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# The Effect of Body Posture on Foreign Language Anxiety

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**Abstract:** Some people of an anxious disposition have the tendency to enter a closed body posture while communicating with others, which is often seen as a physical response to their mental distress caused by the performance of this action. This closed posture, as it continues, has been show to further affects the anxiety felt by the speaker, feeding into their worries and forming a cycle of anxiety and difficulty in communication. Given that body posture is a factor in this cycle, if the posture is altered to a more positive form it is expected that the speaker will be less affected by anxiety potential reduction in may lead to improvements in the ability to communicate.

The aim of this study is to examine whether the language and general anxiety scores of ELT third-year students changed depending on their body posture and accordingly whether adopting high- vs. low-power poses can improve an individual's English speaking performance. In this study, the students' bodies were altered into 'open' postures, and the effect of this posture on the students' general anxiety and language anxiety levels was examined through the General Anxiety Scale and the Foreign Language Anxiety Scale, as well as through semi-structured interviews conducted with the participants, thus mixed methods research was used for this study.

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The study concluded that changing the body posture to an open style had a positive effect both on foreign language anxiety and on general anxiety. Moreover, the qualitative analysis of the interview protocols revealed consistency between the perception of the students about their speaking performance and their anxiety levels.

**Key words:** Body posture, foreign language anxiety, general anxiety.

# Introduction

Our bodies are an inescapable part of the way we both communicate ourselves and the way in which we come to understand the communications of others. In fact, research shows that 65% of our communication is indeed not verbal but conveyed through other forms (Hargrave, 2008). In their book, The *Definitive Book of Body Language*, Allan and Barbara Pease (2006) point out that 93% of human communication is actually done through facial expressions and bodily movements. When we learn to pay attention to our body language and to correctly interpret that of others, we gain greater control over situations because we can identify signs of openness, boredom, attraction or rivalry, and then act appropriately according to our goals from that interaction. When we talk of communicating with our bodies, we mean both bodily movement and body posture, both of which are related to the inner self characteristics of the person. Overall, it can be said that there are three classes of observable movements: facial movements, gestures and posture. Irrespective of this categorization, these movements are strongly intertwined, and it is might be difficult to give meaning to one, without taking the other into account.

Someone's body language can subtly convey his/her attitudes to a subject or interaction (Hargrave, 2008). In verbal communication, body language is one of the most imperative factors, by means of which we produce and receive a very large number of messages that are not expressed in words. The gestures we use in everyday life, such as crossing our arms, scratching our noses and shaking our head actually have meanings to convey. A study related to the relationship between body and cognitive process revealed that nodding in order to show agreement while listening to messages led to more positive attitudes to message content,

whereas shaking the head to show disagreement resulted in negative attitudes towards the content (Wells & Petty, 1980), which demonstrates the effect body language has not only on individuals themselves, but also on others during the communication process.

One interesting study was carried out by Cuddy has conducted extensive research into body language, in particular these power poses. She has found that opening our posture and adopting a power pose raises our testosterone hormone by an average of 25%. Now testosterone is not just linked to muscles and ego, it is our hormone related to dominance, competitiveness and confidence. It allows both men and women to get ahead and be more successful. Power poses also cause the levels of another cortisol hormone to fall by 20%. This hormone is a pretty good biomarker of our stress levels. Body postures might as well have an impact on motivation; participants positioned in a slumped posture showed lower persistence on insolvable puzzle tasks than participants positioned in an upright posture (Riskind & Gotay, 1982). In another study, three body postures were manipulated to create three levels of approach motivation. Consistent with the motivational direction model, results indicated that leaning forward with arms extended caused greater left frontal cortical activation as compared to reclining backwards (F. Price & Harmon-Jones, 2011). Moreover, posture itself might be fundamentally linked to the psychological well-being of people or problems a patient is experiencing, as the posture and emotions have been shown to have a significant connection Emotions affect muscles in many ways. For instance, the effect of anxiety on the heart and heart rate, the diaphragm and respiratory rate and the skeletal muscles can be observed (Siegel, 1989). The opposite is also valid; that is, muscle relaxation can alleviate anxiety (Sgarbossa, Maldaner, Mortari, Biasi, Leguizamo CP, 2009), and it is very common to use respiration with this purpose in meditative practices (Brown & Gerbarg, 2005).

Another study discovered that people often imitate each other's body languages in order to increase the level of sympathy shown, which, in turn, may facilitate a more positive interaction (Chartrand & Bargh, 1999). However, there have only been a limited number of studies of mimicry and its relationship with affiliated motivation in social interactions conducted so far, so more are needed to determine the strength of this relationship. e relationship between the postures and emotion has also been investigated by several other researchers, (Dittman et al., 1965; Ekman, 1965; Wachtel, 1967 and Sweeny et al., 1968). One

interesting study was conducted by Duclos et al. (1989), who led participants to adopt various body positions randomly associated with fear, anger and sadness, and found that these postural states modulated the affection experienced. In another study, Strack, Martin, and Stepper (1993) facilitated or inhibited zygomatic muscle contraction (smiling) by requiring participants to hold a pen in their mouths while evaluating cartoons. Participants rated the cartoons as funnier when the smile was facilitated rather than inhibited.

The relation between emotions and body posture can also be observed among animals. Studies in laboratory animals showed scientifically determined postures reflecting various emotions during their interactions with either other animals or human beings. Squatting in rats, for example, was demonstrated to be expressed when fearful (Blanchard and Blanchard, 1969; Blanchard and Fial, 1968), and the same body posture as a reaction to this was observed in dogs. Cats were found to arch the body to show fear or readiness to attack, further demonstrating the relationship between feelings and body language (Reis and Gunne, 1965). Furthermore, dogs were also found to use a wide range of body language, consisting of a wide range of body and tail representations in combination with various facial expressions. Eye contact was found to be an important part of the body language of the dog, with a direct look viewed as a threat or challenge (Saad, 1995). So, the body posture is an important sign of power. In both human and non-human primates, expansive, open postures reflect high power, whereas contractive, closed postures reflect low power. Body posture, gestures and facial expressions are an important part of communication. When individuals or animals are aggressive or want to seem more powerful, they display expansive open body postures to gain or show their confidence. The connection between body posture and confidence has been demonstrated by researchers, who confirmed that specific behaviours are related to dominance and power (Carney, Hall, & LeBeau, 2005; Hall, LeBeau, & Coats, 2005).

The body posture affects our feelings as shown by a number of studies showing that change in our physical postures and gestures can cause changes in our thoughts, moods, and feelings (Arnette & Pettijohn, 2012; Brinol, Petty, & Wagner, 2009; Carneym Cuddy, & yap, 2010; Cesario & McDonald, 2013; Cuddy, Wilmuth, & Carney, 2012; Rossberg- Schnall & Laird, 2003; Stepper & Strack, 1993). The Emotional processes of ours are under influence of our body movements, so people usually explicit their feelings and moods by means of their facial

visage and bodily postures as well as vocal expressions and gestures (Flack, Laird, cavallaro, & Miller, 1989). Simply sitting up straight can help individuals feel more motivated and has been shown to activate the left prefrontal cortex in more than when they are in reclined positions (Harmon-Jones & Peterson, 2009). Moreover, Schubert and Koole (2009) revealed that the participants in their study reported stronger feelings of empowerment when they formed the shape of a fist with their hand, a movement which can be considered as a dominant posture. Similarly, when you form an open or closed body posture you signal a change in your thinking or feeling. In context, this movement probably occurs due to what the person you are communicating with has said or done with that interaction. According to a study performed on body posture specifically, open and 'dominant' poses appear to be related to boost salivary and blood serum levels of testosterone, a hormone proven to have a connection to dominance and status-seeking. Conversely, weak and closed body posture was shown to reduce levels of cortisol, a hormone linked to stress and lower social status (Carney, Cuddy, & Yap, 2010).

Not only in humans but also among animals, possessing a confident posture is reflected through open, expansive postures while having low body posture is reflected through closed, contractive ones (Carney et al., 2005), which can be seen in Figure 1 and 2.

*Figure 1*. A 'closed' body posture (Klein, 2019)

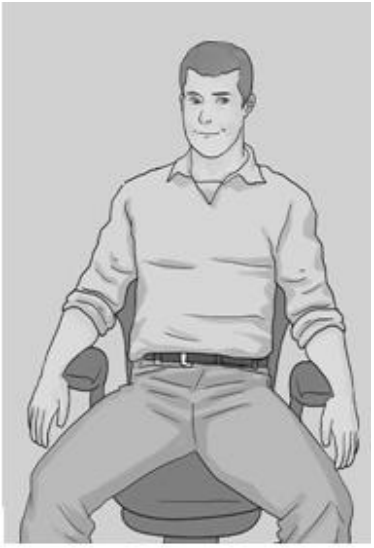

*Figure 2.* An 'open' body posture (Klein,2019)

As seen in Figure 2, an open body posture encompasses an expansive bodily position, such as one wherein the limbs are open. However, in a closed body posture a person forms'contracted' positions with their body, and their limbs are often closed, which can be seen in Figure 1. Furthermore, these wide, open postures have been shown to boost confidence, and therefore, might be helpful when an individual is trying to express themselves, whereas a constricted body posture might lower confidence and thus restrict effective communication (Briñol, Petty, & Wagner, 2009). Therefore, body posture has an important role in multiple important cognitive processes and having confidence (Fischer, J., Fischer, P., Englich, Aydin, & Frey, 2011) while performing an activity.

# Methodology

For this study, a mixed-method approach combining both quantitative and qualitative method was used. A single group pre-test post-test experimental design was chosen from experimental models and semi-structured qualitative interviews were conducted. The first and second of performances of the participants were recorded and assessed by a native English teacher and the study was conducted on third and fourth year students of English language teaching at a university in Turkey.

In this study, the General Anxiety Scale (Spitzer et al., 2006), which is a self-reported questionnaire used to screen generalized anxiety disorder; and the Foreign Language Anxiety scale FLACS (Horwitz et al., 1986), were used to determine the level of foreign language anxiety and general anxiety of the students, who were assigned as dependent variables.

## Participants

The study involved a total of 67 volunteers who were students from the department of English teaching and aged between 21-25 at Yuzuncu Yil University in Van, Turkey. Of these students, 45 were female and the remaining 22 were male. From these, 35 were identified as having medium and high levels of foreign language anxiety with a score of over 78 on the scale, and these participants were chosen to take part in the research. The participants who scored 33 to 75 on the scale were identified as having a low level of anxiety and were removed from the study. Moreover, after applying the placement test, another two participants were

removed from the study as their level of English was not equal to the majority of the group. Furthermore, even though the English level of the participants was comparable as they were all able to pass the Turkish university language exam (LYS -5) to attend ELT departments and had all been studying English for a minimum of seven years; after an IELTS practice test including reading, writing and listening 15 participants were elimated as they could not achieve scores between 6 and 7 points Thus, 20 participants joined this experimental study.

## The procedure

The 20 participants were interviewed in an office for around two minutes each about a topic specified by the researchers, each of equal difficulty. Owing to the anxiety they felt when speaking in their second language, each participant was in a closed body posture while speaking. Immediately after the speaking test, the General Anxiety scale and the Foreign Language Anxiety scale were applied to the participants as pre-tests.

A week later, participants were asked to speak English in the same office with conditions remaining as before. Before starting this process, participants were helped into a comfortable and open sitting position, in contrast to the first Part of the test. Once more, immediately, students were asked to fill in the General Anxiety and the Foreign Language Anxiety scales, this time as post-tests.

Both the participants' first and second sessions were recorded and then number-coded to assure confidentiality. Their first and second sessions were assessed by an native English teacher to see the difference between the two performances. After the experiment, the participants were interviewed about their performance in the first and second sessions and were asked to compare both and to think about whether the postures they spoke in had any impact on their confidence when speaking English. Repeated Measures ANOVA was used to perform data entry and analysis.

## The Instruments

The FLCAS consisted of 33 items and used a five-point Likert scale (ranging from "strongly disagree" to "strongly agree" with a neutral category in the middle. The scale

contained 9 negatively worded items, the scores of which were reversed prior to analyses. The possible FLCAS scores range from 33 to 165. The higher the score, the greater the fear of the foreign language (Horwitz et al.,1986).

The Generalized Anxiety Scale (GAD) 7 (Spitzer et al., 2006) is a self-reported scale used to measure the severity of generalized anxiety disorder. The results of the assessment are seen through the total score, which is composed of adding the score to the scale of the seven items (I don't think this makes sense). The scale uses a normative scoring system with qualitative descriptions describing the person's anxiety over the last 2 weeks. A semi-structured qualitative interview form was also used to see if the participants felt there was any difference in their speech across the two sessions

An IELTS practice test by Byron Bay English Language School (2017) consisting of four parts, reading, use of English, writing and listening, was used to determine the participants' English proficiency level.

## Findings

The pre-test scores of the participants showed that the female students had lower scores for language anxiety than the male students, and that the female students had higher scores for general anxiety than the male students. These differences were statistically significant in the pre-test.

The study also showed that there was a statistically significant decrease in both language anxiety scores and general anxiety scores when the posture of the body was altered to an open position when pre-tests and post-tests were compared. However, it was observed that the male students experienced a greater decline in language anxiety than the female students. , However, the decrease in both language anxiety and general anxiety scores was not significant in terms of gender.

**The Effect of Body Posture on Foreign Language Anxiety**

To elucidate how body postures can influence general anxiety and foreign language anxiety, the pre-test and post-test scores were analysed by using Repeated Measures ANOVA and the descriptive statistics can be seen below.

**Table 1.** The descriptive statistics of the pre-test and post-test scores of participants

| Tests | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Pre-lang anxiety | 20 | 82 | 143 | 115,7 | 13,80351 |
| Pre-gen anxiety | 20 | 10 | 28 | 19,05 | 5,35552 |
| Post-gen anxiety | 20 | 10 | 25 | 17,25 | 3,87808 |
| Post lang-anxiety | 20 | 68 | 120 | 90,95 | 12,03711 |
| Valid N (listwise) | 20 | | | | |

Table 1 shows that the minimum score of the language anxiety of the participants in the pre-test is 82.00 and the maximum score is 143.00, with the mean score for the language anxiety of the participants thereby being 115,700 for the pre-test. The Std deviation is 13,80. A change is visible in the results of the post-test of language anxiety as the minimum score is 68 and the maximum score 120, with the mean score of the participants in post-test as 90, 95. Here, the Std deviation is 12,03. In the case of general anxiety, the minimum score in the pre-test was 10 and the maximum score 28, with a mean score of 19 and an Std deviation of 5,35. In the post-test of general anxiety, the minimum score is occurred at 10 and the maximum at 25, with a mean of 17,25 and an Std deviation of 3,8.

**Table 2.** The T-test statistics of the participants in the pre-test and post-test according to gender.

| Tests | Gender | N | Mean | Std. Deviation | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|
| Pre-test Lang anxiety | Female | 15 | 117,933 | 15,1585 | 1,274 | 18 | 0,219 |
| | Male | 5 | 109 | 5,09902 | 1,972 | 17,899 | 0,064 |
| Pre-test General anxiety | Female | 15 | 20,2 | 5,2942 | 1,751 | 18 | 0,097 |
| | Male | 5 | 15,6 | 4,27785 | 1,956 | 8,494 | 0,084 |

The group statistics in the Table 2 shows that the mean score of the female participants for the language anxiety pre-test was 117,93 with a 15,15 std deviation, and for general anxiety was 20,20 with a 5,29 std deviation. The score for language anxiety of male participants was 109 with a 5,09 std deviation, and score for general anxiety was 15.60 with a 4,27 std deviation.

The statistics show a difference between genders. To see if there was a meaningful difference between the score of the male and female participants a t-test for equality of means was applied and the results showed that there was no statistically significant difference (P>0,05) in both foreign language anxiety and general anxiety in terms of gender.

**Table 3.** The Descriptive Statistics of participants for foreign language anxiety after the experimental study.

| | Gender | Mean | Std. Deviation | N |
|---|---|---|---|---|
| Pre-test of lang anxiety. | Female | 117,933 | 15,15853 | 15 |
| | Male | 109 | 5,09902 | 5 |
| | Total | 115,7 | 13,80351 | 20 |
| Post-test lang. anxiety | Female | 90,3333 | 13,66783 | 15 |
| | Male | 92,8 | 5,35724 | 5 |
| | Total | 90,95 | 12,03711 | 20 |

Table 3 illustrates that the mean score for female participants in the pre-test of foreign language anxiety was 117,93 and 109 points for male participants. The total score was thus 155,70, dropping to 90.33 for females and 92,80 for male participants in the post-test of foreign language anxiety. Accordingly, the total points for the participants then reduces to 90,95, which shows quite a difference.

**Table 4.** The Repeated Measures ANOVA Tests of Between-Subjects Effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Intercept | 315290,008 | 1 | 315290 | 2434,81 | 0 | 0,993 |
| Gender | 78,408 | 1 | 78,408 | 0,606 | 0,447 | 0,033 |
| Error | 2330,867 | 18 | 129,493 | | | |

To determine whether this difference is meaningful or not we applied a Repeated Measures ANOVA test, and it shows that changing the posture of the body had a meaningful effect on foreign language anxiety ((P<0,05)). The difference between genders, however, is not statistically significant (p=,447).

**Table 5.** The Descriptive Statistics of the participants for general anxiety after the experimental study in terms of gender

| Tests | Gender | Mean | Std. Deviation | N | t | df | p |
|---|---|---|---|---|---|---|---|
| Pre-test General anxiety | Female | 20,2 | 5,2942 | 15 | 1,274 | 18 | 0,219 |
| | Male | 15,6 | 4,27785 | 5 | 1,972 | 17,899 | 0,064 |
| | Total | 19,05 | 5,35552 | 20 | | | |
| Post-test General anxiety | Female | 18 | 3,81725 | 15 | 1,751 | 18 | 0,097 |
| | Male | 15 | 3,4641 | 5 | 1,956 | 8,494 | 0,084 |
| | Total | 17,25 | 3,87808 | 20 | | | |

The statistics in Table 5 illustrates the mean score of female participants in the pre-test of general anxiety is higher (M=20,20, S = 5,29) than that of the post-test (M=18, S=3,81). As for the male participants, a slight drop in their score for general anxiety is observable between pre-test (M=15,60, S=4,27) and post–test (M=15, S= 3,46). Thus, the total score is 19 for the pre-test and 17,25 for the post-test.

**Table 6.** The Tests of Between-Subjects Effects

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Intercept | 8875,2 | 1 | 8875,2 | 249,693 | 0 | 0,933 |
| Gender | 108,3 | 1 | 108,3 | 3,047 | 0,098 | 0,145 |
| Error | 639,8 | 18 | 35,544 | | | |

As before, to see whether this difference is meaningful or not, a Repeated Measures ANOVA was applied, and it revealed that changing the body posture had a meaningful effect on general anxiety (P<0,05). Once more, though, the difference between genders was not statistically significant (P>0,05).

The two performances of the participants were assessed by a native English teacher using and IELTS speaking rubric which have some criteria which examine how fluently they can speak at length, their ability to talk without any pause or hesitation , accuracy, pronunciation as well as lexical resource and grammatical range.

**Table 7.** Assessment of Two Performances of Participants According to IELTS Rubric

| Participants | Closed Body Posture Speaking Performance | Open Body Posture Speaking Performance |
|---|---|---|
| P1 | 4,5 | 5,5 |
| P2 | 4,5 | 6 |
| P3 | 4,5 | 5 |
| P5 | 5 | 5 |
| P5 | 4 | 5 |
| P7 | 5 | 5 |
| P8 | 4 | 4,5 |
| P9 | 4,5 | 5,5 |
| P10 | 5 | 5,5 |
| P11 | 4,5 | 5 |

| | | |
|---|---|---|
| P12 | 5 | 5 |
| P13 | 4 | 5 |
| P14 | 5 | 5,5 |
| P15 | 6 | 6,5 |
| P16 | 4,5 | 5 |
| P17 | 5 | 5 |
| P17 | 5 | 5,5 |
| P18 | 4 | 5 |
| P19 | 5 | 5,5 |
| P20 | 4,5 | 5 |

As can be seen in Table 7, the first performance of the participants while in closed posture mostly differentiates from the second performance and in order to see if this difference is meaningful or not the researchers applied T-test. Correspondingly, the t-value is -3.13613. The p-value is .00142. The result is significant at $p < .05$. Except for four participants, the rest of the participants have got higher points in their second performance than their first performance

As was stated, the participants were asked to compare the level of confidence they felt when speaking with a closed body posture and with an open body posture, and similarly, to compare the quality of speech in the first session and the second session. The results of this comparison are shown below.

**Table 8.** Comparison between Body Postures.

| Participants | Closed Body Posture | First Response | Open Body Posture | Second Response |
|---|---|---|---|---|
| P1 | Less Confident | Worse | More Confident | Better |
| P2 | Less Confident | Worse | More Confident | Better |
| P3 | Less Confident | Worse | More Confident | Better |
| P5 | Less Confident | Worse | More Confident | Better |

| | | | | |
|---|---|---|---|---|
| P5 | Less Confident | Worse | More Confident | Better |
| P7 | Less Confident | Worse | More Confident | Better |
| P8 | Less Confident | Worse | More Confident | Better |
| P9 | Less Confident | Worse | More Confident | Better |
| P10 | Same | Same | Same | Same |
| P11 | Less Confident | Worse | More Confident | Better |
| P12 | Same | Same | Same | Same |
| P13 | Less Confident | Worse | More Confident | Better |
| P14 | Less Confident | Worse | More Confident | Better |
| P15 | Less Confident | Worse | More Confident | Better |
| P16 | Less Confident | Worse | More Confident | Better |
| P17 | Less Confident | Worse | More Confident | Better |
| P17 | Less Confident | Worse | More Confident | Better |
| P18 | Same | Same | Same | Same |
| P19 | Less Confident | Worse | More Confident | Better |
| P20 | Less Confident | Worse | More Confident | Better |

According to the semi-structured qualitative interviews with the participants, they felt more confident while sitting in a open body posture and stated that they felt their second response, the one given while in an open body posture, was much better than their first response given in closed body posture, with the exception of three participants. These participants expressed that they felt no difference both in levels of confidence and in fluency in either an open pose or a closed one

Most participants, however, felt that the open body pose had a positive effect on their speaking performance, with one participant explicitly stating that he felt more confident and powerful during the open body posture and believed that he was able to speak better than when in a closed posture (participant 5). Participant P19 echoed this feeling, and can be viewed as an example for the perception of most of the participants, stating:

*"I felt that sitting up straight made me feel more positive and more confident about myself and I believed that I could speak English better. However, in the first position, the closed pose, I felt weak and more nervous, so my first speech was much worse than my second speech. I myself believe that my body posture had an affect on me."*, Participant 19.

Participant 2 also had a positive perception about her uplifted posture.

*"I think I was able to do better when I sat up taller and I felt more confident in this way so I performed better. But, while I was in a slouched position I felt so small in front of you. I felt as if I did not know any English at all. So I guess the body posture affected my mood."*, Participant 2

The rest of the participants expressed similar thoughts about their body posture and speaking performance, finding accordingly that their first speaking performance was worse than their second speaking performance, which was related to the posture they held while speaking by most of the participants.

## Conclusion

This study concludes that there is a meaningful connection between the body posture and foreign language anxiety and general anxiety. This can be understood both from the statistical results of the study, in which it was shown that changing the posture of the body had a meaningful effect on foreign language anxiety ((P<0,05) and on general anxiety. In addition to this, 80% of the participants (17 out of 20) determined that an open body posture had a positive impact on their speaking performance and their confidence in contrast to a closed body posture. Moreover, according to speaking results of the participants, their second performance while in open posture) was meaningfully better than their first performance in closed posture ( $p < .05$) . Therefore, it can be concluded from this experimental study that a closed body posture both reflects and affects anxiety, and by making a conscious shift to an open body posture, levels of both general anxiety and foreign language anxiety can be reduced.

**Limitations and Recommendations**

The sample size of the study might be small which can be considered as one of the limitations for this study and also a larger one can be a recommendation for further studies. To conduct a replication of the study can be another step for further studies to get new results.

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