



How Stereotype Threat and Stress Affect Learning: From Theory to Empirical Evidence

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ABSTRACT

Stereotype threat and stress are prevalent factors in education. Students experiencing one of these two psychological phenomena often demonstrate lower academic or learning performance. This article reviews and synthesizes some research findings, emphasizing on how stereotype threat and stress affect learning. It examines different domains, including science education such as mathematics and physics and second or foreign language learning. It also examines different demographic groups which include races, ethnic minority, gender and social class. By integrating theoretical perceptives with empirical evidence, this article offers a comprehensive overview of how stereotype threat and stress affect learning process and provides educators and parents with strategies of how to deal with threat and stress. The results of the analysis give some implications on learning in general and in language learning in particular.

Introduction

Generally, learning can be defined as changes of behavior due to experience. More specifically, Brown, (2007) quotes definitions from contemporary dictionaries and reveals that learning is gaining or acquiring knowledge or information of a subject or a skill through a process of studying, experiencing, and instructing. As a process of acquiring knowledge, learning may lead to success and failure. Not all people are successful in getting the knowledge or skill they study or they experience. Their success and failure are influenced by various factors, including internal factors such as intelligence, talent, interest, attitudes, motivation, learning strategies, health, and emotions, and external factors such as family, school, society, and surrounding environment. Some of the factors may play more important roles in determining successful learning than the others. For example, factors such as intelligence (Vostroknutov et al., 2018), attitudes, interest, and motivation may positively affect learning (Lightbown & Spada, 2013) while others such as anxiety (Dörnyei, 2005), stereotype threat (Lyons et al., 2018; Rydell & Boucher, 2017), and stress (Pascoe et al., 2020) may negatively impact learning.

Like intelligence, motivation and other internal factors that affect learning, factors such as stereotype threat and stress have also been linked to learning performance. But unlike intelligence and motivation which are considered to contribute positively to language learning, threat and stress are considered to correlate negatively with learning. However, the question may arise. Do stereotype threat and stress really debilitate or impair learning? Or is there a situation in which these two factors facilitate learning? There have been a lot of studies conducted to answer these questions. This paper then tries to provide evidence on how threat and stress affect learning in general. The discussion in this paper will start with the concepts of both threat and stress and then it will be followed by some empirical research evidence which show the effects of these two psychological phenomena on learning, particularly on language learning as well as the implication of those research findings in the application of language teaching and learning process in the classroom.

Research Methods

This study employed a non-systematic library research method that involved a flexible, explanatory approach to collecting and reviewing literature without the strict inclusion and exclusion criteria. The study then reviewed resources existing in both library and online databases. It began with a general exploration of the topic, “How stereotype threat and stress affect learning” by searching books, articles, reports, blogs and other resources relevant to the topic. As the emphasis of non-systematic library research is on breadth, depth and adaptability of the review, this study gathered information from a wide range of materials, including academic-and non-academic sources so that the topic can be understood from different perspectives, identifying trends or finding inspiration for a more systematic review and empirical study

The next step was searching specific information related to the topic. Searching was conducted repeatedly without predefined search keywords or criteria. For example, initial search was the word: “stereotype threat”, “stress affecting learning”. When relevant sources were found, other keywords such as “relationship between stereotype threat and learning” and “relationship between stress and learning” were searched. While exploring and searching materials, the researcher made notes and summaries were compiled informally to encapsulate the ideas, trends, and contradictions existing in the literature. All of the information and insights obtained were used to refine the research focus and identify the potential areas of further exploration.

After the searching and the compilation of all of the materials were completed, the collected information was then analyzed to answer the research problems and to draw conclusion and to develop new insights.

Findings and Discussion

How Stereotype Threat Affects Learning

Before discussing the effects of stereotype threat on learning performance, it is necessary to firstly define the term “stereotype threat”. This term is defined in different ways according to what discipline it is used. General definitions of threat can be found in many

sources. Steele and Aronson (1995) defined Stereotype Threat (ST) “as being at risk of confirming, as self-characteristic, a negative stereotype about one's group” (p.797). ST is also defined by Hening (2023) as “the psychological phenomenon where an individual feels at risk of confirming a negative stereotype about a group they identify with” (par.1). Furthermore, in another work, Aronson and Inzlicht (2004) stated that ST is the apprehension or anxiety that individuals feel when performing in a domain where their group is stereotyped as lacking ability. The group of people that usually suffer from stereotype threat is the minority group such as Black Americans among White Americans, Asian students among British students in England. It is described as a range of conditions that lead people to perform or to act in a way according to a negative stereotype (Aronson & McGlone, 2009). The group of people that usually suffer from stereotype threat is the minority group such as Black Americans among White Americans, Asian students among British students in England (Steele & Aronson, 1995).

In light with the definitions provided above, it can be inferred that stereotype threat is a phenomenon or a condition in which a member of a group feels worried and is afraid that his or her performance may confirm an existing negative stereotype that can lead to poor performance in situations when the stereotype is applicable. ST can occur in various situations such as academic and social contexts and it is believed to have a strong connection with learning performance. This stereotype threat has drawn the attention of many researchers to investigate how it affects learning in different domains.

One of the significantly influential research findings on the correlation between stereotype threat and learning is that of Steele and Aronson (1995). Steele and Aronson found that the task performance of capable individuals is impaired when such a threat is presented during the performance. For example, they found that African American, when they were put in ST conditions, performed significantly worse on the GRE (Graduate Record Exam) than their White counterparts. Similarly, a study by Valerie Taylor and Gregory Walton discussed in Cho (2011) found that Black students under threatening condition performed worse than White students under a stereotype condition. In their study, Black and White students examined the definitions of new or rare English words, and then the words were tested in two different conditions (threatening or non-threatening). In the threatening learning condition, students were informed that the task would measure their "learning abilities and limitations" and "how well people from different backgrounds learn". In the non-threatening condition, students were informed that the task was addressed to identifying "different learning styles". These different conditions produced a dramatic effect on the Black students. In the non-threatening warm-up test, Black students who had studied in the threatening learning condition scored roughly 50% lower than Black students who had studied in the non-threatening condition. However, all the Blacks did poorly on the 'real' test, in which stereotypes had been presented. This indicates that ST influences the learning performance of the participants.

Another research finding which shows how this stereotype threat affects learning was a research by Spencer et al. (1999). They carried out a study on stereotype threat with another “marginalized” group, namely women group. Their study intended to test the belief

that when it comes to standardized tests, women typically have a lower level of performance than males do because of the threat of stereotypes. The sample for the study consisted of undergraduate males and females who were regarded as having equivalent levels of competence in mathematics performance. The study revealed that in the stereotype threat condition men outperformed women. In the non-stereotype condition, women and men had equal performances. The finding of this study is consistent with what Mcjunkin (2009) found related to the effect of removing stereotype threat on women's math performance. He discovered that a woman who took a math exam even if she was not informed verbally or visually of the stereotype, this threat considerably interfered with her performance, especially on a difficult math test. This research then investigated the effect of stereotype threat removal on women's mathematics performance in different situations. It was found that when the stereotype threat was removed, women obtained good scores in math.

The studies above support the popular belief that women are stereotyped as having lack of ability in math test. The presence of ST will decrease women's learning performance because women under ST situation show significantly decreased working memory and have lower achievement on test (Schmader et al., 2008). This implies that the removal of the ST will lead to an improvement in learning performance. The findings proved the idea that women who are stereotyped as having poor competence in a particular subject such as math and physics, would find difficulties in learning when the threat is presented to them. Therefore, in order to increase women's learning performance, the negative stereotypes and biases about women's competences in traditionally man-dominated subjects should be actively challenged by both parents and educators.

The next study that was conducted by Aronson et al. (1999) also focused on race domain but involving a population which was usually not viewed as being stigmatized or marginalized. This study revealed that White males majoring in mathematics could become objects of ST, even though male is not typically considered as being stigmatized or marginalized. In this study White male undergraduate students majoring in mathematics were asked to accomplish math tasks in one of two conditions: an ST condition and a non-ST condition. In the ST condition, the students were prompted with the stereotype threat to determine why Asians appear to perform better in math tests. The result of this study demonstrated that White males students in the ST condition performed noticeably worse than those who were in the non-ST condition.

Research on how the stereotype threat affects learning does not stop on the cases of learning math in which race and gender are two domains that become the focus of studying stereotype threats. Research also has indicated that actually any individual belonging to any group can experience ST when this condition is manipulated. Another domain that may be influenced by ST is ethnic minority. The example of the study showing evidence that learning performance will decrease when ST is present in an ethnic minority students is the study conducted by Woolf et al. (2008) They discovered that the students from ethnic minorities may underperform in examinations partly due to a stereotype threat. They also found that students from ethnic minority backgrounds significantly underperformed in assessments

compared to their counterparts. In this case, the teachers and the students themselves did have negative stereotypes about the students from ethnic minority, who were observed as being over-reliant on book learning and exceptionally quiet in class. Students also reported being difficult to learn from unenthusiastic or intimidating teachers, implying that negative stereotyping might adversely impact these minority students.

Another phenomenon of ST that attracts the attention of researchers is social class. It was found that students from lower-income family performed worse on intellectual tasks (Croizet & Claire, 1998) and had worse inhibitory control ability (Wang & Yang, 2020, 2023) than those from the higher income household. In addition, students in this stigmatized group also experienced higher test anxiety and have a worse performance compared to their middle and higher income students (Harrison et al., 2006). All of the studies indicate that students from disadvantaged backgrounds, including those belonging to stereotyped groups, face a risk of reinforcing existing negative stereotypes about their abilities. The studies specifically imply that they may inadvertently validate prejudiced perceptions of having low intellectual ability, cognitive ability and inhibition ability. Croizet and Claire (1998) assumed that, on a stereotype-relevant test, members of this group would feel apprehensive about validating their negative reputation, and this vulnerability to the stereotype would hinder their performance. Individual who face negative stereotype about their capacity often experience chronic stress that not only can directly impair performance but also can lead the individual to prevent themselves from facing these negative stereotype and relevant stressors (Schmader et al., 2008).

The research findings outlined above examine different domains of stereotype in science education, including subjects such as math and physics. Moreover, the effects of ST are also found in language learning, including in the four language skills: listening, speaking, reading and writing. Similar to the effect of stereotype threat found in science education, the stereotype threat in language learning also postulates that when individuals come from a particular stigmatized group, they will likely experience heightened anxiety and poor performance due to their fear of conforming to negative stereotypes. Research findings have demonstrated that language learners who belong to stigmatized groups such as non-native speakers, learners from certain minority ethnic group and cultural background may underperform on language tasks when they are informed of negative stereotype about their group's language ability.

One of the stigmatized groups related to language learning and acquisition is male group. It is evidenced that under certain condition men may face stereotype threat in language learning (Chaffee et al., 2020). Huang (2023), for example, stated that in learning a foreign language, women are better learners than men. This phenomena was also confirmed by (Kutuk, 2019) in Turkish context that females are better in learning a foreign language. Boys or males are perceived to underachieve in foreign language learning (Dahmani et al., 2022). The fact that males are outperformed by females in language learning can create a stereotype threat. Theoretically, when this ST is emphasized to males, they may experience increased anxiety that can lead to poor performance in language learning due to

their fear of confirming this negative stereotype. However, empirically, this ST did not adversely affect language learning performance of male students (Chaffee et al., 2020). In the learning condition where ST was explicitly or implicitly reminded, learning difficult words from reading narrative texts was not affected by ST (König et al., 2023). This is also consistent with Kutuk (2019) who found that although male learners performed worse in listening test when they were put in an ST condition, the belief that women were better in language learning does not affect the men's performance through the level of their self-efficacy and anxiety. Unfortunately, there is a limited empirical studies that show evidence if male students would perform worse when they are reminded about their negative stereotype on language learning. Further research needs to be conducted in order to confirm the assumption that male is not good at language learning and this assumption will be a threat for them.

If some studies on gender stereotype demonstrated that ST did not seemed to impact male language performance, other ST domains such as non-native speakers, ethnicity, and other social background are hypothesized to affect foreign language learning. However, there are very limited empirical research findings which investigate whether these stigmatized groups significantly and negatively affect language learners' competence. That non-native speakers are incompetent and unintelligible in English language proficiency is the most common stereotype addressed to this stigmatized group (Bruce, 2024). An empirical study comparing between stigmatized and non-stigmatized non-native speakers found if "stigmatized nonnative speakers experienced more negative interpersonal interactions, higher levels of intergroup threat, and reduced performance on an English test compared with nonnative speakers who did not experience stigma" (Birney et al., 2020, p.67). The negative perception that non-native speaker' accent is less comprehensible and incorrect makes non-native students reduce their interactions with native speakers. Even when they interact with native speakers, non-native speakers accents can induce feelings of anxiety that may contribute or strengthen ST and this anxiety may lead to linguistic errors among second language learners (Bazhouni, 2020)

Except for gender domain in language learning, all of the studies presented above have indicated that stereotype threat affects learning in the extent that it debilitates rather than facilitates learning. Most of the research findings presented above support the idea that stereotype threat is a negative factor that needs to be removed or at least reduced in order that people, especially students, can perform better in learning. The research also showed that performance indicated by the participants is not influenced by their intellectual incapability because the participants had equal ability before they involved in the experiments. This means that their performance was associated with the stereotype threat manipulated to them. Therefore, positive self-stereotypes should be encouraged because when an individual is focused on reaching positive outcomes (promotion-focused) he or she will be lead to a mental state which is characterized by eagerness and enthusiasm, whereas negative stereotypes should be discouraged because when an individual is focused on avoiding negative outcomes and preventing mistakes (prevention-focused) he or she will be lead to a state of increased vigilance and caution (Seibt & Förster, 2004)

How Stress Affects Learning

Another psychological factor which becomes our concern in this paper is *stress*. ST and stress are very closely related in that when people face ST, they frequently feel increased level of stress because of the pressure of potentially confirming negative stereotype about their group. Selye (1976) defined stress as “the nonspecific response of the body to any demand made upon it” (p.137). According to him, stress occurs as a result of the body's alarm response to an existing threat, which is signaled as an autonomic process like heightened heartbeats. This stage is followed by rejection or a negative reaction towards the stressor until the body is unable to fight against the stressor. This is called stage of resistance. Stress reaches the stage of exhaustion when the body is unable to respond and the physiological response has run its course. At this stage the stressor will continuously create psychological disease and damage, which could result in death.

Wheaton & Montazer (2009) illustrated stress by relating to stressor and distress.

“When people say, ‘I feel stressed,’ they are in fact referring to distress because they are implicitly referring to the behavioral response to stressful conditions, manifest in the form of a mixture of depression and anxiety. When people say, “I have a lot of stress in my life,” they typically are referring to stressors, the forces acting on us that constitute either threats to or demands on our current life and that are located in our social environments” (p.171).

Using the definitions above, it can be understood that stress emerges as a response to a real or perceived threat or stressor and it can occur to all people who are exposed to stressors. In other words, stress affects all of us, in almost every aspect of our life. Stress is characterized by an increased heartbeat rate, a dry mouth, and excessive sweating but many people are unaware that these symptoms are the natural reactions of our body to stressors (Whiting et al., 2021). Existing research findings suggests that besides stereotype threat, stress also affects learning and memory by blocking chemical reactions in the brain that are required for learning and it can interrupt learning and memory development (University of California - Irvine, 2008). Therefore, like stereotype threat, which generally impairs learning, stress is also considered a factor which contributes to unsatisfactory learning performance, including language learning. Experience in learning English as a foreign language also showed that when individuals felt stressed, they could not concentrate on the lesson and this condition may influence their performance in learning. There have been a number of studies whose findings support the evidence of how stress affects learning. The following discussion will present a few of them.

One of the important findings related to stress and learning is outlined by Vogel and Schwabe (2016). They found that the negative consequences of stress on students learning performance include impairing memory retrieval, inhibiting knowledge integration, and using strong and rigid memories rather than creative thinking to solve new problems. This is consistent with Pascoe et al. (2020) and Rahman et al. (2020) that academic-related stress is a crucial factor that negatively affects the academic performance of students from both secondary and tertiary education. This finding indicates that high levels of stress are linked to lower learning performances. However, the impact of stress on students depends on the

level of their stress and the different levels of demand in learning tasks (Whiting et al., 2021). This implies that individual differences in responding to stress, accompanied with specific demands in learning task may lead to different impacts of stress on learning performance. As a result, some children may perform better in learning while others need to struggle.

The effects of stress on learning have been acknowledged by researchers in the field and the effects can be negative or positive. Positive stress or eustress is facilitating and needs to keep by the individual but negative stress or distress can lead to a variety of behavioral problems such as lower performance (Alqahtani & Alajm, 2013). In an interview, Anthony Cody as an interviewer asked Catharine Warner an interesting questions dealing with stress. The question is: how does stress affect learning? Catherine Warner explained that her research findings suggest that stress negatively affects the way children learn. Children under stress conditions exhibited learning problems such as difficulty with attentiveness. Stress also affected the way children stay engaged in class, the way they stay focused on task, and the ability to move from one to another activity. Moreover, her research findings also indicate that stress caused children have problems in interacting with peers such as difficulties in making friends, associating with other children, and expressing feeling (Jody, 2011). This finding clearly shows that stress does not facilitate learning, conversely, it impairs learning.

Another study which indicates that there is a negative relationship between stress and learning is a study conducted by University of California - Irvine (2008). In this study, Dr. Tallie Z. Baram and her colleagues did a research to investigate whether stress affects learning and memory. They found that stress impairs brain functioning, which leads to poor learning skills and memory loss. They said that in human body there are two types of stress hormones, one is called *cortisol* and another is called *corticotropin* releasing hormones. Cortisol is released to respond to stress, circulating through our body when we feel stressed or anxious, whereas, *corticotropin* releasing hormone disrupts the processes of brains in collecting and storing memories. They argued that the stress hormone, *cortisol*, plays an important role in long-term stress. They stated that individuals whose cortisol levels are consistently high tended to perform poorly on memory tests. This study clearly shows that long-term stress negatively affects learning. On the other hand, short-term stress may affect learning and memory when our body releases *corticotropin* stress hormone when we are in a stress condition because this stress hormone will disturb the process by which our brain collect and store information in memories. This finding may explain why some people, especially older people are forgetful or have difficulty in retaining information during stressful situations.

The next evidence which showed that stress affects learning is a study conducted by (Flook & Fuligni, 2008). In their study, the students were instructed to keep a diary of their everyday school and family experiences for two weeks. The diary featured a checklist assessing conflict with parents, family expectations, learning difficulties, school attendance, and other possibly stressful problems. It was found that students who experienced familial stress at home, they faced more difficulties with attendance and learning in the classroom. Conversely, those who felt stressed about their classes found more stressful issues at home

the following day. This finding also indicates that stress negatively affect students' academic achievement.

Supporting the finding above, (Goleman, 2017) describes several serious effects of stress. First, stress can cause learning difficulties such as difficulty in staying focused on a task and poor physical coordination. Second, it affects people of all ages by reducing their ability to learn, think and perform at their best. Third, severe stress releases chemicals that can impair performance for several days and if the stress is intense and long lasting, it can literally shrink the hippocampus, a part of the brain essential for memory and higher thinking.

In learning a new language, this psychological symptom is also found to influence language performance. The effect of stress on language learning is similar to how it affects learning in other subjects, that is, the impact of stress is personalized or unique to each person depending on the vulnerability and resilience of individuals and the types of learning task (Fink, 2016). In language learning, the term "stress" is usually used together with anxiety. They are frequently used interchangeably (Proietti Ergün & Ersöz Demirdağ, 2023). Therefore, some studies address these two psychological phenomena in the same investigations (Hashemi, 2011). In addition, Wang and Zhang (2021) said that "anxiety is a kind of stress instinct of the human body" (para.2).

Because stress and anxiety are related to each other (Peyman & Sadighi, 2011) and are often used interchangeably in explaining the factors that contribute to the language learning, these two psychological states can potentially weaken memories. Sirianni (2004) stated that if individuals with weaker working memory spans perform worse at language comprehension compared to those with stronger working memory spans. Furthermore, he argued that shortage in working memory can prevent accurate transmission of words to thought, thus affecting receptive language processing. This argument is strengthened by Gallagher, (1999) found that 62-95 % of children having emotional and behavioral problems encountered moderate to serious language problems, including vocabulary and comprehension.

That stress has a negative effect on language learning is validated by Xu et al. (2022) who uncovered that students who experienced pressure in English language learning may lead them to poor English academic performance, therefore, it is necessary to help students manage their stress in order that their English academic performance get improved. Stress is also found to negatively affect specific skills of language learning, such as reading comprehension (Peyman & Sadighi, 2011). The negative effect of stress is also found in first language acquisition. Children who are still in the process of language development can also experience stress and chronic stress in children negatively impacts their language development, especially related to their vocabulary development and diversity and syntactic complexity (Buchanan et al., 2024). In the context of bilingualism, stress is also found to have a negative effect (Blumenthal et al., 2006).

The sources of stress and anxiety have been investigated through various empirical studies. It is found that one of the main sources of stress and anxiety is the classroom setting, which is perceived by learners as a formal language classroom and it demands more correct and clearer use of the target language (Hashemi, 2011). Therefore, to avoid stressful

classroom atmosphere, it should be set up to be as friendly and informal as possible. Other sources of stress in learning include “academic demands, parent-child relationship, traumatic experiences during childhood, peer pressures, financial matters, and self-expectancy”(Kurniasih et al., 2020, p.66).

In light with the research findings discussed above, it can be inferred that stress is something that impedes learning process. Therefore, stress needs coping, that is, an effort to manage the stress. In an academic setting, coping with stress may take a form of increasing academic self-efficacy. A study conducted by Hayat et al. (2020) supports this argument that self-efficacy significantly and positively correlated with academic performance and metacognitive learning strategies. Students with high level of academic self-efficacy did not seem to experience stress in their academic environment. On the contrary, students with low level of academic self-efficacy were most likely to experience stress in their academic life. This implies that in order to reduce stress in academic life, students need to have high self-efficacy. Therefore, triggering self-efficacy may be a good way to reduce stress in learning.

Based on the discussion above, it can be seen that stereotype threat and stress affect learning and their effects are mostly negative. The empirical research findings on how these psychological states negatively affect learning have sufficiently convinced us that stereotype threat and academic stress are debilitating. They impede learning in general and language learning in particular. On the other hand, there may be no sufficient evidence which can prove that stress facilitate learning. Whether there is a situation or condition in which stress as defined above can help learners learn or think. More empirical studies are needed on this issue.

The Implication of the Research Findings on Learning

Having discussing and presenting research evidence about how threat and stress affect learning, it is clear that these factors play crucial roles in determining the successful and unsuccessful learning. It can be implied that if we want to achieve success in learning, threat and stress should not be present to students. Research presented above has shown that the activation of both threat and stress can impair learning performance of individuals on a wide variety of cognitive and social tasks that require controlled processing. The research also indicated that a person under threat or stress experiences a host of debilitating psychological responses, many of which interfere with intellectual performance and academic motivation. Because these two factors affect learning performance in a negative way, they need to be reduced or eliminated. People who are working in educational field or those who are dealing and having concern about education should have understanding and attention of how to manage stress and threat in order that they do not exist in the individual environment, especially in individual academic setting.

In order to achieve maximum learning performance, both educators and parents should manage that threat and stress do not exist in students' learning environment. There have been a lot ways suggested to reduce the effect stress and threat on learning. One possible way is by improving material resources and physical environment. Actually, this suggestion is not a new finding for educational policy, but at least it gives an idea that bad

academic environment may cause students to feel threatened and then stressed. Another way is by sharing responsibility between parents and teachers to support and motivate learners. Teachers working closely with parents will give more powerful influence on learners. Next, it is necessary to increase the sense of safety at school and in the home. Encouraging students to talk about their feeling such as fears, worries, and hopes will help reduce threat and stress. Some other possible ways to reduce stress and threat for learning are by making students feel accepted, at home and at school, allowing them to express their tension through activities such as writing journals, dance, art, and crafts, and providing them with ample encouragement, reassurance, and constructive feedback. These ways can significantly enhance their learning experience.

All of the possible ways to reduce stress presented above are very general suggestions for managing threat and stress, applied to learning in general, including math, medicine, and language. However, the implication of these research findings can be specifically directed to language learning, especially foreign language learning. One of the possible ways of making language learners feel unstressed and unthreatened is that they have to learn language in a relax situation. Traditional learning and teaching methods that rely on drills or repetitive tasks like those used in the audio-lingual method may increase anxiety and stress among students but learning environments that emphasize collaborations between teachers and students may reduce stress and anxiety leading to a more comfortable and enjoyable learning situation (Hashemi, 2011).

Liu & Wang (2023) suggested that in order to prevent stressful condition, language teachers should create friendly and unthreatening classroom atmospheres, promote learner autonomy for language learners and establish collaboration by working in groups or in pairs. They also found the use of learners' native language can help manage their stress and overcome any difficulties they encountered when they learn English. Other researchers suggested to apply teaching methods that can make students relax in the classroom such as using communicative language teaching (Hashemi, 2011) (Teng, 2023) and suggestopedia or desuggestopedia (Larsen-Freeman & Anderson, 2011) (Wang, 2023).

Suggestopedia or desuggestopedia is a teaching approach based on humanistic point of view which is well-suited for language teaching and learning because it focuses on how to deal with connection between cognitive capacity and learning efficacy. According to Krashen's Affective Filter Hypothesis, there are psychological barriers that affect learners in receiving input (Krashen & Terrell, 1998). Stereotype threat and stress are two psychological factors that can cause high affective filter, preventing language input from being processed or received effectively. In order to lower affective filter, positive emotions and supportive learning atmosphere should be encouraged to enable learners to process and receive language input easily. Therefore, by combining desuggestion and suggestion, the affective filter can be lowered, thus learners can be motivated and their learning ability can be enhanced.

Conclusion

Finally, it is concluded that stereotype threat and stress do affect learning and students, no matter what backgrounds students have and what fields they engage with. The effect of stereotype threat and stress can attack male, female, adults, children, poor or wealthy family background and so on, and the effect of these can be found in the fields of math, science, medicine, and other fields, including language learning. They not only affect how much the students can learn but also affect how well the students perform in learning. However, If we can help alleviate stressful and threatening situations in the classroom and remove barriers that may be hindering students' ability to learn, we can enhance their learning performance over time.

References

- Alqahtani, A. A., & Alajm, S. S. (2013). Psychological Stress in Language Learning: A Contemporary View beyond Teaching Methods. *Journal of Education and Practice* , 4(5), 168–171.
- Aronson, J., Lustina, M. J., Good, C., Keough, K., Steele, C. M., & Brown, J. (1999). When White Men Can't Do Math: Necessary and Sufficient Factors in Stereotype Threat. *Journal of Experimental Social Psychology*, 35(1), 29–46. <https://doi.org/10.1006/jesp.1998.1371>
- Aronson, J., & McGlone, M. S. (2009). Stereotype and Social Identity Threat. In T. D. Nelson (Ed.), *Handbook of Prejudice, Stereotyping, and Discrimination* (2nd ed., pp. 153–178). Psychology Press.
- Bazhouni, M. (2020, January 26). *The Influence of Stereotype Threat on Non-Native Accented Speaker's Communication Skills in Institutions of Higher Education* . Awraqthaqafya.Com.
- Birney, M. E., Rabinovich, A., Morton, T. A., Heath, H., & Ashcroft, S. (2020). When Speaking English Is Not Enough: The Consequences of Language-Based Stigma for Nonnative Speakers. *Journal of Language and Social Psychology*, 39(1), 67–86. <https://doi.org/10.1177/0261927X19883906>
- Blumenthal, P., Britt, T. W., Cohen, J. A., McCubbin, J., Maxfield, N., Michael, E. B., Moore, P., Obler, L. K., Scheck, P., Signorelli, T. M., & Wallsten, T. S. (2006). Stress effects on bilingual language professionals' performance. *International Journal of Bilingualism*, 10(4), 477–497. <https://doi.org/10.1177/13670069060100040501>
- Brown, H. D. (2007). *Principles of Language Learning and Teaching*. Pearson.
- Bruce, D. (2024, March 7). *Defying Stereotypes: Seven Must-Know Tips for Non-Native English Speakers*. LinkedIn.
- Buchanan, T. W., Steele, S. C., Burnett, C. L., Awais, K., Appenzeller, M., Bosen, A. K., & Conway, C. M. (2024). - Chronic Stress, Hair Cortisol, and Language Performance in Children. *Psychoneuroendocrinology*, 160, 106824. <https://doi.org/10.1016/j.psyneuen.2023.106824>
-

- Chaffee, K. E., Lou, N. M., & Noels, K. A. (2020). Does Stereotype Threat Affect Men in Language Domains? *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.01302>
- Cho, H. (2011, July 21). *Study finds stereotyping affects minority learning*. The Stanford Daily.
- Croizet, J.-C., & Claire, T. (1998). Extending the Concept of Stereotype Threat to Social Class: The Intellectual Underperformance of Students from Low Socioeconomic Backgrounds. *Personality and Social Psychology Bulletin*, 24(6), 588–594. <https://doi.org/10.1177/0146167298246003>
- Dahmani, H., Chbir, Y. Ben, & Bayour, A. (2022). Gender gaps in English as a second foreign language attainment: some Oujda High Schools case study. *Journal of Science and Education (JSE)*, 3(1), 13–22. <https://doi.org/10.56003/jse.v3i1.126>
- Dörnyei, Z. (2005). The Psychology of the Language Learner: Individual Differences in Second Language Acquisition. In *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition*. Lawrence Erlbaum Associates Publishers.
- Fink, G. (2016). Stress, definitions, mechanisms, and effects outlined: lessons from anxiety Stress Concepts, Cognition, Emotion, and Behavior. ed. G. Fink . In G. Fink (Ed.), *Stress Concepts, Cognition, Emotion, and Behavior* (1st ed., Vol. 1, pp. 3–11). Elsevier Academic Press.
- Flook, L., & Fuligni, A. J. (2008). Family and School Spillover in Adolescents' Daily Lives. *Child Development*, 79(3), 776–787. <http://www.jstor.org/stable/27563517>
- Gallagher, T. M. (1999). Interrelationships among Children's Language, Behavior, and Emotional Problems. *Topics in Language Disorders*, 19(2), 1–15.
- Goleman, D. (2017, December 6). *What's Your Stress Type?* Huffpost.
- Harrison, L. A., Stevens, C. M., Monty, A. N., & Coakley, C. A. (2006). The consequences of stereotype threat on the academic performance of White and non-White lower income college students. *Social Psychology of Education*, 9(3), 341–357. <https://doi.org/10.1007/s11218-005-5456-6>
- Hashemi, M. (2011). Language Stress And Anxiety Among The English Language Learners. *Procedia - Social and Behavioral Sciences*, 30, 1811–1816. <https://doi.org/10.1016/j.sbspro.2011.10.349>
- Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Medical Education*, 20(1), 76. <https://doi.org/10.1186/s12909-020-01995-9>
- Heaning, E. (2023, October 10). *Stereotype Threat: Definition and Examples*. Simply Psychology.
- Huang, Z. (2023). Exploring Gender Differences in Language Learning. In *Proceedings of the*
-

-
- 2nd International Conference on Education, Language and Art (ICELA 2022)* (pp. 543–554). Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-004-6_67
- Jody, A. (2011, June 7). *Interview: How Does Classroom Stress Affect Learning?* Education Week.
- König, S., Stang-Rabrig, J., Hannover, B., Zander, L., & McElvany, N. (2023). Stereotype threat in learning situations? An investigation among language minority students. *European Journal of Psychology of Education*, 38(2), 841–864. <https://doi.org/10.1007/s10212-022-00618-9>
- Krashen, S. D., & Terrell, T. D. (1998). *The Natural Approach: Language Acquisition in the Classroom*. Prentice Hall Europe.
- Kurniasih, S. K., Putro, N. H. P. S., & Sudiyono, S. (2020). Analysis of factors of students' stress of the English Language Department. *REID (Research and Evaluation in Education)*, 6(1), 66–77. <https://doi.org/10.21831/reid.v6i1.29567>
- Kutuk, G. (2019). *The Effects of Stereotype Threat on Foreign Language Performance through the Mediating Roles of Self-Efficacy and Anxiety*. Edge Hill University.
- Larsen-Freeman, D., & Anderson, M. (2011). *Techniques and Principles in Language Teaching* (3rd ed.). Oxford University Press.
- Lightbown, P. M., & Spada, N. (2013). *How Languages Are Learned* (4th ed.). Oxford University Press.
- Liu, Y., & Wang, J. (2023). Strategies for reducing EFL learners' foreign language anxiety in online classes: Investigating teachers' teaching credentials and experience. *Heliyon*, 9(7), e17579. <https://doi.org/10.1016/j.heliyon.2023.e17579>
- Lyons, E. M., Simms, N., Begolli, K. N., & Richland, L. E. (2018). Stereotype Threat Effects on Learning From a Cognitively Demanding Mathematics Lesson. *Cognitive Science*, 42(2), 678–690. <https://doi.org/10.1111/cogs.12558>
- Mcjunkin, L. (2009). *Effects of stereotype threat on undergraduate women's math performance: Participant pool vs. classroom situations*.
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, 25(1), 104–112. <https://doi.org/10.1080/02673843.2019.1596823>
- Peyman, S., & Sadighi, F. (2011). The Relationship between Iranian EFL learners' Stress and their Reading Comprehension. *Pan-Pacific Association of Applied Linguistics*, 15(1), 67–90.
- Proietti Ergün, A. L., & Ersöz Demirdağ, H. (2023). The predictive effect of subjective well-being and stress on foreign language enjoyment: The mediating effect of positive language education. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1007534>
-

- Rahman, B., Hamid, S., & Gul, A. (2020). The Impact of Stress on the Performance of University Students in the Light of Krashen's Affective Filter Theory. *Liberal Arts and Social Sciences International Journal (LASSIJ)*, 3(2), 59–64. <https://doi.org/10.47264/idea.lassij/3.2.7>
- Rydell, R. J., & Boucher, K. L. (2017). Chapter Two - Stereotype Threat and Learning. In J. M. Olson (Ed.), *Advances in Experimental Social Psychology* (Vol. 56, pp. 81–129). Academic Press. <https://doi.org/https://doi.org/10.1016/bs.aesp.2017.02.002>
- Schmader, T., Johns, M., & Forbes, C. (2008). An integrated process model of stereotype threat effects on performance. *Psychological Review*, 115(2), 336–356. <https://doi.org/10.1037/0033-295X.115.2.336>
- Seibt, B., & Förster, J. (2004). Stereotype Threat and Performance: How Self-Stereotypes Influence Processing by Inducing Regulatory Foci. *Journal of Personality and Social Psychology*, 87(1), 38–56. <https://doi.org/10.1037/0022-3514.87.1.38>
- Selye, H. (1976). Stress without Distress. In *Psychopathology of Human Adaptation* (pp. 137–146). Springer US. https://doi.org/10.1007/978-1-4684-2238-2_9
- Sirianni, J. P. (2004). Psychological stress and language processing in school-aged children IN SCHOOL-AGED CHILDREN. *Canadian Journal of Speech-Language Pathology and Audiology*, 28(3), 112–121.
- Spencer, S. J., Steele, C. M., & Quinn, D. M. (1999). Stereotype Threat and Women's Math Performance. *Journal of Experimental Social Psychology*, 35(1), 4–28. <https://doi.org/10.1006/jesp.1998.1373>
- Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, 69(5), 797–811. <https://doi.org/10.1037/0022-3514.69.5.797>
- Teng, Q. (2023). Using Communicative language Teaching Method to Reduce High School Students' Anxiety about Speaking English. *International Journal of Education and Humanities*, 10(1), 234–237. <https://doi.org/10.54097/ijeh.v10i1.11160>
- University of California - Irvine. (2008, March 13). *Short-term Stress Can Affect Learning And Memory*. ScienceDaily.
- Vogel, S., & Schwabe, L. (2016). Learning and memory under stress: implications for the classroom. *Npj Science of Learning*, 1(1), 16011. <https://doi.org/10.1038/npjscilearn.2016.11>
- Vostroknutov, A., Polonio, L., & Coricelli, G. (2018). The Role of Intelligence in Social Learning. *Scientific Reports*, 8(1), 6896. <https://doi.org/10.1038/s41598-018-25289-9>
- Wang, S. (2023). Suggestopedia and Its Application in Different Types of Learners. *OALib*, 10(11), 1–9. <https://doi.org/10.4236/oalib.1110863>
- Wang, S., & Yang, D. (2020). The effects of poverty stereotype threat on inhibition ability in individuals from different income-level families. *Brain and Behavior*, 10(12).
-

<https://doi.org/10.1002/brb3.1770>

- Wang, S., & Yang, D. (2023). The Effect of Socioeconomically Disadvantaged Stereotype Threat on Inhibitory Control in Individuals with Different Household Incomes. *Behavioral Sciences, 13*(12), 1016. <https://doi.org/10.3390/bs13121016>
- Wang, X., & Zhang, W. (2021). Psychological Anxiety of College Students' Foreign Language Learning in Online Course. *Frontiers in Psychology, 12*. <https://doi.org/10.3389/fpsyg.2021.598992>
- Wheaton, B., & Montazer, S. (2009). Stressors, Stress, and Distress. In *A Handbook for the Study of Mental Health* (pp. 171–199). Cambridge University Press. <https://doi.org/10.1017/CBO9780511984945.013>
- Whiting, S. B., Wass, S. V., Green, S., & Thomas, M. S. C. (2021). Stress and Learning in Pupils: Neuroscience Evidence and its Relevance for Teachers. *Mind, Brain, and Education, 15*(2), 177–188. <https://doi.org/10.1111/mbe.12282>
- Woolf, K., Cave, J., Greenhalgh, T., & Dacre, J. (2008). Ethnic stereotypes and the underachievement of UK medical students from ethnic minorities: qualitative study. *BMJ, 337*(aug18 1), a1220–a1220. <https://doi.org/10.1136/bmj.a1220>
- Xu, L., Wang, Z., Tao, Z., & Yu, C. (2022). English-learning stress and performance in Chinese college students: A serial mediation model of academic anxiety and academic burnout and the protective effect of grit. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.1032675>
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