

## Inattentional Blindness IV

**R**esearch suggests that inattentional blindness is affected by four factors, conspicuity, mental workload, expectation and capacity.

### EXPECTATION

Past experience exerts a strong control on attention because it teaches us what is and isn't relevant. For example, think about your breathing. You can now sense the movement of your chest. Of course, the movement was always there but you were inattentionally blind to it because it is highly uninformative. Nothing new ever happens, so attention filters away the sensation to conserve mental processing.

Expectation has a powerful effect on our ability to see and to notice. For example, when you and your wife go to the mall, you may sometimes separate to perform errands. When you go to look for her, you'll usually

recall her coat and search for someone wearing he right color. You do this unconsciously. But what you have done is adopt an attentional set on purpose. Color blobs (a coat) are far easier to scan and search than are the finer details of facial feature. This strategy usually works, but once in a while you may have forgotten which coat she wore that day and expect to see the wrong color. On those occasions, you likely have walked right by her, completely blind to the other features, all highly familiar, which should have attracted attention to your wife.

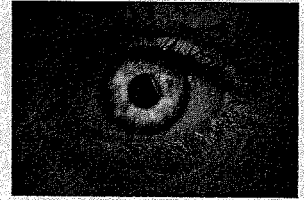
The same happens to us when driving. You've probably heard countless stories about, and may have even experienced yourself, situations in which a driver had a near miss after never having seen some other vehicle. And the vehicles we miss seeing are not always small sport cars or bicycles.

Stories abound of drivers who, while stopped at an intersection, scan both ways for oncoming cars, then pull out in front of a school bus they never saw.

Errors often occur when there is a new and unusual combination of circumstances in a highly familiar circumstance.

Instead of using a general scan for anything approaching, they were looking specifically for an automobile, which was not there. Unfortunately, their expectation of a car left them inattentionally blind to the school bus because the attentional set for each is different.

Errors often occur when there is a new and unusual combination of circumstances in a highly familiar setting. The driver who hit the bicyclist had pulled into the same driveway every workday for a year and had never seen anyone. She had unconsciously learned that there wasn't anything important to see down the sidewalk. The submarine captain had learned that if there were no blips on the sonar, then there should be no ships in view. The nurse was used to picking out the same size and shape bottle that contained a different drug.



### THE COST OF BEING AN EXPERT

It is one of the ironies of inattentional blindness that highly skilled and highly practiced "experts" are more susceptible than are beginners. In fact, when we say someone is skilled and experienced, we usually mean that he has developed expectations which allow fast and accurate prediction and behavior.

As we gain experience, our experiences teach us what is and is not relevant in a given situation. In other words, we develop expectations. Sometimes though, those expectations set us up to fail because they do not match the actual combination of circumstances.

The way to combat this phenomenon is to pay attention to what you are paying attention to. Be sure, when scanning for hazards while driving, you are engaging in a general scan for any hazard that might be present and not simply searching for what you expect to see.

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*The Shield*  
Inattentinal Blindness IV  
Quiz



Driver Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Please Print

Driver Signature: \_\_\_\_\_

Please circle one correct answer for each question.

1. Past experience exerts a strong control on attention because
  - a. It enables us to know what is going to happen before it happens
  - b. It teaches us what is and isn't relevant
  - c. It gives us biases towards other road users
  - d. None of the above
2. Expectation has a powerful effect on our ability to
  - a. See
  - b. Notice
  - c. Both A and B
  - d. None of the above
3. Errors often occur when there is
  - a. A driver exploring a totally new and unfamiliar setting
  - b. A routine combination of circumstances in a highly familiar setting
  - c. A new and unusual combination of circumstances in a highly familiar setting
  - d. A new and unusual combination of circumstances in a completely unfamiliar setting
4. Inattentinal blindness is more susceptible
  - a. In highly practiced "experts" than in beginners
  - b. In beginners than in highly practiced "experts"
  - c. Neither a nor b
  - d. Both a and b
5. The way to combat the phenomenon of inattentinal blindness is to pay attention to what you are paying attention to.
  - a. True
  - b. False

