activity synchronously or who combine their activities synchronously with those asynchronously answered (a total of 165 teachers, i.e. 85% of the total responding teachers). We specify that to this question, the teachers had the possibility to choose the variant from the ones proposed by us or to write down their own variant. The results obtained are shown in Figure 4.

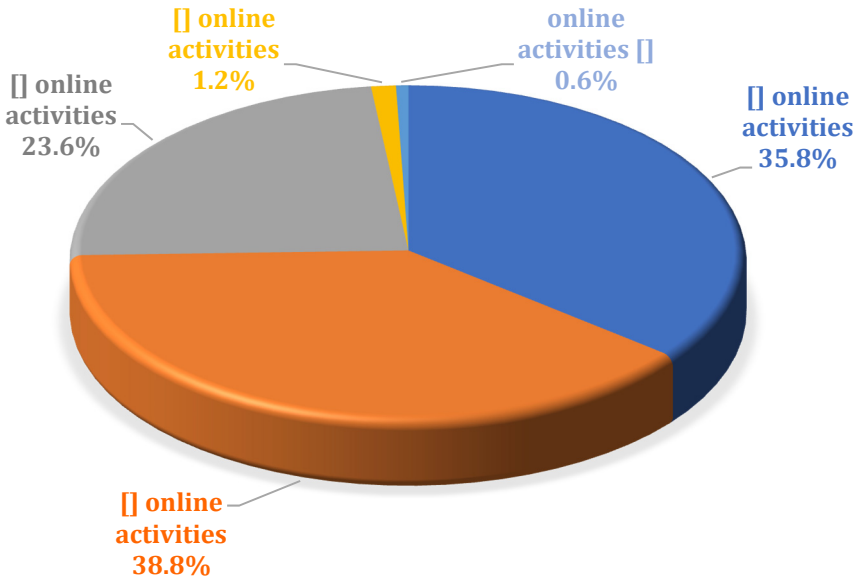

Figure 4. Frequency of online activities with preschoolers

According to figure 4, the largest share is occupied by teachers who carry out online activities (synchronously) with preschoolers 2-3 times a week, respectively 38.8%. With a close percentage, 35.8%, we find teachers who say they perform such activities once a week. 23.6% of our respondents carry out daily online activities with the group's children. The lowest percentages belong to teachers who perform such activities 4 times a week, 1.2%, respectively to those who establish the frequency of online activities depending on the availability of parents, by mutual agreement, 0.6%.

We were interested to find out the categories of activities that teachers focus on when carrying out online activities. As in the case of the previous question, this question was addressed to teachers who carry out their teaching activity synchronously, who have the opportunity to choose several options. The results can be found in figure 5.

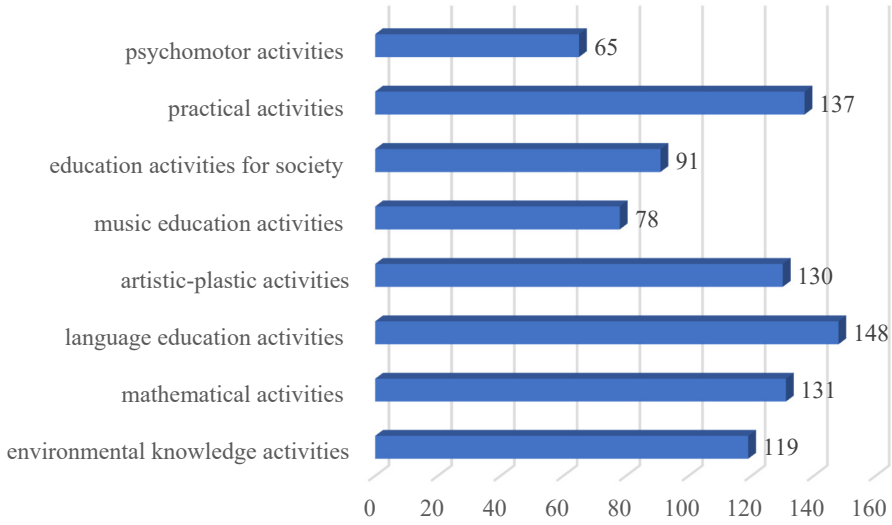

Figure 5. Categories of activities on which teachers focus when carrying out online activities (synchronous)

As we can see in Figure 5, teachers focused mainly on language education activities (148 choices), practical activities (137 choices), mathematical activities (131 choices), artistic-plastic (130 choices) and the environmental knowledge (119 choices). The categories with the fewest choices were education activities for society (91 choices), music education activities (78 choices) and psychomotor activities (65 choices). We find that the respondents made, on average, 5 choices.

In order to be able to identify the categories of activities that have generated difficulties in online design and implementation, we asked teachers to choose all categories of activities that they find difficult to perform synchronously. We further reproduce the results obtained.

At a first analysis, we can see that the number of choices made by teachers in this case is much lower than in the categories of activities that respondents focused on in the online teaching process. In the case of the categories of activities considered difficult to carry out, the teachers made, on average, 2 choices. In their opinion, the activities that lift the highest difficulties are psychomotor activities (117 choices), followed by music education (99 choices) and mathematical activities (68 choices). Psychomotor and music education activities have obtained the fewest choices in the case of activities that teachers focused on in designing and conducting online activities.

According to Figure 6, a relatively small number of respondents find it difficult to carry out practical activities (31 choices), language education activities (26 choices), environmental knowledge activities (22 choices), artistic-plastic activities (21 choices) and education for society activities (16 choices).

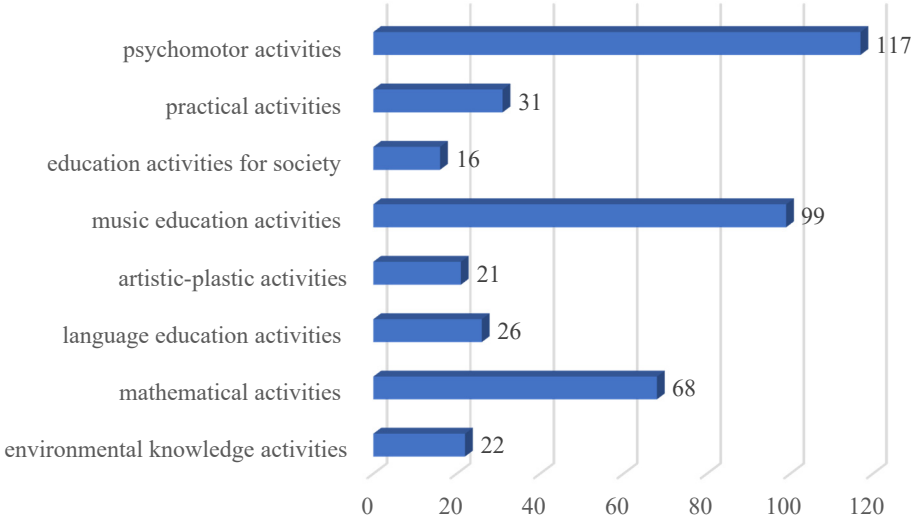

Figure 6. Categories of activities difficult to perform online, in the opinion of the responding teachers

Regarding the attitude of parents of preschoolers about the conduct of online activities, 58% of them showed a favorable attitude, being happy, excited that these activities are carried out, 20% of parents do not agree with participation of preschoolers in online activities, while 22% of parents are indifferent about this.

On the other hand, 73% of the responding teachers stated that the preschoolers showed interest, being happy to participate in online activities. 17% of respondents (teachers who carry out online, synchronous activities) are reluctant to make statements about the attitude of preschoolers towards these activities, and 10% of teachers consider that preschoolers are not interested in organized online activities.

The next question targeted the frequency of preschoolers participating in online activities. According to the answers received, 39% of teachers had an average attendance of up to 25% of the preschool group, 37% of teachers stated that 25-50% of preschoolers participated in the organized online activities,

20% of the responding teachers had a 50-75% attendance of preschoolers in the activities carried out synchronously, and a percentage of 4% of respondents stated that preschoolers participated in online activities in a percentage of 75-100%. We note that more than half of the responding teachers had, on average, a presence of children in the organized activities of up to 50%, i.e. no more than half of the preschool groups participated.

We present below (figure 7) the reasons why preschoolers do not participate in organized online activities, in the opinion of teachers. To this question, the respondents had the opportunity to choose all the answers they considered appropriate to their own situation; also, if deemed necessary, they could offer their own answer.

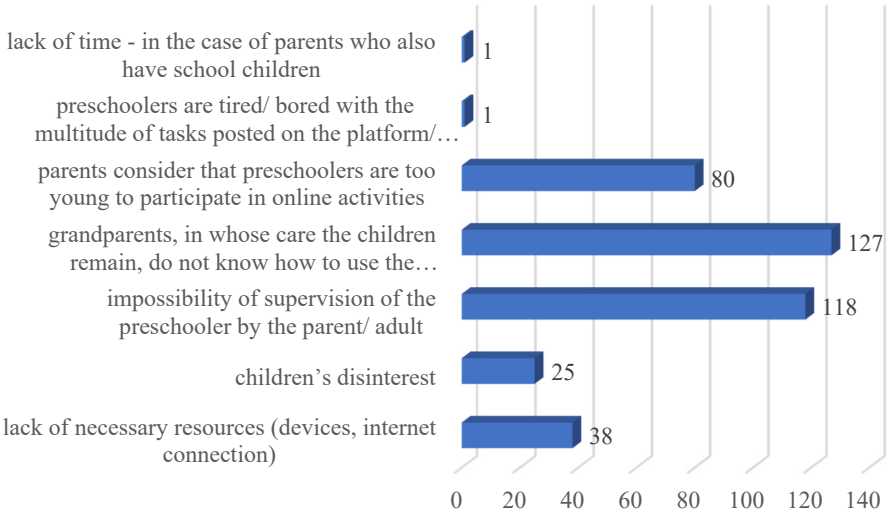

Figure 7. The reasons why preschoolers do not participate in online activities, in the view of teachers

According to Figure 7, the main reason why children are not present at organized online activities is that grandparents, in whose care the children remain, do not know how to use the necessary equipment/ platform used (127 choices), being closely followed by the impossibility of supervision of the preschooler by the parent/ adult (118 choices). Also, 80 teachers state that parents consider that preschoolers are too young to participate in online activities, which is another reason that explains the absence of children in these activities.

Another cause underlying the lack of preschoolers is the lack of their necessary resources (devices, internet connection) (38 choices), along with children's disinterest in organized online activities (25 choices). In the opinion of other teachers, the fact that preschoolers are tired/ bored with the multitude of tasks posted on the platform/ application used and the online meetings (a choice), as well as lack of time - in the case of parents who also have school children (a choice) are the reasons why preschoolers do not participate in online activities.

The next question is for teachers who perform asynchronous activities - whether respondents have received feedback from parents. Of the total 179 asynchronous teachers, 53% said they received feedback from their children's education partners to a large extent, while 46% of respondents said they received answers from parents, but to a small extent. 1% of respondents said they did not receive feedback.

The question "How do you appreciate communication with parents during this period?" addressed all of responding teachers. We further present the results obtained.

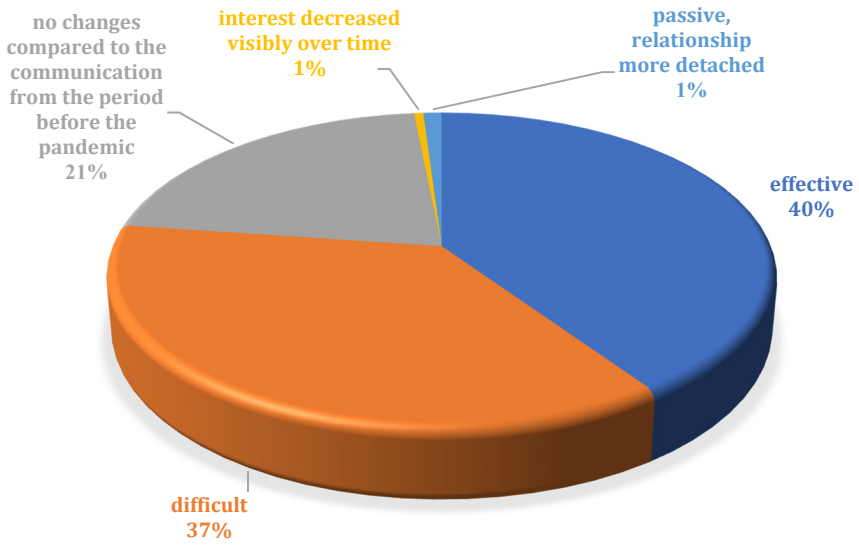

Figure 8. Communication with preschool parents during the pandemic

According to Figure 8, 40% of respondents stated that they had effective communication with preschool parents, while 37% of respondents described communication with educational partners as difficult during the pandemic period. 21% of teachers did not find any changes compared to the communication from the period before the pandemic, 1% of teachers stated that interest decreased visibly over time, the same percentage of respondents stating that the relationship with parents is more detached, passive.

The next question was to identify the difficulties faced by teachers in moving from on-site to online activities. For a more accurate rendering of these difficulties, the respondents had the opportunity either to choose the options that suited them or to offer their own answer. Figure 9 shows the results obtained.

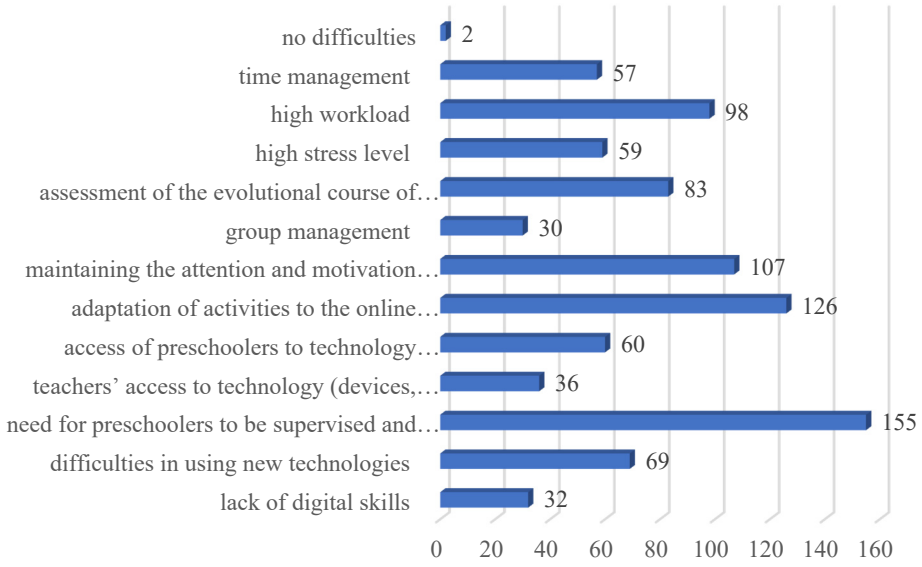

Figure 9. Difficulties encountered by teachers in moving from on-site to online activities

We note that 80% of the respondents consider as the main difficulty in the transition from the activities carried out face to face, in the group room, to the online activities, the need for preschoolers to be supervised and assisted by an adult in online activities (155 choices), followed by another impediment - the adaptation of activities to the online environment, taking into account the peculiarities of age (126 choices). Another aspect that has hindered this process is related to maintaining the attention and motivation of preschoolers (107 choices).

It is well known to all education specialists that preschoolers always need new and new elements to capture their attention and arouse their interest. Motivation in preschool is extrinsic, and the online environment makes it difficult to capture children's attention and motivation. The high workload (98 choices) is another impediment chosen by the respondents. Adapting activities to the online environment requires new materials, which are more and more attractive and which facilitate the understanding of the topic by preschoolers, which implies a much larger volume of work. According to teachers, during this period it was difficult to assess the evolutional course of preschoolers (83 choices). Absence of children from online activities or lack of systematic participation, as well as the fact that continuous assessment is difficult to do "at a distance" (especially since we are not only referring to the knowledge that preschoolers have acquired, but also to the skills and abilities they have developed) it greatly complicates the evaluation (faithful, realistic) of the evolutional path of the preschooler. In addition to these difficulties mentioned above, respondents also faced other obstacles: difficulties in using new technologies (69 choices), access of preschoolers to technology (devices, poor connection/ lack of internet connection) (60 choices), high stress level (59 choices), time management (57 choices). We find that there have been "technological" difficulties related to either the teacher or the child. Of course, organizing and carrying out online activities with kindergarten children is not easy at all, therefore stress and time become two implicit variables. In the category of the least encountered difficulties we include: teachers' access to technology (devices, poor connection/ lack of internet connection) (36 choices), lack of digital skills (32 choices) and group management (30 choices). 2 teachers did not encounter any difficulties in this transition from on-site activities to online activities.

The last question in the questionnaire concerned the opinions of teachers on the need for their training in the field of technology. 86% of respondents say that training is needed in this area, while 7% of them consider that no such training is required. The same percentage (7%) of teachers are reluctant to make assessments in this regard.

Conclusions

Undoubtedly, the period of the pandemic was a difficult one for all people, especially for education specialists. Moving the educational act in the virtual environment was a challenging goal that is as difficult to achieve. There were many implications. Carrying out and getting involved in online activities has not been easy for teachers, preschoolers or parents. The major task of

transposing the didactic activity from kindergarten to the online environment and the adaptation of the activities fell to the teacher. It wasn't easy at all. Respecting the age peculiarities of preschoolers, capturing their attention, as well as their motivation were the daily challenges of teachers. That is why many of them have chosen to combine synchronous with asynchronous activities. Let's not forget that access to technology (both for preschoolers and teachers) was an impediment to the successful completion of activities. All these aspects led to a higher workload, a longer preparation time and a high level of stress.

It wasn't easy for the kids either. Although the idea of sitting in front of devices can be tempting for the little ones, actively participating in online activities (synchronous) is not the same as sitting in front of the screen. This was difficult for 3-4 aged preschoolers group, sometimes even for 4-5 aged preschoolers group. The children of the 5-6 aged preschoolers group adapted the easiest, who accommodate to the new way of carrying out the activities and who responded best to the new challenges.

Parents are considered partners in education. Now it seems that more than ever their support was needed in the successful development of the educational act. Because at preschool age children need help from adults (especially when it comes to using learning platforms/ applications), the presence of an adult during online activities is required. Preschoolers need supervision in online activities, with parents having the task of helping their children with their work tasks. An extremely delicate task of the teachers was to dose the necessary help from the parents, so that they would not be turned into teachers. In addition to this, we must keep in mind that not all parents have the necessary devices/ internet connection (especially those in rural areas). Moreover, the parents mainly take care of the school children (both in providing them with the necessary ones and in giving them the necessary help), not having time to take care of the preschoolers. On the other hand, the parents of 3-4 aged preschoolers group, sometimes even 4-5 aged preschoolers group, do not agree with the participation of preschoolers in online activities. They consider that children are too young to have such learning experiences.

Carrying out the online learning process proved to be a difficult task, but teachers tried to adapt as soon as possible to the new situation and to make a difficult and delicate situation a pleasant experience for children, for parents and for themselves. Although the number of teachers involved in solving the questionnaire proposed by us was not very high (193 answers), we found that the respondents faced similar situations and encountered the same difficulties regardless of the area of origin.

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QUESTIONNAIRE ADDRESSED TO TEACHERS IN PRESCHOOL EDUCATION REGARDING THE INSTRUCTIVE-EDUCATIONAL PROCESS DURING THE COVID-19 PANDEMIC

The questionnaire below addresses issues related to the development of the instructive-educational process during the COVID-19 pandemic, in preschool education. To this end, please support us by completing it, honestly answering questions. Your answers are confidential and will be processed and capitalized in a study on the implementation of teaching activities during the COVID-19 pandemic, by teacher for preschool education PhD Adela-Simina Câmpan, in collaboration with Professor Muşata Bocoş.

HOW TO ANSWER:

- *For the questions followed by a list of answers (numbered from a to n),* ***tick the letter corresponding to your answer****. If none of the answers in the list suits you, you can circle, where there is one,* ***another option****, specifying* ***your own answer****.*
- *To the questions followed by followed by points (...),* ***write the answer in your own words****.*

1. The county:.....
2. Environment of provenance:
   a) urban
   b) rural
3. Kindergarten:
   a) state/ public
   b) private
4. Age:
   a) 19-29 years
   b) 30-39 years
   c) 40-49 years
   d) over 50 years
5. Status:
   a) substitute teacher
   b) regular teacher

6. Group to which you teach:
   a) 3-4 years preschoolers
   b) 4-5 years preschoolers
   c) 5-6 years preschoolers
   d) combined: 3-6 years preschoolers
7. How do you carry out your teaching activity now, during the COVID-19 pandemic?
   a) synchronously
   b) asynchronously
   c) synchronously + asynchronously

If you chose option a) synchronously, please omit question 19.

If you have chosen option b) asynchronous, please omit questions 12 to 18.

8. The manner of carrying out the didactic activity was established by:
   a) The County School Inspectorate
   b) the educational unit
   c) teacher / you
9. What do you think is the most appropriate way to carry out the teaching activity?
   a) online activities
   b) recordings/ videos of teachers, that can be watched by preschoolers at any time
   c) sending teaching materials, which can be covered with the help of parents, depending on their availability
   d) another option.....
10. Do you consider it productive to carry out online activities with preschoolers?
    a) yes
    b) no
    c) I don't know

Please argue the chosen answer.

.....

11. What platforms/ applications do you use for online activities, uploading materials and communicating with parents? *(You can choose from several answer options.)*
    a) Google Meet
    b) Google Classroom
    c) Zoom

d) Microsoft Teams
e) Cisco Webex
f) Moodle
g) Skype
h) WhatsApp
i) Messenger
j) something else:.....

12. How often do you carry out online activities with preschoolers?
a) once a week
b) 2-3 times a week
c) daily
d) another option:.....

13. What categories of activities do you focus on when doing online activities? *(You can choose from several answer options.)*
a) environmental knowledge activities
b) mathematical activities
c) language education activities
d) artistic-plastic activities
e) music education activities
f) education for society activities
g) practical activities
h) psychomotor activities

14. What are the categories of activities that you find most difficult to do online? *(You can choose from several answer options.)*
a) environmental knowledge activities
b) mathematical activities
c) language education activities
d) artistic-plastic activities
e) music education activities
f) education for society activities
g) practical activities
h) psychomotor activities

15. What is the attitude of parents regarding the conduct of online activities?
a) favorable: they are happy, excited that these activities are taking place
b) unfavorable: they do not agree for preschoolers to participate in online activities
c) indifferent

16. Are preschoolers interested, happy to participate in online activities?
    a) yes
    b) no
    c) I don't know

17. What is the average frequency of preschoolers participating in online activities?
    a) up to 25%
    b) 25-50%
    c) 50-75%
    d) 75-100%

18. What are the reasons why preschoolers do not participate in online activities? *(You can choose from several answer options.)*
    a) they do not have the necessary resources (devices, internet connection)
    b) they are not interested
    c) there is no possibility of supervision by the parent / adult
    d) grandparents, in whose care the children remain, do not know how to use the necessary equipment/ platform used
    e) parents consider that preschoolers are too young to participate in online activities
    f) another option:.....

19. In the case of asynchronous activities, did you receive feedback from your parents?
    a) yes, to a large extent
    b) yes, to a small extent
    c) no

20. How do you appreciate the communication with the parents during this period?
    a) efficient
    b) difficult
    c) no changes were observed compared to the on-site activity
    d) another variant:.....

21. What difficulties did you encounter in switching from on-site to online activities? *(You can choose from several answer options.)*
    a) lack of digital skills
    b) difficulties in using new technologies
    c) the need of preschoolers to be supervised and assisted by an adult in online activities

d) your access to technology (devices, poor connection/ lack of internet connection)
e) access of preschoolers to technology (devices, poor connection/ lack of internet connection)
f) adapting the activities to the online environment, taking into account the pecularities of the age
g) maintaining the attention and motivation of preschoolers
h) group management
i) assessment of the evolutional course of preschoolers
j) high stress level
k) high workload
l) time management
m) I did not encounter any difficulties
n) something else:.....

22. Do you think that training in the field of technology would be needed?
    a) yes
    b) no
    c) I don't know

THANK YOU for collaboration!

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CHARACTERISTICS OF ONLINE LEARNING IN HIGHER EDUCATION DURING THE COVID-19 PANDEMIC

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ABSTRACT. In the context in which the teaching, learning, and assessment processes take place in the online environment, the question arises whether the currently organized learning situations are as effective as the learning situations carried out in the classroom, before the beginning of the pandemic. One of the disadvantages of online learning is related to the teacher's low control over students' activity. Factors such as initiative, creativity, efficient time management, intrinsic motivation, responsibility, and intellectual curiosity play an important role in students' success in learning activities. Attendance at courses should not be formal and superficial and should be a process that involves the active and interactive participation of the students in the learning process. Providing high-quality educational opportunities to all students is a goal that is increasingly difficult to achieve in the context of the absence of face-to-face interactions. Also, applying a curriculum focused on the needs of the learner is becoming hard to achieve. Through this research, we aim to investigate issues related to how online learning takes place and to establish ways in which we can increase the efficiency of current teaching and learning processes. The study revealed that in the opinion of most of the students, the current epidemiological context has influenced in a negative way the quality of teaching and the student-teacher educational relationship.

Keywords*: Interactive learning, eLearning, independence in learning, higher education, efficient strategies*

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Theoretical Foundation

The pandemic period raises challenges for both pre-university and university education related to conception, design, and development, in terms of promoting educational paradigms and principles that have systematically proven their value: active and interactive learning, learning-centered on educable, collaborative learning, differentiation and individualization of training, lifelong learning, and adult education. Referring to university education, we summarize these paradigms and action principles.

The main benefit provided by the online learning situations is the opportunity offered to all the students to study anytime or anywhere they want (Sujarwo, Sukmawati, Akhiruddi, Ridwan & Siradjuddin, 2020; Garrison, Anderson & Archer, 2000; Mukhtar, Javed, Arooj & Sethi, 2020). Various applications and communication platforms are used with success to facilitate student-student interactions (Sujarwo, Sukmawati, Akhiruddi, Ridwan & Siradjuddin, 2020; Meishar-Tal, Kurtz & Pieterse, 2012). In the context of online learning, students' level of motivation for learning can be influenced by many factors, including cross-cultural differences (Lim, 2004). The Flipped Classroom Model is considered a beneficial practice that has positive effects on student's performance. Also, this method influences in a positive manner the level of satisfaction of the students (Schwarzenberg, Navon & Pérez-Sanagustín, 2020; Mukhtar, Javed, Arooj & Sethi, 2020). Individualization of training is an important factor that ensures the success of learning processes realized both in the classroom and in the online environment, and facilitates the achievement of positive learning experiences. (Azevedo & Hadwin, 2005).

Learner-centered and cooperative learning are two of the concepts frequently used in the context of adult education (Crowe, 2000). Interindividual differences are factors that must be taken into account and that can ensure the success or failure of students' learning processes, even in the context of distance learning (Atman, 1988). Computer mediated-communication has many advantages, but this type of communication is not efficient in maintaining and developing close educational relationships between students and teachers. However, it allows for effective information exchange, creating a learning community in which members can offer emotional support and interact effectively and positively (Hiltz & Wellman, 1997). Evaluation is a complex process. In the absence of face-to-face interactions, monitoring students' performance becomes a more difficult to achieve process. Self-assessment has an important role and contributes to optimizing learning processes (Boud, 1995).

Garrison, Anderson & Archer (2000) developed the Community of Inquiry model and showed that cognitive presence, social presence, and teaching presence are three essential elements that can ensure learning efficiency. Collaborative learning is considered an effective method to provide high-quality learning experiences for students. Students learn from each other and their support is offered in order to achieve the success of the entire team (Gokhale, 1995). The variety of interactions between learners is associated with a higher level of satisfaction in learning (Fulford & Zhang, 1993).

The study conducted by Vate-U-Lan (2020) revealed that the well-being of the students could be a predictor of their attitudes towards e-learning. Thus, both face-to-face learning contexts and online learning situations generate positive learning experiences and offer multiple satisfactions (Allen, Bourhis, Mabry, Burrell & Mattrey, 2002). The technological tools used in the teaching process influence the quality of students' learning experiences (Beldarrain, 2006). Asynchronous applications are used successfully in the context of distance learning, allowing students to use the learning materials provided by teachers whenever and wherever they want (Bernard et al., 2004).

The variety and authenticity of interpersonal interactions make cooperative learning an effective strategy, taking into account the results of numerous studies (Johnson & Johnson, 2009; Lou, Abrami & d'Apollonia, 2001). Concerns about the possibility of providing students with high-quality opportunities for social interaction and genuine dialogue have existed and continue to exist, although communication channels have become more effective (Muirhead, 2001). Researchers from all over the world have conducted a series of research in order to establish whether distance learning activities carried out in the online environment can be as effective as traditional face-to-face learning situations (Johnson, Aragon, Shaik, & Palma-Rivas, 2000). Perceptions of the students regarding the teacher's activity and the quality of teacher-student interactions indicate that the learning activities, which take place in the university space are more efficient (Johnson, Aragon, Shaik & Palma-Rivas, 2000). Regarding the quality and efficiency of online training, recent studies have shown that online courses could be considered, in most cases, as efficient as traditional ones (Mukhtar, Javed, Arooj & Sethi, 2020). However, assessing students' competencies becomes more difficult. The level of knowledge is the only component of competencies that is easier to assess in the online environment (Mukhtar, Javed, Arooj & Sethi, 2020).

The interactive character of the courses is one of the factors that facilitate the achievement of the educational objectives (Zirkin & Sumler, 1995). In the context of the COVID-19 pandemic, organizing interactive and active learning and teaching situations in the online environment is beneficial. Interactions

between students and teachers are very important, and expository teaching methods are less effective. The students' digital skills are already formed, and the learning situations that are usually organized, are flexible and involve the active participation of the students. Organizing courses in this way reduce significantly the effects of this pandemic (Sadikin & Hamidah, 2020). Giguere & Minotti (2003) have mentioned some of the factors that need to be taken into account in designing online learning situations: differentiation and individualization of training, clear formulation of objectives and expectations, presentation of content in a varied and attractive way, selecting contents adequate and accessible and creating a learning environment that stimulates positive interactions between students. Globalization, the diversity of the needs and interests of the students, as well as technological developments, are the main factors that contribute to the increasing number of students who are enrolled in online courses. (Storey & Tebes, 2008; Morey, 2004).

Research Methodology

An original online questionnaire was administered in order to establish which are the solutions that can be applied to optimize the online learning processes in higher education during the COVID-19 pandemic (see the appendix of this paper). The questionnaire was completed by 425 students that are enrolled in university programs from the field of Educational Sciences. 282 of them are enrolled in undergraduate university programs, while the remaining 143 attend a master's degree programs. Through this study, we aimed to investigate students' views on how online learning situations are organized in higher education.

Results

The majority of the students appreciated the fact that in the context in which the courses take place in the online environment, the quality of the teaching process is affected to a great extent (see figure 1). The students mentioned that the virtual interactions cannot be compared with the real ones and the fact that the face-to-face interactions are authentic. The notions presented are easier to understand if the connections take place face-to-face. Also, the level of motivation for learning becomes lower for some of the students in the context of online teaching. The assessment process is affected and the students have considered that only a superficial assessment of their competencies could be made. Assessment methods that can be applied to students are not

associated with a qualitative and objective assessment. Student-student interaction is less effective, and the success of online learning situations can be achieved through much greater effort, both on the part of students and teachers. Some students pointed out that the teaching-learning process is affected to a different extent, depending on the study discipline, the subject of the course, or the difficulty of the learning contents. Technological impediments often arise in the teaching process, and the time required for teaching and learning becomes higher.

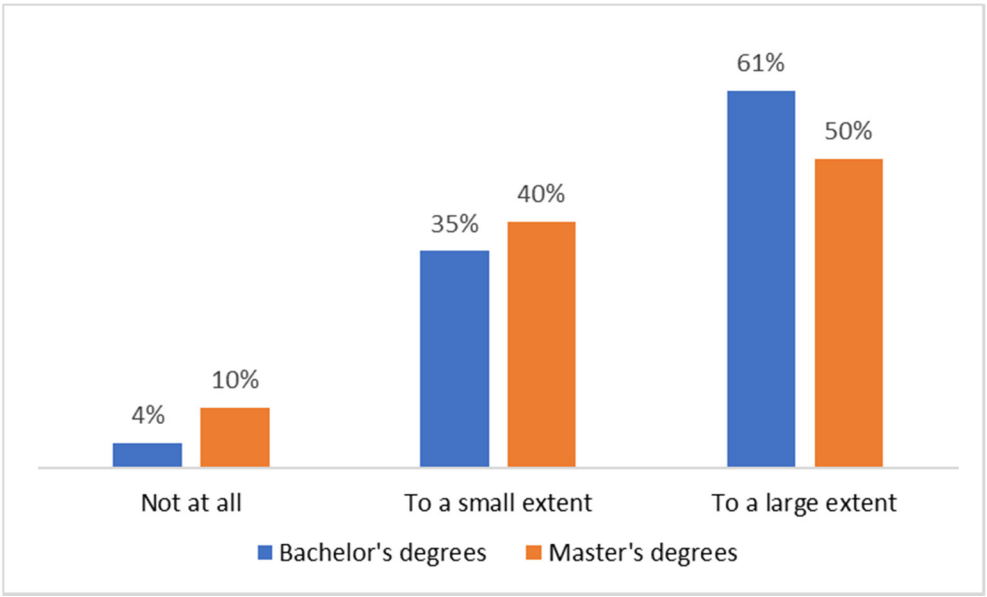

Figure 1. The extent to which the quality of the teaching act is affected

Regarding the way in which the teacher-student educational relationship is affected, most students appreciated that during online courses their educational relationship with their teachers was affected (see figure 2). Most of the students enrolled in the first year mentioned that they want to interact with teachers in a traditional way, in the university space. In the online environment, it is more difficult, but not impossible, to organize learning situations in which students interact in a positive way with teachers, requiring much more effort and desire from all educational actors. Thus, in the absence of physical contact, interpersonal interactions are affected.

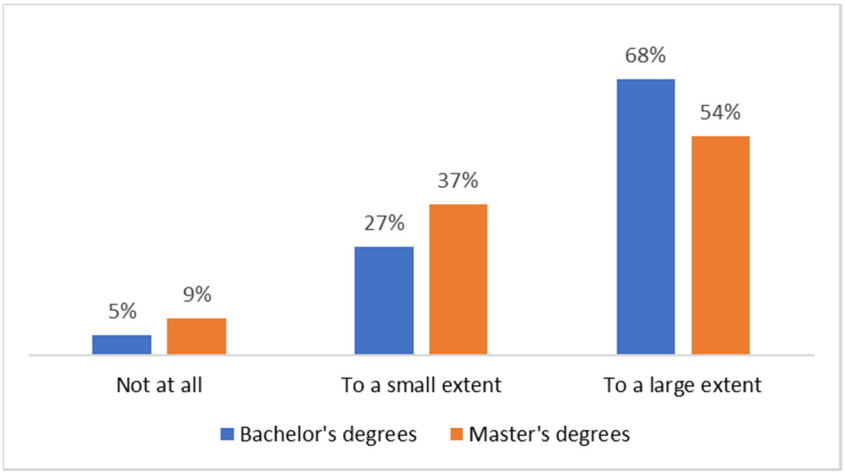

Figure 2. The extent to which the student-teacher educational relationship is affected

Most students know which are the topics or bibliographic resources that are used during the courses or seminars. Students are aware of the content of the activities that are planned and know what topics will be studied in the next courses or seminars (see figure 3).

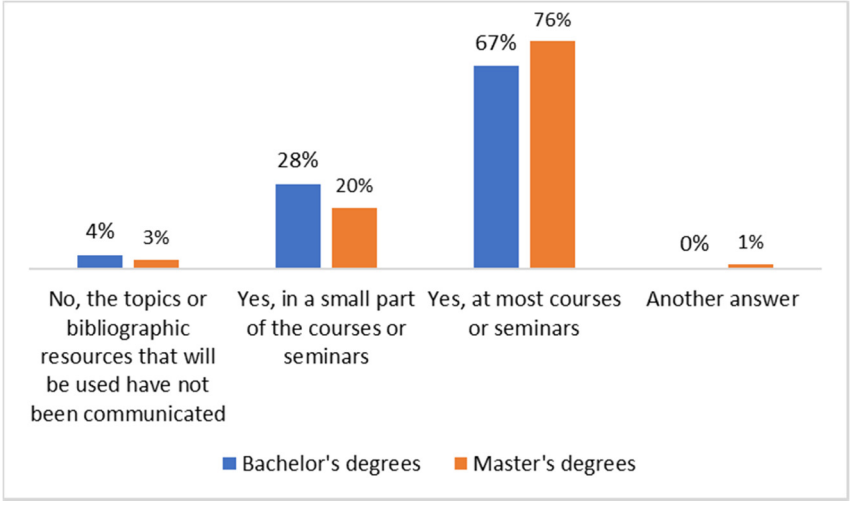

Figure 3. The extent to which students know the topics to be studied

Most of the students converse with their teachers and colleagues using the educational platforms designed for the teaching process (see figure 4). 1% of the respondents are contacting their teachers through accounts created on Facebook.

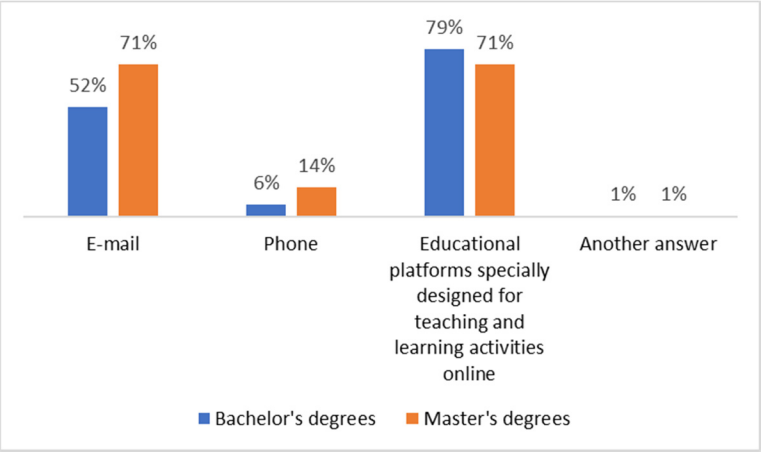

Figure 4. The means of communication used to contact teachers

Most respondents appreciated that most of the courses they attended online had a medium degree of difficulty (see figure 5).

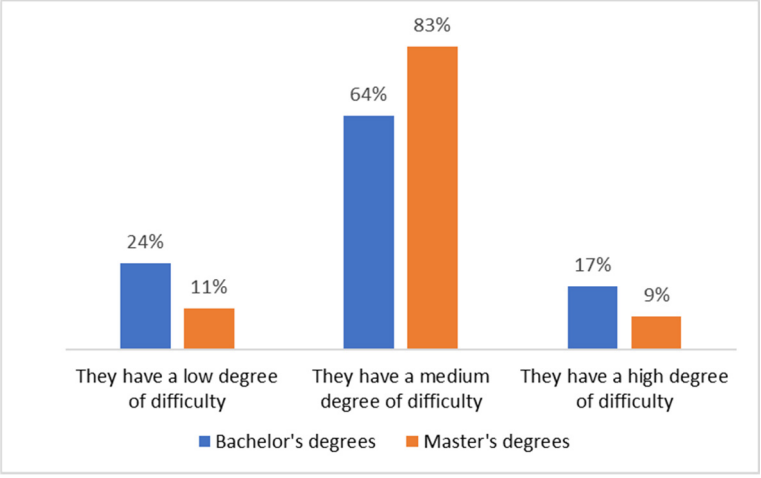

Figure 5. The degree of difficulty of online courses

Most of the undergraduate degree students have indicated that they currently receive more learning tasks that involve cooperative or group learning activities, in comparison with the period when the courses took place face-to-face (before the beginning of this outbreak). At the same time, most of the master students gave a negative answer to question 6 and consider that interactive learning situations are not organized more frequently than before (see figure 6).

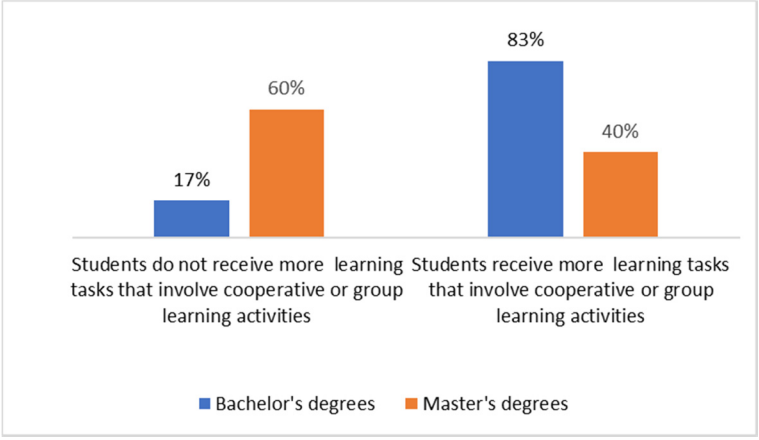

Figure 6. Frequency of the organization of the interactive learning situations

Most students use the WhatsApp instant messaging network to communicate with their peers during online courses (see figure 7). Also, groups created on Facebook or and other communication platforms were mentioned (Zoom and Google Meet).

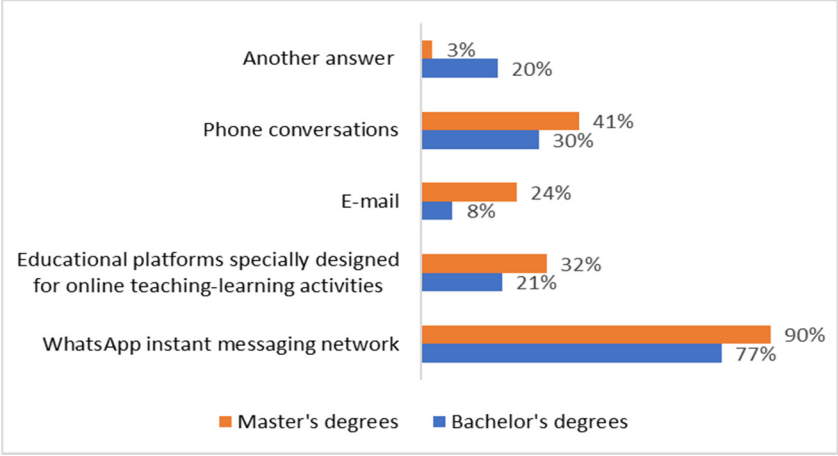

Figure 7. Channels used for communication with their colleagues

Most bachelor students appreciate the fact that more emphasis is placed on their individual and independent activities. Many master students appreciate that they are not involved more frequently in individual learning situations (see figure 8).

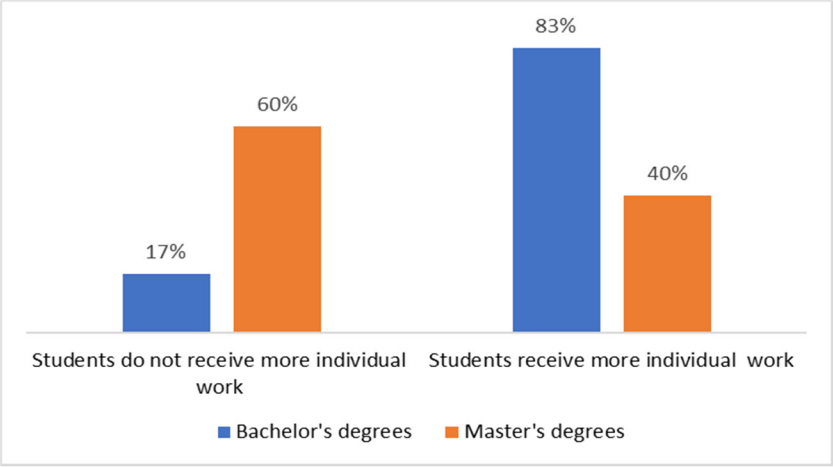

Figure 8. Aspects regarding the usage of the individual learning

Most undergraduate students indicated that they frequently receive work tasks that involve interactive learning activities (based on cooperation with other colleagues). Most master students mentioned that they work less often in teams and the fact that individual work tasks predominate (see figure 9).

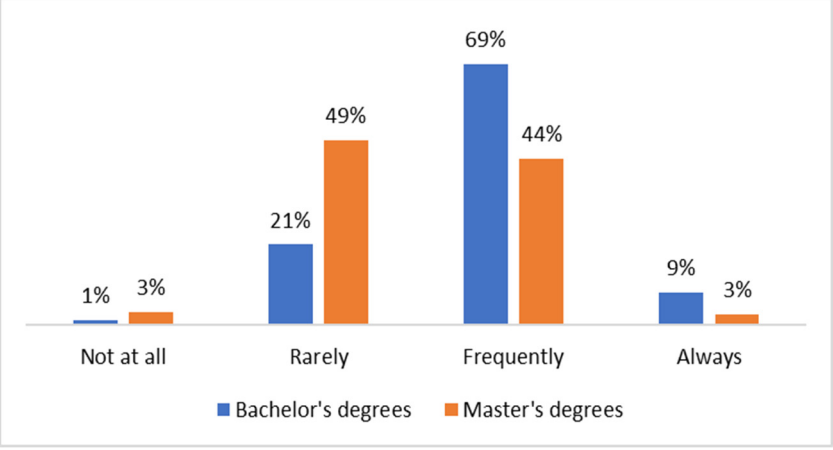

Figure 9. The frequency of the usage of interactive learning

Regarding the degree of interactivity of the courses or seminars conducted in the online environment, in the students' opinion, most of the courses are based on the active involvement of students. Individual or independent work tasks are offered more frequently than group tasks (see figures 10 and 11).

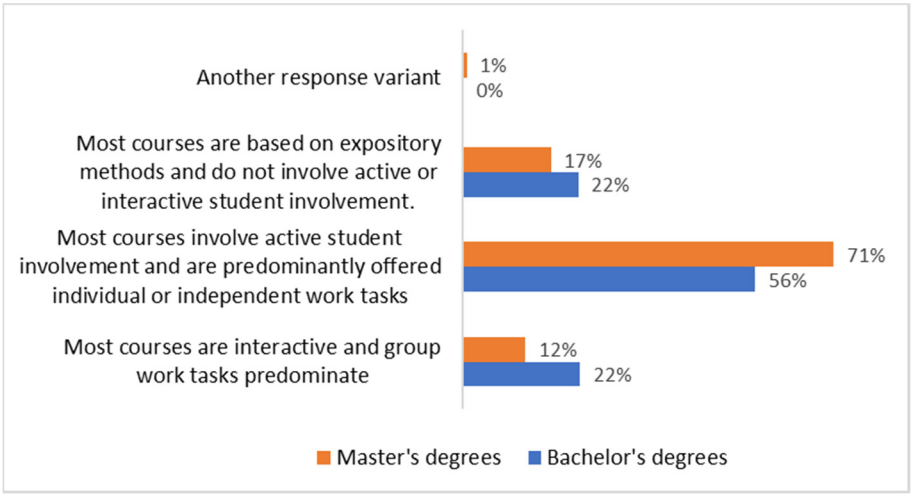

Figure 10. The characteristics of online courses

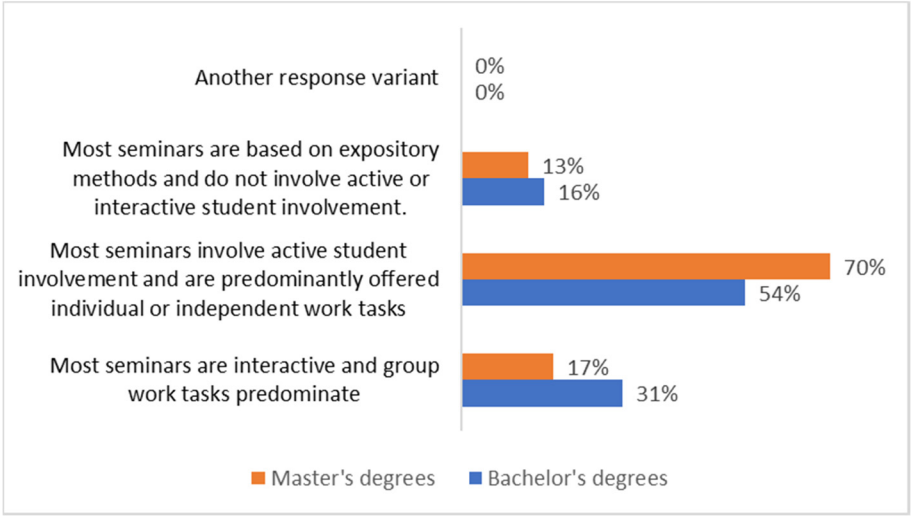

Figure 11. The characteristics of the online seminars

Most students want to receive feedback frequently or always from teachers. Students mentioned that it is up to the teacher to decide how often it would be necessary to give them feedback. Also, most students have received frequently feedback from teachers (see figure 12 and 13).

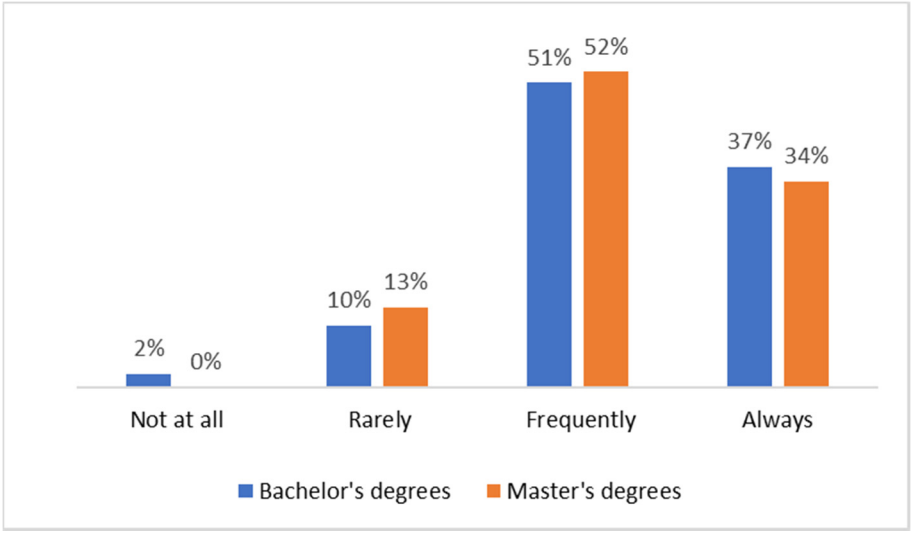

Figure 12. The frequency with which students want to receive feedback

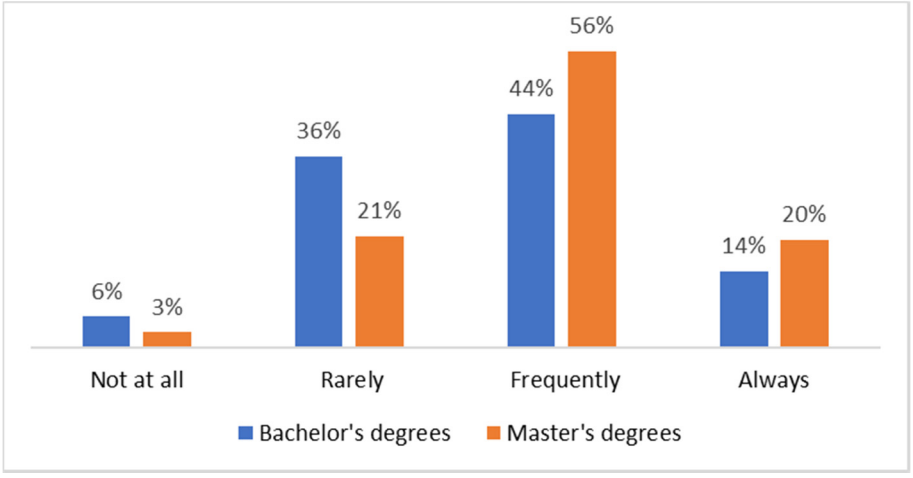

Figure 13. Students' opinion on the frequency with which they have received feedback from teachers

Most of the master's students indicated that they devote less than 3 hours a day to learning activities. At the undergraduate level, the percentage of students who spend more than 3 hours a day is bigger than at the master's level (see figure 14).

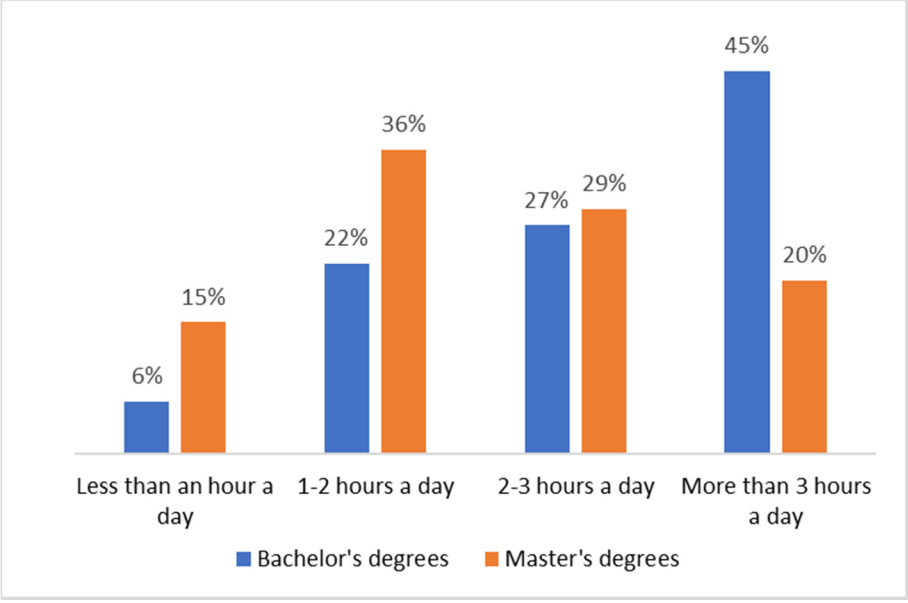

Figure 14. The amount of time allocated daily to learning activities

Only a small percentage of students (7%, i.e., 23 undergraduate students, respectively 20%, i.e. 28 master students) did not face any problems in the online learning process. The most frequently mentioned obstacles are technical difficulties connecting on certain platforms, physical fatigue, mental fatigue, and lack of internet access or connection problems (see table 1). Students who chose another answer mentioned obstacles, such as:

- difficulties concentrating;
- problems adapting to new training situations;
- physical implications caused by long-term use of the computer (e.g. migraines, back pain, and stinging of the eyes);
- incompatibility of teaching methods with students' learning style.

Table 1. Problems encountered in the online teaching process

Main obstacles	Bachelor's degree programs		Master's degree programs	
	Percentage	Frequency	Percentage	Frequency
Insufficient level of digital skills	14%	43	12%	17
Lack of internet access or connection problems	44%	138	24%	34
Lack of a high-performance computer, tablet or phone	11%	34	7%	10
Technical difficulties in connecting on certain platforms	40%	125	40%	57
Physical fatigue	44%	138	35%	50
Mental fatigue	71%	222	52%	74
Emotional problems, related to the suspension of the university courses or to the evolution of the current epidemiological context	26%	81	18%	26
Another response variant	4%	13	1%	2

50% of the master's students appreciate the fact that online learning activities are effective and consider that this type of activity should be organized occasionally, even after the pandemic. 43% of the students mentioned that they do not like to carry out online learning activities. Students who chose a different answer showed that they do not consider online learning activities as effective as those done before this pandemic and that this type of activity should be done only when face-to-face interactions cannot be realized. Among the benefits mentioned by the respondents is the convenience of studying from home, without the need for travel and the efficiency of these activities from an economic point of view. According to the students, some educational activities (for example, webinars) should take place occasionally in the online environment (see figure 15).

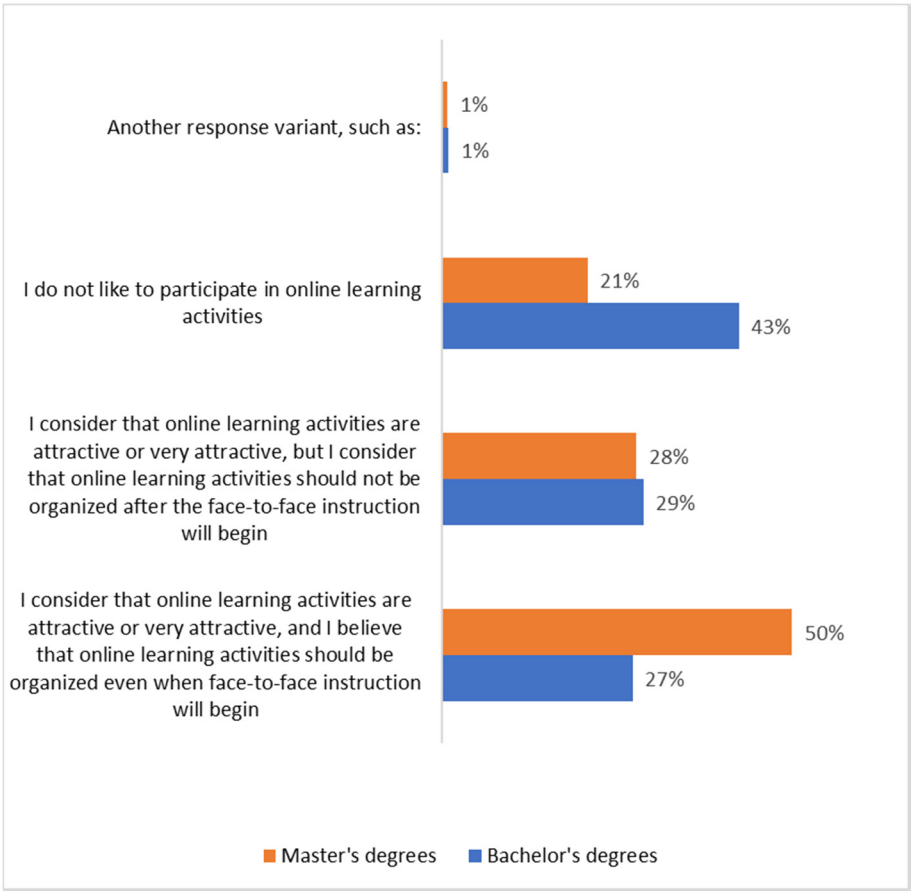

Figure 15. Students' opinion on the efficiency of online learning activities

Students consider that attendance at courses has been modified in the context of online teaching. At the master's level, most students consider that attendance at courses has become higher or has remained unchanged, while most undergraduate students have shown that attendance at courses has remained unchanged (see figure 16).

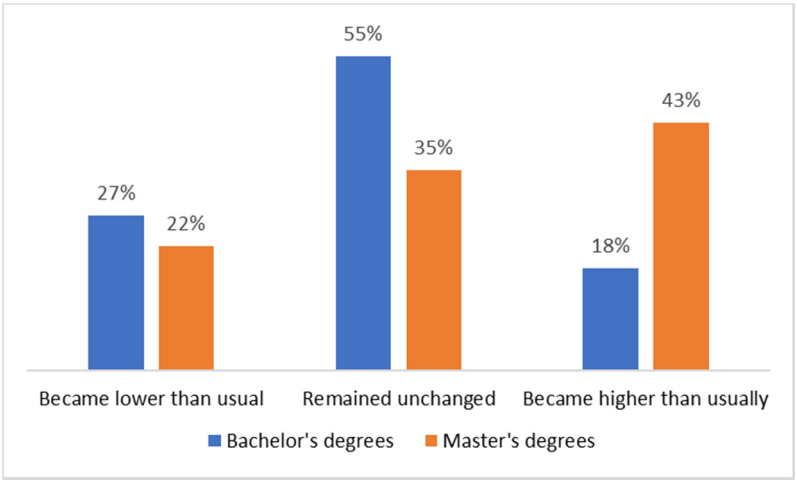

Figure 16. Students' opinion regarding the attendance on courses

The students have mentioned that attendance at courses can be influenced by factors such as the hour in which the course is organized, the period in which the course takes place (at the beginning, middle, or end of the semester), or its topic. Also, some of the respondents showed that when the participants have their video cameras and microphones turned off, is difficult to appreciate if they are actively involved in the learning activity. Some students mentioned that students' attention and involvement became lower, although attendance at courses could sometimes increase significantly.

Discussions and Conclusions

The results obtained indicate that online learning is not considered as effective as face-to-face interactions. At the same time, the students' opinions are various, but most of them revealed that the biggest disadvantage of online learning is related to interpersonal communication and building strong educational relationships. The main advantage of online learning is the increased accessibility of the courses and seminars for all students. In the students' opinion, at bachelor degree level are organized more frequently interactive learning situations. At the master degree level, the accent falls most of the time on students' independent and individual efforts in solving the learning tasks. Students are aware that teachers have changed their teaching strategies. Attendance in courses increased, but some of the respondents mentioned that they do not like to be involved in online courses.

The study revealed that in absence of the face-to-face interactions the quality of the didactic act was affected. Some of the students have positive opinions and appreciate the value and the benefits provided by online learning, while others prefer face-to-face courses. The quality of the courses was not affected significantly, but the quality of interactions between students and teachers became lower in this context. In order to avoid physical or mental fatigue, learning situations should be attractive and accessible. Also, teachers could make more efforts in developing strong and effective relationships with their students, through discussions and interactive learning situations.

This investigation of the students' opinions related to online university education was conducted among undergraduate and master's students in the field of Educational Sciences. From a didactic point of view, the specifics of the contents in this field and the ways of their transmission and assimilation can be similar to those of the socio-human sciences. Through scientific pedagogical research, it will be possible to highlight possible similarities and differences and, implicitly, ways to improve the quality of the educational processes carried out in higher education.

Acknowledgements

We would like to thank all the participants for their support in conducting this study.

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Appendix A

Questionnaire regarding the use of online learning in higher education

Through this study, we aim to investigate the students' opinions regarding the optimal solutions that can be applied to optimize the online learning processes achieved in higher education during the COVID-19 pandemic. To fill in this questionnaire takes a maximum of 5 minutes, and the answers are anonymous. The data collected will be statistically processed.

1. In the context in which the courses are taking place in the online environment, to which extent do you appreciate that the quality of the didactic act is affected?

- ☐ Not at all
- ☐ To a small extent
- ☐ To a large extent

2. In the context in which the courses are taking place in the online environment, to what extent do you appreciate that the teacher-student educational relationship is affected?

- ☐ Not at all
- ☐ To a small extent
- ☐ To a large extent

3. Do you know the topic or the bibliographic resources used in the following seminars or courses (Are the activities efficient planned so that you know what topics will be studied in the next courses or seminars?)?

- ☐ No, the topics or bibliographic resources that will be used have not been communicated
- ☐ Yes, in a small part of the courses or seminars
- ☐ Yes, at most courses or seminars
- ☐ Another answer:

4. Which modality do you use to contact your teachers? (more possible answers)

- ☐ E-mail
- ☐ Phone
- ☐ Educational platforms specially designed for teaching and learning activities online

5. Which are the characteristics of the majority of the courses that you have participated in the online environment? (more possible answers)

- ☐ They have a low degree of difficulty

- ☐ They have a medium degree of difficulty
- ☐ They have a high degree of difficulty

6. Do you consider that you currently receive more learning tasks that involve cooperative or group learning activities, compared to the period when the courses took place face-to-face before the epidemic started?

- ☐ Yes
- ☐ No

7. What form of communication do you use to communicate with your colleagues during this time? (more possible answers)

- ☐ WhatsApp instant messaging network
- ☐ Educational platforms specially designed for online teaching-learning activities
- ☐ E-mail
- ☐ Phone conversations
- ☐ Another response variant, such as: ☐

8. Do you consider that you currently receive more learning tasks that involve individual or independent work, compared to the situation in which the courses were run face-to-face before the outbreak began?

- ☐ Yes
- ☐ No

9. How often do you receive tasks that involve interactive learning activities (based on cooperation with other colleagues)?

- ☐ Not at all
- ☐ Rarely
- ☐ Frequently
- ☐ Always

10. Regarding the degree of interactivity of the courses conducted in the online environment, I can state that:

- ☐ Most courses are interactive and group work tasks predominate
- ☐ Most courses involve active student involvement and are predominantly offered individual or independent work tasks
- ☐ Most courses are based on expository methods and do not involve active or interactive student involvement.
- ☐ Another response variant, such as: ☐

11. Regarding the degree of interactivity of the seminars conducted in the online environment, I can state that:

☐ Most seminars are interactive and group work tasks predominate

☐ Most seminars involve active student involvement and are predominantly offered individual or independent work tasks

☐ Most seminars are based on expository methods and do not involve active or interactive student involvement

☐ Another response variant, such as: ☐

12. How often do you want to receive feedback from teachers about your progress in learning or about the way that you have solved the learning tasks?

☐ Not at all

☐ Rarely

☐ Frequently

☐ Always

13. How often do you have received feedback from teachers about your progress in the learning activities?

☐ Not at all

☐ Rarely

☐ Frequently

☐ Always

14. How much time do you spend daily doing learning activities?

☐ Less than an hour a day

☐ 1-2 hours a day

☐ 2-3 hours a day

☐ More than 3 hours a day

15. What problems did you encounter in the online learning process? (more possible answers)

☐ Insufficient level of digital skills

☐ Lack of internet access or connection problems

☐ Lack of a high-performance computer, tablet, or phone

☐ Technical difficulties in connecting on certain platforms

☐ Physical fatigue

☐ Mental fatigue

☐ Emotional problems, related to the suspension of the university courses or to the evolution of the current epidemiological context

☐ I did not face any difficulties and the learning process is taking place in very good conditions

☐ Another response variant, such as: ☐

16. What is your opinion about online learning?

☐ I consider that online learning activities are attractive or very attractive, and I believe that online learning activities should be organized even when face-to-face instruction will begin

☐ I consider that online learning activities are attractive or very attractive, but I consider that online learning activities should not be organized after the face-to-face instruction will begin

☐ I do not like to participate in online learning activities

☐ Another response variant, such as: ☐

17. In your opinion the number of course participants decreased or become higher if the teaching activities take place online?

☐ Became lower than usual

☐ Remained unchanged

☐ Became lower than usually