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Exploring stress and ambiguity tolerance among ındividuals with diverse educational backgrounds

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Abstract

This study explores the relationship between stress tolerance and tolerance to ambiguity during the global crisis induced by the COVID-19 pandemic. The pandemic has intensified stress as a psychological response to the uncertainty and ambiguity faced by individuals, highlighting the crucial role of tolerance in navigating such challenging circumstances. During periods of crisis, particularly societal transitions, individuals' ability to tolerate ambiguity becomes a significant determinant of their mental resilience. Tolerance is conceptualized as a core personality trait enabling individuals to manage uncertainty, whereas intolerance exacerbates stress and impedes adaptive functioning. This research investigates differences in stress tolerance and tolerance to ambiguity across educational levels, the interplay between these two factors in times of global crisis, and the potential of stress tolerance and tolerance to ambiguity as foundational constructs for psychological practice and research. The findings suggest that individuals with higher tolerance to ambiguity exhibit greater stress tolerance, which helps maintain psychological equilibrium in unpredictable environments. The study underscores the relevance of these traits for both psychological theory and practical interventions in crisis management.

Keywords: Ambiguity; crisis management; stress tolerance; psychological research; tolerance.

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1. INTRODUCTION

During the COVID-19 pandemic, humanity had to adapt to a life-threatening, unknown, and dynamic, constantly changing environment. This period has shown us the global collective ambiguity. The concept of "tolerance to ambiguity" was considered in the context of three conceptual perspectives: the nature of prejudice and authoritarian personality (Frenkel-Brunswik, 1949), decision-making (Ellsberg, 1961), and the specifics of perceiving ambiguous situations (Stanley Budner, 1962). The last-named author described tolerance to ambiguity as a personality trait that determines an individual's attitude to ambiguous, polysemantic, disturbing situations, regardless of the emotional sign of this ambiguity (Bapayeva et al., 2024). A person tolerant to ambiguity considers any ambiguous situation as an opportunity for choosing, developing, acquiring a new experience, not experiencing destructive anxiety in ambiguous situations, and can actively and productively act in them. In turn, a person who is intolerant to ambiguity has a high level of anxiety in ambiguous situations or even the threat of their occurrence, especially if this ambiguity means the development and positive change in the future. Individuals who are intolerant to ambiguity are prone to hard-line regulation of all spheres of life, including their relationships and systems of gaining experience.

When faced with unclear and unstructured situations, people with low tolerance to ambiguity perceive them as a source of discomfort and threat. This tendency to react negatively to equivocation and ambiguity probably leads to an increased level of distress (Stanley Budner, 1962; Furnham & Ribchester, 1995). Subsequently, Bochner (1965) introduces the concept of secondary characteristics of intolerance to ambiguity. He attributes such personal traits as authoritarianism, dogmatism, rigidity, closeness to the new, the presence of ethnic prejudices, low creativity, anxiety, a tendency to extrapunitive reactions, and aggressiveness to them.

During the COVID-19 pandemic, in addition to the disease itself or the fear of infection, as well as other accidental and external factors associated with exposure to the virus, other factors such as survival strategies (Martins et al., 2023), individual personality differences (Jian et al., 2022), and dispositions (Rossi, Sebri et al., 2020**;** Rossi, Panzeri et al., 2020; Sebri et al., 2021; Conversano et al., 2020) can influence people's stress levels. Individuals characterized by low indulgence for tolerance may decide to behave in a way that they consider protective, for example, to seek health information as a strategy to reduce ambiguity due to the COVID-19 pandemic and adhere to the lockdown restriction as a protective way to respond to the spread of the COVID-19 outbreak (Petrocchi et al., 2022). From the standpoint of the subject-being approach, readiness for dialogue is considered by some researchers as a psychological mechanism underlying the process of effective regulation of ambiguity (Zhu & Yang, 2021). Tolerance to ambiguity as a willingness to interact effectively with the world in conditions of accelerating changes presupposes communication as a social necessity due to human nature, prone to interaction and work within the framework of everyday life in which a person lives and plays a vital role in increasing stress and anxiety among students during online learning (Sharma & Smith, 2023). According to the study results (AlKhamaiseh, 2022), the degree of teachers' communication skills during the COVID-19 pandemic in public schools was average. In addition, the degree of students' tension in terms of online learning was also moderate.

According to Pervushina et al. (2020), the pandemic that struck humanity showed the world's unpreparedness for effective behavior in this situation. Almost the entire population of the globe is faced with an invisible, but terrible and rapidly spreading threat to life and health. At the same time, the prospects for exit and the future situation have not been determined, and the situation is aggravated by economic problems that have already affected some people and may also affect many others. There is an immersion of a huge number of people in a state of immersive, prolonged stress. An extremely important feature in this situation is ambiguity: regarding the degree of threat, the best ways to behave in these conditions, the prospects of one's own life, as well as the consequences of outliving a pandemic. We tend to view the current situation as a variant of a situation of ambiguity in which a huge number of people appear.

1.1. Purpose of study

The primary objectives of the research are the identification of stress tolerance and tolerance to ambiguity under crisis conditions. The purpose of the study is to examine (a) the distinction between stress tolerance and tolerance to ambiguity in relation to educational attainment, (b) the correlation between stress tolerance and tolerance to ambiguity during a global crisis, and (c) the applicability of stress tolerance and tolerance to ambiguity as foundational constructs for psychological research and practice.

The analysis included an examination of ten socio-psychological and individual typological factors associated with stress tolerance and tolerance to ambiguity.

2. METHOD AND MATERIALS

2.1. Research design

Potential participants were recruited using a survey on social networks, using a convenient selection of different age categories in an online survey within the period from August 11 to October 12, 2021.

2.2. Participants

A total of 319 residents of Kazakhstan participated in the study. Among the participants, 85.89 percent were women and 14.10 percent were men, comprising 274 women and 45 men, all of whom participated voluntarily. According to the age classification proposed by J. Birren, 144 participants were classified as being in adolescence (14 to 17 years), 101 in early adulthood (17 to 25 years), 69 in mature age (25 to 50 years), and 5 in late maturity (50 to 75 years). Participant ages ranged from 14 to 67 years, with a mean value of 23.23 years and a standard deviation of 10.45857. Table 1 presents additional demographic characteristics of the sample.

Table 1

Demographic characteristics of participants

Variable	Quantity	%
Gender	-	-
male	45	14.10%
female	274	85.89%
Age	-	-
14-17	144	45.14
17-25	101	31.66
25-50	69	21.63
50-75	5	1,57
Area of residence	-	-
Almaty	145	45.5
Almaty region	103	32.3
Northern Kazakhstan	6	1.88
Southern Kazakhstan	39	12.23
Eastern Kazakhstan	11	3.45
other	14	4.39
Education	-	-
Scientific degree	6	1.9
Higher education (Bachelor, Master, specialist)	132	41.4
University or college student	125	39.2
Technical and vocational education (college)	43	13.5
General secondary education	13	4.1

2.3. Data collection tools

The present study employed the Scale of Tolerance to Sources of Stress and the Scale of Tolerance to Ambiguity. The Scale of Tolerance to Sources of Stress was developed by Raspopin (2012). This instrument measures levels of stress and non-stress evaluations related to self-perception, perception of others, perception of the surrounding environment, and overall tolerance to stress among respondents. The primary objective of the methodology is to examine tolerance to stress and its underlying sources. The content of the

methodology is represented by evaluative judgments concerning the self, other individuals, and the world in general. Within this framework, the phenomenon of stress tolerance is conceptualized through the dichotomy of stressful and non-stressful assessments concerning the individual's perception of self, others, and the external environment.

The number of scales:

1. The "I myself" scale (stressful-non-stressful assessment of one's own personality).

2. The "Other people" scale (stress-non-stress assessment by other people).

3. The "World around" scale (stress-non-stress assessment of the surrounding world).

0. General scale (general level of tolerance to stress).

The item format consisted of 5-point bipolar verbal-numerical Likert scales. The methodology was based on the selection of word pairs with opposite meanings, reflecting the stress and non-stress assessments of the studied variables. For each scale, 14 such word pairs were formulated.

The study utilized the Multiple Stimulus Types Ambiguity Tolerance Scale-I (MSTAT-I), developed by McLain (1993), to assess tolerance to ambiguity. The ambiguity tolerance scale comprises 22 closed-ended statements designed to measure an individual's tendency toward rigid life regulation and complete awareness of events or, conversely, openness to ambiguity. Participants were required to evaluate the extent to which each statement reflected their views using a 7-point scale, where 1 indicated "completely disagree," 4 indicated "neutral," and 7 indicated "completely agree." The results were calculated based on a key that included both forward and reverse values. The questionnaire is structured into six subscales, which measure the activity-semantic component of tolerance to ambiguity. These subscales are grouped into three types of stimuli:

1. Attitude to novelty (ON);

2. Attitude to difficult situations (OSZ);

3. Attitude to Ambiguous Situations (ONS);

And two types of relationships:

4. Preference for ambiguity (PN);

5. Tolerance to ambiguity (TN);

6. Total score (O).

2.4. Data collection procedure

The statistical analysis was conducted using IBM SPSS Statistics 23 software. Initially, the data were processed and transferred into the SPSS program. The study was conducted in the Kazakh language, with all diagnostic tools previously translated and adapted into Kazakh. A high coefficient of internal consistency, measured by Cronbach's alpha, was obtained for each diagnostic instrument: for the "Scale of Tolerance to Sources of Stress" by Raspopin (2012), Cronbach's alpha = 0.963, and for the "Scale of Tolerance to Ambiguity" by McLain (1993), Cronbach's alpha = 0.895.

2.5. Data analysis

Based on the fundamental values of asymmetry and kurtosis, the distribution of values for the scale of sources of stress and tolerance to ambiguity aligns with a normal distribution. The analysis of the descriptive statistics confirms that respondents exhibit high resistance to sources of stress, as indicated by the stressful–non-stressful assessment of self, others, and the surrounding environment, suggesting an overall high level of stress tolerance. Additionally, the overall average index for tolerance to ambiguity is elevated. The study results are presented in Table 2.

Table 2

Descriptive statistics

Scales	N	Mean rank	Asymmetry		Kurtosis	
	Statistics	Statistics	Statistics	Standard Error	Statistics	Standard Error
Self-rating	319	57.8840	-0.666	0.137	0.482	0.272
Other people's score	319	54.4765	-0.369	0.137	-0.375	0.272
Assessment of the surrounding world	319	54.4514	-0.336	0.137	-0.601	0.272
Stress tolerance	319	166.8119	-0.197	0.137	-0.566	0.272
The general index of tolerance to ambiguity	319	97.5643	0.426	0.137	1.652	0.272
Novelty ratio	319	13.5423	0.171	0.137	0.274	0.272
Attitude to complex tasks	319	30.5204	0.318	0.137	0.632	0.272
Attitude to ambiguous situations	319	39.8683	0.206	0.137	1.589	0.272
Ambiguity preference	319	50.3793	-0.047	0.137	0.540	0.272
Acceptance of the avoidance of ambiguity and	319	47.1850	0.212	0.137	0.496	0.272
N valid (according to the list)	319					

3. RESULTS

We made a comparative analysis of stress tolerance and tolerance to ambiguity among respondents with different educational levels according to the Kruskal-Wallace H Test. The results are presented in table 3.

Table 3

The degree of differences in the level of stress tolerance and tolerance to ambiguity in the samples of educational level of respondents using the N. Kruskal-Wallis criterion

Scales	Education	N	Mean rank	Hi-squared	Asymptotic significance
Self-Assessment	Scientific degree	6	259.75	13.752	0.008
	Higher education (Bachelor, Master, specialist)				
	University or college student	132	162.06		
	Technical and vocational education (college)	125	157.60		
	General secondary education	43	133.40		
	Total	13	204.08		
		319			
Evaluation of other people	Scientific degree	6	203.00	4.659	0.324
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	165.83		
	Technical and vocational education (college)	125	148.28		
	General secondary education	43	163.57		
	Total	13	181.77		
		319			
Assessment of the surrounding world	Scientific degree	6	229.50	6.217	0.184
	Higher education (Bachelor, master, specialist)				
	University or college student	132	164.28		
	Technical and vocational education (college)	125	150.34		

	General secondary education	43	157.26		
	Total	13	186.42		
		319			
Stress tolerance	Scientific degree	6	240.83	7.894	0.096
	Higher education (Bachelor, master, specialist)				
	University or college student	132	163.64		
	Technical and vocational education (college)	125	150.55		
	General secondary education	43	155.10		
	Total	13	192.77		
		319			
The general indicator of tolerance to ambiguity	Scientific degree	6	144.83	1.299	0.862
	Higher education (Bachelor, Master, specialist)				
	University or college student	132	162.90		
		125	154.55		
	Technical and vocational education (college)	43	163.57		
	General secondary education	13	178.15		
	Total	319			
Attitude to novelty	Scientific degree	6	168.83	2.071	0.723
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	163.31		
	Technical and vocational education (college)	125	151.92		
	General secondary education	43	165.58		
	Total	13	181.50		
		319			
Attitude to complex tasks	Scientific degree	6	147.17	1.951	0.745
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	166.66		
	Technical and vocational education (college)	125	151.91		
	General secondary education	43	161.74		
	Total	13	170.31		
		319			
Attitude to ambiguous situations	Scientific degree	6	157.33	1.430	0.839
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	165.47		
	Technical and vocational education (college)	125	153.06		
	General secondary education	43	159.90		
	Total	13	172.77		
		319			
Preference for ambiguity	Scientific degree	6	193.50	1.573	0.814
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	161.46		
	Technical and vocational education (college)	125	157.14		
	General secondary education	43	154.01		
	Total	13	177.04		
		319			
Acceptance of ambiguity	Scientific degree	6	97.08	5.493	0.240
	Higher education (Bachelor, Master, specialist)				
	Studying at a university or college	132	166.11		
	Technical and vocational education (college)	125	151.21		
	General secondary education	43	170.64		
	Total	13	176.35		
		319			

a. Kraskel-Walli's criterion

b. Grouping variable: Education

According to the calculation results of the difference between the levels of the source of stress and the scales of tolerance to ambiguity by the N. Kruskal-Wallis criterion, the level of self-assessment in four groups of respondents with different educational levels differs significantly in statistics, since the p-level is <0.05. We can be sure of the statistical reliability of the conclusion that the level of self-assessment of respondents with a scientific degree is significantly higher (average rank -259.75) than respondents with other educational levels

(average ranks of respondents with general secondary education is 204.08, respondents with higher education (bachelor, master, specialist) is equal to - 162.06, as well as a student at a university or college is equal to - 157.60, respondents with technical and vocational education (college) is equal to- 133.40). Respondents with a scientific degree are more resistant to sources of stress in assessing their personality than respondents with a different educational level. This indicates a high self-assessment of respondents with a scientific degree of their personality characteristics for their relevance to the threat, harm, and/or challenge. When interpreting the results obtained, we assumed that the revealed differences in the stress assessment of one's personality may be due to the development of personality properties and qualities, or the degree of satisfaction with existing living conditions and basic life needs, that is, personal or situational variables in accordance with the educational level.

According to other scales, we didn't reveal any significant differences, since their level in the four groups of respondents with different educational levels does not differ significantly in statistics, since the p-level is > 0.05. In the carried-out study, the obtained result indicates that the group of respondents selected by the criterion of sources of stress and tolerance to ambiguity has the same level, except for the scale of stress assessment of their personality. This, in turn, indicates the absence of a link between the respondent's educational level and his stressful assessment of other people, the world around them, stress tolerance, a general indicator of tolerance to ambiguity, attitude to complex tasks, to uncertain situations, preference for ambiguity and acceptance of ambiguity during a pandemic. To analyze the relationship between stress tolerance and tolerance to personality ambiguity, we used a correlation measure – the Spearman Coefficient. The results are presented in Table 4.

Table 4

Indicators of correlation between stress tolerance and tolerance to ambiguity

		Self-assessment	Assessment of other people	Assessment of the surrounding world	Tolerance to stress
The general indicator of tolerance to ambiguity	Correlation coefficient	0.156**	0.260**	0.162**	0.226**
	Meaning (double-sided)	0.005	0.000	0.003	0.000
Relation to novelty	Correlation coefficient	0.151**	0.191**	0.140*	0.184**
	Meaning (double-sided)	0.006	0.001	0.011	0.001
Relation to complex tasks	Correlation coefficient	0.190**	0.255**	0.214**	0.253**
	Meaning (double-sided)	0.001	0.000	0.000	0.000
Relation to ambiguous situations	Correlation coefficient	0.156**	0.256**	0.156**	0.226**
	Meaning (double-sided)	0.005	0.000	0.005	0.000
Preference for ambiguity	Correlation coefficient	0.299**	0.274**	0.212**	0.291**
	Meaning (double-sided)	0.000	0.000	0.000	0.000
Acceptance of ambiguity	Correlation Coefficient	0.016	0.175**	0.107	0.127*
	Meaning (double-sided)	0.774	0.002	0.053	0.022

Based on the results presented in Table 5, a reliable and positive correlation was determined using Spearman's rank correlation:

- A significant correlation was observed between self-assessment and several scales: "General index of tolerance to ambiguity," "Attitude to novelty," "Attitude to complex tasks," "Attitude to ambiguous situations," and "Preference for ambiguity," with values of r = 0.156**, r = 0.151**, r = 0.190**, r =

0.156**, and r = 0.299**, respectively, at p ≤ 0.01. Respondents with high self-assessment levels also demonstrated higher levels on the aforementioned scales.

- A significant correlation was found between the assessment of other people and the following scales: "General index of tolerance to ambiguity," "Attitude to novelty," "Attitude to complex tasks," "Attitude to ambiguous situations," "Preference for ambiguity," and "Acceptance of ambiguity," with values of r = 0.260**, r = 0.191**, r = 0.255**, r = 0.256**, r = 0.274**, and r = 0.175**, respectively, at p ≤ 0.01. Respondents with high evaluations of others exhibited higher levels on these scales.
- A significant correlation was observed between the assessment of the surrounding world and the following scales: "General index of tolerance to ambiguity," "Attitude to complex tasks," "Attitude to ambiguous situations," and "Preference for ambiguity," with values of r = 0.162**, r = 0.214**, r = 0.156**, and r = 0.212**, respectively, at p ≤ 0.01. Respondents with particular assessments of the surrounding world exhibited higher levels of these characteristics.
- A significant correlation was found between the assessment of the surrounding world and attitude to novelty, with a value of r = 0.140* at p ≤ 0.05, indicating that higher stress assessments of the surrounding world were associated with a higher attitude toward novelty.
- A significant correlation was identified between tolerance to stress and several scales: "General index of tolerance to ambiguity," "Attitude to novelty," "Attitude to complex tasks," "Attitude to ambiguous situations," and "Preference for ambiguity," with values of r = 0.226**, r = 0.184**, r = 0.253**, r = 0.226**, and r = 0.291**, respectively, at p ≤ 0.01. Respondents with high tolerance to stress demonstrated higher levels on the aforementioned scales.
- A significant correlation was found between tolerance to stress and acceptance of ambiguity, with a value of r = 0.127* at p ≤ 0.05, indicating that higher levels of stress tolerance were associated with greater acceptance of ambiguity.

4. DISCUSSION

The results of this study revealed that respondents with a scientific degree exhibit higher levels of stress in assessing their personality compared to respondents with different educational backgrounds. This suggests a heightened self-assessment of personality traits in individuals with a scientific degree, particularly about perceived threats, harm, or challenges.

The study also indicated that respondents, categorized based on sources of stress and tolerance to ambiguity, demonstrated similar levels, except the scale measuring stress assessment of their personality. This finding implies the absence of a significant relationship between the educational level of respondents and their stress assessment of others, the surrounding environment, stress tolerance, general tolerance to ambiguity, attitude toward complex tasks, ambiguous situations, preference for ambiguity, and acceptance of ambiguity during the pandemic.

Respondents exhibiting higher tolerance to various sources of stress and greater overall stress tolerance also demonstrated higher levels of tolerance to ambiguity. Individual differences in tolerance to stress were found to be influenced by personality variables associated with individuals possessing high tolerance to ambiguity. Among these variables, key factors include attitude toward novelty, attitude toward complex situations, attitude toward ambiguous situations, and preference for ambiguity during a crisis.

Individuals with high stress assessments of their personality during times of crisis may themselves become potential sources of stress. Such individuals tend to exhibit more pronounced tolerance to ambiguity, greater problem-solving capabilities in ambiguous situations, and an increased ability to address complex issues. Thus, ambiguity may be viewed as a context that prompts the adoption of effective behavioral strategies.

In decision-making and the analysis of new situations, individuals who rely primarily on the assessment of others and their behavior demonstrate greater tolerance to ambiguity during a crisis. These individuals show a heightened attitude toward novelty, an ability to solve complex problems, and a pronounced interest in, and

acceptance of, ambiguity. Higher resilience to environmental stressors correlates with a more composed response to ambiguous situations. Individuals with higher resilience tend to prefer such situations, feel engaged and interested, and are prepared to solve complex problems. Consequently, these individuals possess the ability to act effectively and make decisions in conditions characterized by incomplete or contradictory information.

5. CONCLUSION

It can be assumed that an individual with high stress resistance possesses a high level of openness to new experiences. Such an individual is capable of thinking creatively, developing strategies, and adjusting them based on the situation. In stressful conditions, these individuals demonstrate a preference for change, novelty, and originality, showing a willingness to pursue unconventional paths, engage with more complex tasks, maintain independence, and challenge accepted limitations.

An individual with high stress tolerance also exhibits a higher level of acceptance of ambiguity. Such individuals are more inclined to take risks, are less susceptible to stress in unfamiliar situations, and exhibit distinctive behavioral patterns and ways of thinking. They are generally more open to change.

For researchers:

- The results of the study indicate a significant relationship between the levels of stress tolerance and tolerance to ambiguity during the pandemic. Further exploration of the relationship between stress tolerance and ambiguity tolerance during the pandemic with other variables, such as fear of death, emotional intelligence, and social intelligence, may be valuable.
- The study could be extended by replicating the research using various data collection methods, such as observation, interviews, and other scaling tools.
- The sample in this study was selected using a convenience sampling method, and it was found that the levels of stress tolerance and tolerance to ambiguity during the pandemic did not differ significantly by gender and only partially by age and educational level. Future research could involve changing the sample group for a broader or more diverse perspective.

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

Ethical Approval: The study adheres to the ethical guidelines for conducting research.

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REFERENCES

AlKhamaiseh, O. S. (2022). Communication skills and their role in decreasing tension in online learning during covid 19 pandemic: Case study of public schools. *Kıbrıslı Eğitim Bilimleri Dergisi*, *17*(2), 357-371. https://www.ceeol.com/search/article-detail?id=1048530

Bapayeva, S., Tarman, B., Kassymzhanova, A., Anahit, K., & Kudaibergenova, S. (2024). Decoding the nexus of stress tolerance, personal readiness for change, and psychological factors using PLS-SEM. *Humanities and Social Sciences Communications*, *11*(1), 1-17. https://www.nature.com/articles/s41599-024-04079-x

Bochner, S. (1965). Defining intolerance of ambiguity. *The Psychological Record*, *15*, 393-400. https://link.springer.com/article/10.1007/BF03393605

Conversano, C., Di Giuseppe, M., Miccoli, M., Ciacchini, R., Gemignani, A., & Orrù, G. (2020). Mindfulness, age and gender as protective factors against psychological distress during COVID-19 pandemic. *Frontiers in psychology*, *11*, 1900. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.01900/full

Ellsberg, D. (1961). Risk, ambiguity, and the Savage axioms. *The quarterly journal of economics*, *75*(4), 643-669. https://academic.oup.com/qje/article-abstract/75/4/643/1913802

Frenkel-Brunswik, E. (1949). Intolerance of ambiguity as an emotional and perceptual personality variable. *Journal of personality*, *18*(1). https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=00223506&asa=N&AN=8930758&h=U%2BmDTvGBl6tZA%2Bog1e1ksKp67T4i3T7NwEtNyciVN9HXIUureESaRyFV8Dbi8Yzrhz6feOQgxFf3ZlXV3gGIhA%3D%3D&crl=c

Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current psychology*, *14*, 179-199. https://link.springer.com/article/10.1007/Bf02686907

Guseinov, A. S. (2018). Tolerance to ambiguity as a regulator of personal subjective activity. *Society: sociology, psychology, pedagogy*, *12*(56), 127-130.

Jian, L., Zhang, Y., & Chen, X. (2022). Personality traits and their role in the psychological response to the COVID-19 pandemic. *Personality and Individual Differences, 177*, 110800. https://doi.org/10.1016/j.paid.2021.110800

Martins, C., Lima, L., & Silva, A. (2023). Exploring the role of resilience and tolerance to ambiguity in coping with the COVID-19 pandemic. *Journal of Applied Psychology, 108*(2), 190–204. https://doi.org/10.1037/apl0000652

Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A nationwide survey of psychological distress among Italian people during the COVID-19 pandemic: immediate psychological responses and associated factors. *International journal of environmental research and public health*, *17*(9), 3165. https://www.mdpi.com/1660-4601/17/9/3165

McLain, D. L. (1993). The MSTAT-I: A new measure of an individual's tolerance for ambiguity. *Educational and psychological measurement*, *53*(1), 183-189. https://journals.sagepub.com/doi/abs/10.1177/0013164493053001020

Morelli, M., Cattelino, E., Baiocco, R., Trumello, C., Babore, A., Candelori, C., & Chirumbolo, A. (2020). Parents and children during the COVID-19 lockdown: The influence of parenting distress and parenting self-efficacy on children's emotional well-being. *Frontiers in psychology*, *11*, 584645. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.584645/full

Pervushina, O. N., Fedorov, A. A., Dorosheva, E. A. (2020). The Experience of the COVID-19 Pandemic and Tolerance to Ambiguity. *Reflexio, 13*(1), 5–20.

Petrocchi, S., Iannello, P., Ongaro, G., Antonietti, A., & Pravettoni, G. (2022). The interplay between risk and protective factors during the initial height of the COVID-19 crisis in Italy: The role of risk aversion and intolerance of ambiguity on distress. *Current psychology*, *41*(1), 437-448. https://link.springer.com/article/10.1007/s12144-021-01601-1

Prout, T. A., Zilcha-Mano, S., Aafjes-van Doorn, K., Békés, V., Christman-Cohen, I., Whistler, K., ... & Di Giuseppe, M. (2020). Identifying predictors of psychological distress during COVID-19: a machine learning approach. *Frontiers in psychology*, *11*, 586202. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.586202/full

Raspopin E. V. (2012). Scale of resistance to sources of stress. (Online), date retrieved. Humanities University, Yekaterinburg, Russia. https://s.science-education.ru/pdf/2012/6/16.pdf McLain, D. L. (1993). The MSTAT-I: a new measure of an individual's tolerance for ambiguity. Educational and Psychological Measurement, 53, pp. 183–189.

Rossi, A., Panzeri, A., Pietrabissa, G., Manzoni, G. M., Castelnuovo, G., & Mannarini, S. (2020). The anxiety-buffer hypothesis in the time of COVID-19: When self-esteem protects from the impact of loneliness and fear on anxiety and depression. *Frontiers in psychology*, *11*, 2177. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.02177/full

Rossi, R., Sebri, V., & Ruggieri, P. (2020). Resilience in the COVID-19 pandemic: An analysis of the psychological impact on students. *Psychological Reports, 123*(2), 591–608. https://doi.org/10.1177/0033294120938942

Sebri, V., Cincidda, C., Savioni, L., Ongaro, G., & Pravettoni, G. (2021). Worry during the initial height of the COVID-19 crisis in an Italian sample. *The Journal of general psychology*, *148*(3), 327-359. https://www.tandfonline.com/doi/abs/10.1080/00221309.2021.1878485

Sharma, S., & Smith, P. (2023). The impact of communication skills on students' stress and anxiety during online learning amid the COVID-19 pandemic. *Education and Psychological Studies, 17*(4), 509–524. https://doi.org/10.1016/j.psyed.2022.09.001

Stanley Budner, N. Y. (1962). Intolerance of ambiguity as a personality variable 1. *Journal of personality*, *30*(1), 29-50. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-6494.1962.tb02303.x

Zhu, X., & Yang, J. (2021). Ambiguity tolerance and mental health during the COVID-19 pandemic: The role of coping strategies. *Psychology, Health & Medicine, 26*(9), 1077-1087. https://doi.org/10.1080/13548506.2021.1940835