

# What am I afraid of?

Tenho medo de quê?

¿A qué tengo miedo?

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## ABSTRACT

**Objective:** To determine whether male and female adolescents report currently experiencing fear and to identify their most common causes of fear.

**Methods:** This was a descriptive, prospective, cross-sectional study of a convenience sample, involving analysis of questionnaires administered to adolescents seen at a public university adolescent clinic between 2004 and 2006. The adolescents self-administered the Youth Self Report (YSR - a screening tool for behavioral problems) while in the waiting room. The responses to item 29, "I am afraid of certain animals, situations or places other than school. (Describe)" were analyzed. The chi-square test was used to determine whether age group (10-12, 13-15 or 16-19 years) and gender were associated with responses to item 29 of the YSR.

**Results:** 323 adolescents' questionnaires were analyzed, 184 (57%) of whom were female. Fear was more common among the females ( $p=0.009$ ). There was a significant association between the responses to item 29 and age group. Older adolescents were more likely to check the option "often true" than younger adolescents ( $p=0.048$ ). There were a variety of different causes of fear, but animals predominated.

**Conclusions:** Among these adolescents, fear tended to be associated with the female gender and older age groups. Education, culture and preservation of the species may affect the degree of fear in females. In contrast with reports in the literature, in this study older students reported more fear, perhaps due to greater awareness of the emotion or due to the expectations of the age group analyzed.

**Key-words:** adolescent; adolescent behavior; fear; adolescent medicine; adolescent health.

## RESUMO

**Objetivo:** Verificar se adolescentes de ambos os sexos referem o medo como uma emoção presente e quais são as causas mais comuns de medo.

**Métodos:** Estudo descritivo, prospectivo, de corte transversal, com determinação da amostra por conveniência, que envolveu a análise de questionários aplicados aos adolescentes atendidos entre 2004 e 2006 em um ambulatório de Medicina do Adolescente. Os adolescentes responderam na sala de espera o *Youth Self Report* (YSR) – instrumento de triagem para problemas de comportamento. Foram analisadas as respostas ao item 29 – "tenho medo de animais, situações ou lugares, sem incluir a escola. Quais?" O teste do qui-quadrado foi utilizado para verificar a associação entre as faixas etárias (10-12, 13-15 e 16-19 anos) e sexo com o item 29 do YSR.

**Resultados:** Avaliaram-se 323 protocolos, 184 (57%) eram do sexo feminino. A emoção medo foi predominante no sexo feminino ( $p=0,009$ ). Houve uma associação significativa entre as respostas ao item 29 e a faixa etária, em que os mais velhos assinalaram mais a opção "frequentemente presente" do que os mais novos ( $p=0,048$ ). Os motivos de medo foram diversos, mas os animais predominaram.

**Conclusões:** A emoção medo esteve mais associada ao sexo feminino e a faixa etária dos adolescentes mais velhos. A educação, a cultura e a preservação da espécie podem estar influenciando a

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presença de medo nas mulheres. Diferentemente da literatura, os mais velhos relataram mais terem medo, talvez devido à maior consciência desta emoção ou pelas expectativas da faixa etária.

**Palavras-chave:** adolescente; comportamento do adolescente; medo; medicina do adolescente; saúde do adolescente.

## RESUMEN

**Objetivo:** Verificar si adolescentes de ambos sexos refieren el miedo como una emoción presente y cuáles son las causas más comunes de miedo.

**Métodos:** Estudio descriptivo, prospectivo, de corte transversal, con determinación de la muestra por conveniencia, que implicó el análisis de cuestionarios aplicados a los adolescentes atendidos entre 2004 y 2006, en un ambulatorio de Medicina del Adolescente. Los adolescentes contestaron en la sala de espera el *Youth Self Report* (YSR) - instrumento de selección para problemas de comportamiento. Se analizaron las respuestas en el ítem 29 - «tengo miedo a animales, situaciones o lugares, no incluyendo la escuela. ¿Cuáles?» Se utilizó el test de chi-cuadrado para verificar la asociación entre las franjas de edad (10-12 años, 13-15 años y 16-19 años) y sexo con el ítem 29 del YSR.

**Resultados:** Se evaluaron 323 protocolos, 184 (57,0%) eran del sexo femenino. La emoción miedo fue predominante en el sexo femenino ( $p=0,009$ ). Hubo una asociación significativa entre las respuestas al ítem 29 y la franja de edad, en la que los mayores señalaron más la opción «frecuentemente presente» que los menores ( $p=0,048$ ). Los motivos de miedo fueron diversos, pero los animales predominaron.

**Conclusiones:** La emoción miedo estuvo más asociada al sexo femenino y a la franja de edad de los individuos mayores. La educación, la cultura y la preservación de la especie pueden estar influenciando la presencia del miedo en las mujeres. Diferentemente de la literatura, los mayores relataron más tener miedo, quizá debido a la mayor consciencia de esta emoción o por las expectativas de la franja de edad.

**Palabras clave:** adolescente; comportamiento adolescente; miedo; medicina del adolescente; salud del adolescente.

## Introduction

Fear is a primary emotion that is present from birth and is very common in childhood and adolescence<sup>(1,2)</sup>. In the majority of cases fear is an adaptive reaction that serves a legitimate and useful purpose: to protect people from potentially dangerous situations<sup>(3-5)</sup>, releasing energy flow that can be expended on

whatever action is needed, employing strategies to deal with the danger. People's psychological structure makes them wish to survive, develop and express themselves and so threats to that structure can elicit fear responses. Myers<sup>(6)</sup> considers fear to be a toxic emotion since it worries people so much that they lose sleep or fail to do things that are important for their lives.

Living beings are biologically prepared to learn certain types of fear more quickly than others<sup>(6)</sup>. Fear of some stimuli that put life at risk—snakes, spiders, precipices, for example—is acquired more easily than fear of others—such as cars, elevators and electricity. Evolution of the species has prepared us to fear Stone Age dangers.

Fear can be an expression of anxiety related to subconscious fantasies and defense against them. Objects and situations that are in principal neutral come to be symbolically charged and become external objects of phobia. This can then trigger avoidance behaviors to escape from situations that arouse anxiety<sup>(7,8)</sup>. In this manner, problems resolving psychosocial tasks make people more susceptible to fears and insecurities<sup>(9)</sup>. These symptoms of anxiety may be transient, depending on the extent to which a person is able to deal with the antagonistic forces encountered constructively.

The emotion fear can be observed in the form of motor responses (postures, gestures) and in the form of neurovegetative responses (tachycardia, sweating). Manifestations of fear that are perceptible by other people include social withdrawal, apathy, sadness or even problems concentrating on work or at play. The initial repertoire of emotions become interconnected with a person's developing intellectual abilities<sup>(10)</sup> and the new types of social relations they engage in and expressions of fear can be learnt and modified according to cultural standards.

Fear is to be expected and considered normal at certain stages of development, protecting people from putting their lives at risk<sup>(11)</sup>. However, there are also situations in which fear interferes in adolescents' day-to-day activities and becomes a motive for seeking professional help because of its intensity. In some situations a certain degree of fear is to be expected, but pathological fears attain greater proportions than necessary for the situation. This exaggerated fear is not proportionate to the true situation and does not reduce through familiarity with similar situations. It is probable that people who have pathological fears will avoid situations in which they know in advance they will feel fear, or will protect themselves with some type of ritual. For some people, intense fear of objects or situations compromises their ability to face up to them.

As fear becomes more and more likely in certain situations, certain social problems can emerge, such as dependency on adults, problems maintaining attention and concentration,

inability to cope with problems and reluctance to accept health problems and academic difficulties. It is therefore important that professionals working with adolescents learn to detect fear and give it due weight.

There have been few studies of the emotion fear in adolescents. Generally, studies deal with childhood and/or the onset of adolescence or investigate the presence of anxiety disorders. This is the justification for conducting this study to investigate the presence of fear during adolescence, test for associations with sex and age and identify the most common causes of fear reported by this age group in order to provide a basis on to enable people who work with adolescents to detect fear and understand its importance as an emotion that can impact on adolescents' development.

**Method**

This was a descriptive, prospective, cross-sectional study of a convenience sample involving analysis of questionnaires administered to adolescents presenting for a first consultation between 2004 and 2006 at the Adolescent Care and Support Center (CAAA - Centro de Atendimento e Apoio ao Adolescente) run by the Universidade Federal de São Paulo (Unifesp)/Hospital São Paulo's Pediatrics Department Pediatric Specialties Course. This clinic sees adolescents who present spontaneously and/or are referred from other services or other departments in the Unifesp/Hospital São Paulo. Adolescents are followed from 10 to 20 years of age<sup>(12)</sup>.

Occasionally younger patients are treated if referred and sometimes patients are followed past 20 years of age, when necessary. The CAAA has health professionals from a range of different specialties in order to provide integrated care focused on healthy adolescent development as an integral whole. This study was approved by the Ethics Committee at Unifesp/Hospital São Paulo (CEP number 0985.07).

Inclusion criteria were as follows: adolescents recruited in the waiting room at the CAAA who presented for consultations during the study period and who had completed the demographic items (age and sex) and item 29 of the Youth Self Report (YSR). The exclusion criterion was presence of pathologies that could affect the response, in particular autism and mental retardation.

The YSR<sup>(13)</sup> is a questionnaire to screen for social skills and behavioral problems. Adolescents are requested to respond to each behavior item with either (2), (1) or (0), to indicate "Very true or often true", "Somewhat or sometimes true" or "Not true", respectively. This study relates exclusively to the responses to item 29, which states: "I am afraid of certain animals, situations, or places, other than school (describe)." and the demographic data (age and sex) requested on the questionnaire.

Adolescents presenting at the Adolescent Medicine clinic are given the YSR to self-administer while in the waiting room as part of the department's routine. Their questionnaires were classified into the following age groups: 10-12 years, 13-15 years and 16-19 years. The chi-square test was used to test for

**Table 1** - Distribution of the sample by sex, in terms of intensity of occurrence of the emotion fear

Item 29	Females		Males		Total	
	n	%	n	%	n	%
Not true	68	37.0	70	50.4	138	42.7
Somewhat or sometimes true	47	25.5	38	27.3	85	26.3
Very true or often true	69	37.5	31	22.3	100	31.0
Total	184	57.0	139	43.0	323	100.0

**Table 2** - Distribution of sample by age group and intensity of occurrence of fear

Item 29	10-12 years		13-15 years		16-19 years		Total	
	n	%	n	%	n	%	n	%
Not true	50	45.9	67	46.8	21	29.6	138	42.7
Somewhat or sometimes true	32	29.3	34	23.8	19	26.7	85	26.3
Very true or often true	27	24.8	42	29.4	31	43.7	100	31.0
Total	109	33.7	143	44.3	71	22.0	323	100.0

associations between age groups and sex and responses to item 29 of the YSR. The significance level was set at 5%,  $p \leq 0.05$ .

## Results

All 332 adolescents invited to complete the questionnaire during the study period agreed to do so. Nine were excluded; eight because they did not complete item 29 of the YSR and one who was outside of the age range.

This study therefore analyzed assessment questionnaires from a sample of 323 adolescents from the city of São Paulo, with ages varying from 10 to 19 years and including 184 (57.0%) females. There was a statistically significant relationship ( $p=0.009$ ) between presence of fear and the female sex and absence of fear and the male sex (Table 1). There was a statistically significant association between the responses to item 29 and age group, by which a greater proportion of the older adolescents chose "Very true or often true" (Table 2).

The second part of item 29 invites a free response and the causes of fear reported varied widely, but animals were the most often cited, especially those that constitute a risk to life (Chart 1).

## Discussion

Hersen<sup>(14)</sup> has stated that three different features of fear can be analyzed: motor (characterized by behavioral-organic reactions that are observable and can be measured), psychological and verbal (self-report, subjective assessment of fear). This study concentrates on the last of these. Our fears are influenced by age, sex, culture, socioeconomic class and level of cognitive development, in addition to other variables of an individual or social nature, and these data could be valuable for classifying fear as normal or pathological, thereby indicating whether intervention is needed<sup>(10,11,15,16)</sup>.

Many fears are considered a normal part of development, forcing people to adapt to the many stressful stimuli of the lifecycle<sup>(5,11,17)</sup>. It is to be expected that there would be many reasons for fear in adolescence, given the new situations that adolescents have to cope with<sup>(18)</sup>, such as changes to their bodies or autonomy, especially in situations that demand cognitive or emotional capacities that they have not yet acquired<sup>(9)</sup>. However, many of the causes of fear that were actually observed were those expected in younger age groups. This is possibly because these adolescents had not managed to overcome these fears, developing abilities or understanding them. Parents can very often use fear as a tool

**Chart 1** - Reasons for fear reported by adolescents by frequency of occurrence

Reason for fear	n*
Snakes	36
Dogs	27
Disgusting animals: rats (9); cockroaches (15); spiders (8); scorpions (3); frogs (2); lizards (1); earthworms (1); insects (1)	40
Nonspecific animals	14
Wild animals: lions (9); alligators (1); sharks (1)	11
Other animals: doves (1); monkeys (1); cats (2); horses (1)	5
Dangerous situations: dangerous places (6); places at night (11); robbery (6); robbers/kidnappers (3); the dark(6)	32
Things connected with death: cemeteries (7); Satanism (1); the dead/spirits (3); of dying (5); horror films (1)	17
Going out/being alone (12); places that make respondents uncomfortable (7); specific places listed by respondents (3)	22
Others: the forest (3); heights (3); getting lost (1); getting caught doing something wrong (2)	9

n: sample size. The number of references to specific reasons for fear each category is given in brackets. \*Adolescents could have more than one reason for fear

for education rather than helping their children overcome fear by teaching them strategies for how to act in dangerous situations<sup>(11)</sup>. They use their children's fears to threaten them, very often preventing them from taking control over what happens around them. This is possibly why childhood fears remain in adolescence.

Some fears may be learnt within the family<sup>(11,19)</sup> and adolescents may then continue to reproduce them, demonstrating that they accept the values and beliefs of the cultural group to which they belong. It is also possible that causes of fear take on new emotional charge during adolescence. For example, an adolescent's fear of dogs or other dangerous animals may be a sign of a fear of their own aggression. Adolescents have now developed strength, but do not know how to deal with it, displacing the insecurity they feel about themselves onto a fear of dogs. Another example may be the fear of being alone, previously related to the insecurities of a child that needs an adult protector, in adolescence may be linked to a fear of growing up, becoming independent from parents and having to confront one's own self.

It should be remembered that many parents do not help their children to grow and face their problems<sup>(20)</sup>. It is common for carers faced with small children having temper tantrums in public to threaten to leave them on their own in an attempt to force obedience. The next scene is the child in tears following its parents, the parents coming back for it, even more stressed than before, scolding the child. The natural need at the start of life for an adult protector is thus used as a form of punishment. It could therefore be that when some adolescents are faced with the developmental challenges of being alone or dealing with problems without an adult they do not see it as a goal to be achieved, but as a punishment that their parents continue to impose on them.

It is interesting to note that some of the objects of fear reported are never encountered by these adolescents in person, such as lions, snakes or alligators. These are probably linked with developmental issues that they cannot express, leading them to resort to the popular repertoire of objects that could symbolize the feelings they are experiencing but of which they are not conscious. Freud considered phobias to be an expression of anxiety related to unconscious fantasies and a defense against them, triggering avoidance mechanisms to escape from situations that arouse anxiety<sup>(7)</sup>.

Since the adolescents whose responses are analyzed here live in the largest city in Brazil and are constantly exposed to violence, both real and via the media, we might have expected a greater frequency of reasons for fear in this category (robbery, kidnapping). The fact that these reasons were not very common may be a result of the “personal fable”<sup>(21,22)</sup>, which is an assumption of invulnerability by which adolescents acquire a belief that they are special and are not subject to the same rules that apply to everybody else and so feel immune to danger.

Female adolescents reported experiencing the emotion fear more often than the males<sup>(5,11,23)</sup>. Females are more susceptible to anxiety from childhood. This can be because of cultural factors, by which women are taught to be less assertive and more dependent and to stay at home<sup>(11)</sup>, meaning that they encounter certain situations less frequently and do not therefore develop strategies for resolving stressful situations. There may also be a neurological component, by which they respond with reduced motor activity and are more alert to possible dangers – a self-regulating protective mechanism, because it allows better decision making in the presence adverse stimuli, improving risk avoidance. It is also

possible that women are more prone to fear for reasons connected with the need to preserve the species, since the causes of fear that put them in danger are easier to learn<sup>(6)</sup>.

There has been a great deal of research into the neural mechanisms involved in the emotions. Adolescents are going through significant cerebral changes<sup>(24)</sup> and there is now neuronal evidence linking cerebral defense systems with the concept of fear-stress-anxiety. Therefore, the responses to dangerous stimuli, whether real or imaginary, avoidance and preparation for facing danger, appear to be associated with anxiety. The process involves the cingulate gyrus and prefrontal cortex on one side, and the median raphe nucleus, septum and hippocampus on the other, which are part of the cerebral circuits that comprise the emotional responses. Fear stimuli that elicit active and autonomous forms of defense related to the sympathetic nervous system trigger other emotional states and appear to be associated with elemental manifestations of fear. The dorsal periaqueductal gray is the principal neural substrate integrating these aversion circuits in the brain and is active in fear/anxiety responses, which can be proven by a variety of experiments showing that systemic administration of some anxiolytic drugs reduces learnt behaviors of attenuation or switching off electrical stimulation<sup>(25-27)</sup>.

Defensive behaviors are an organism’s reaction to actual or potential dangers. They have been modeled by natural selection and can be modified to only activate when useful. Neuronal connections are selected when danger cues are detected, making it easier to learn situations that provoke the emotion fear. Following this line of reasoning, it has been suggested that anxiety disorders are caused by a failure of detection and inadequate expression of defensive behaviors<sup>(27)</sup>. It appears that humans have a cerebral predisposition to protect themselves from situations that have put their lives at risk – and from those that still do – such as transmission of diseases, leading them to avoid animals such as cockroaches and rats (disgusting animals). People’s fears do not only reflect traumas they have experienced themselves<sup>(28)</sup> (as in the specific places cited by the adolescents) or unconscious forces, but also situations that their ancestors had learnt, reproduced by their parents<sup>(6)</sup>.

During adolescence, people become progressively more conscious of the irreversibility of a good number of the choices they are faced with. This is an unparalleled phase in terms of exploration of existential questions, such as life and death<sup>(29)</sup>. Death is itself a reason for fear that is often



cited by adolescents<sup>(22,23)</sup>. It is common for adolescents to enjoy watching horror films and playing with supernatural questions. They often report playing the “cup and ring” game during school recess, in which a spirit is supposed to be moving objects. By exploring these issues, little by little they are dealing with fears related to death. Notwithstanding, in general in today’s society death is seen as a bad thing that should be avoided. Many people are therefore afraid of anything related to death - cemeteries for example.

It was expected that the number of fears would reduce as the adolescents got older, since several studies have demonstrated an association between fear and younger age groups<sup>(5,11)</sup>. This is not, however, what was observed here (Table 2). A study by Poulton *et al*<sup>(23)</sup>, also reported an increase in reported fear with age. In these new times in which adolescents are living, in which social pressures to work or accept certain responsibilities increase, it is possible that some of the emotions linked with growth and autonomy are displaced to situations in which fear is acceptable, and even expected, such as being alone, going out alone or taking a bus alone. Some studies have proposed that the cognitive and social changes that take place during adolescence lead to increased reports of the emotion fear with relation to the new behaviors that are needed to deal with new social situations<sup>(11,30)</sup>. It should be pointed out that this study is driven by the information provided by the adolescents, but it is unable to determine the intensity of the fears reported or whether they actually interfere in their lives.

Finally, it was found that 138 (42.7%) of the adolescents reported not having fears, which shows that, in general, they are developing skills to deal with new and unknown situations, with dangerous situations and with situations that possibly provoked fear previously. However, there are studies that show that some adolescents are being referred for psychological care because of fear, among other complaints, and that although the primary complaint is not fear, they exhibit very intense fear and this needs to be worked on in psychotherapy<sup>(31)</sup>.

One feature that is notable is that there were no reports of fear of the dentist, injections, vaccination, taking blood or invasive medical procedures<sup>(17)</sup>. Adolescents were self-administering the questionnaire in the waiting room of a clinic at a teaching hospital: some of them could have been waiting for dental appointments and those waiting for medical appointments would have had their vaccination history checked and be referred for any injections they had missed. It might be

expected that fears based on expectations of physical damage would be expressed: “the injection is going to hurt” or “the doctor will want to remove that mole”, for example. Health professionals who administer vaccines are generally taught to do so with adolescents sitting down, in case they pass out, and it is common for mothers or professionals to comment that adolescents refuse to be vaccinated. It is possible that they did not wish to mention such fears because they were in a hospital environment. It is suggested that this study be extended so that, after fears have been expressed freely, a list could be given to the adolescents from which they would choose animals, situations and places that make them afraid.

The suffering and negative repercussions that fears cause in children and adolescents should not be underestimated, even when they are transient, of mild intensity and appropriate for their age. It is important to be aware of the variety of objects and situations that provoke fear in children and adolescents. There are inventories with good psychometric properties available that can be administered to children, parents or teachers that can help professionals to assess which situations potentially cause fear and of what intensity; including scales to assess fear of hospital<sup>(31,32)</sup> or dental procedures<sup>(33,34)</sup>.

Depending on the personality of each individual, people should be encouraged to engage in experiences that facilitate the acquisition of skills for coping with fears<sup>(35)</sup>. Possibilities include active muscle relaxation, rhythmic breathing with pauses, imagining pleasant scenes and self-regulation to minimize the vegetative activation that occurs in stressful situations<sup>(17,36)</sup>. Researching information<sup>(19,37,38)</sup> about the phobic situation can help adolescents to maintain control: for example, knowing how and where to get help if something unpleasant happens while alone. Gradual exposure to the stimuli causing fear is another strategy that can be employed. This study did not investigate what strategies the adolescents use to avoid fear and this should be investigated in a future study.

It is very often necessary to teach parents to change their approach. When fear is present to a high degree, it is common for parents to become overprotective of their children or to use the fear as a punishment, sometimes engaging in provocations that can undermine self-esteem, making unpleasant or cruel comments about their children’s fears. What is important is not to eliminate fear, but to take control of it so it does not become an impediment to a life of constructive relationships.

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