Memory and Behavior
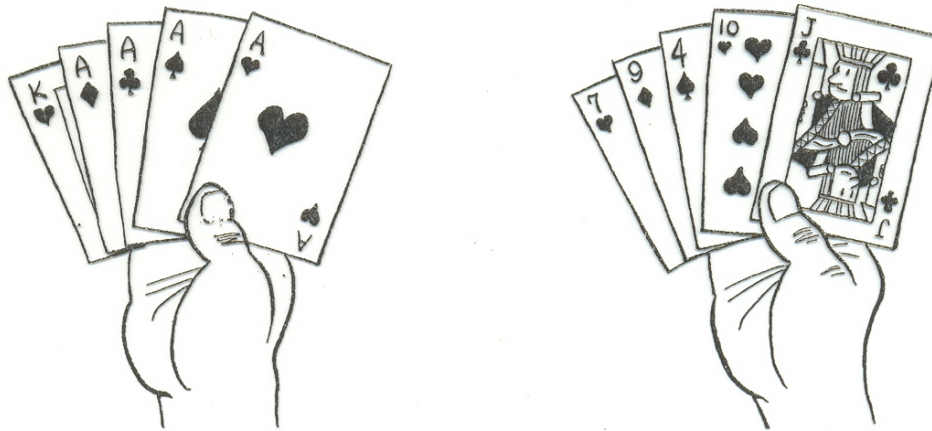
What are persistent gamblers more likely to remember?

(a) Instances in which they win.
(b) Instances in which they lose.
(c) Neither, they remember each one about the same.
(d) I am not sure.

"When I win it is skill, when I lose it is bad luck"

Psychology is sometimes not intuitively obvious

It is easy to believe that persistent gamblers would remember the instances in which they win more than the instances in which they lose. However, the opposite tends to occur. Persistent gamblers tend to remember instances in which they lose more than their instances where they win. It is <u>how</u> they remember their losses that make the difference.

They create a new category of losses called an "almost win" and allows them to maintain their belief by distorting their experience.

To illustrate the process, in a game where you win 1/3 of the time and lose 2/3 of the time, you aren't going to remember every instance. You remember a select number of instances.
- non-persistent gamblers might remember some wins and some losses
- the persistent gambler might remember some wins, some losses and instances of losses called an "almost win".

Gambling Outcome	What **Non-persistent gamblers** remember	What **Persistent gamblers** remember
• 33 instances of wins • 66 instances of losses	• 4 wins • 4 losses	• 4 wins • 4 **"almost wins"** • 4 losses

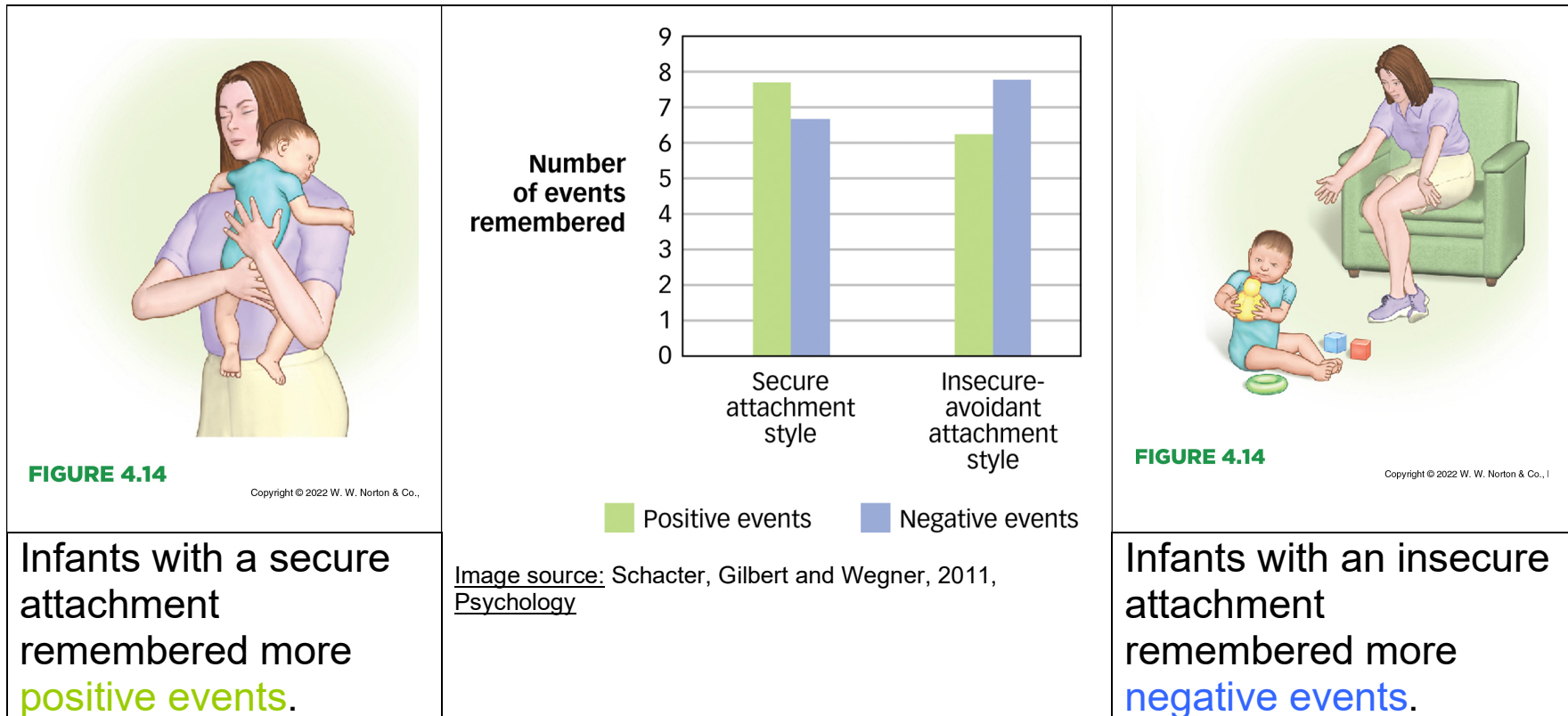# <u>Psychology is sometimes not intuitively obvious</u>

This example illustrates several things about human thinking and memory:
- The thinking processes involved are not obvious and can be counterintuitive.
  - When new information is counterintuitive, it takes a lot of effort to remember. If we forget the new information that is counterintuitive, we default to what is intuitive.
- How you organize information in memory can affect your thinking and your behavior. This tends to be an unconscious and automatic process.
- Persistent gambling requires knowledge of the psychology of learning (schedules of reinforcements) and memory (and perhaps even more).
- You can apply your knowledge in one area of psychology (memory) to another (social psychology).

Misunderstandings of behavior, such as persistent gambling, can make difficult to address the problem or make intervention strategies not very effective.

Attachment Styles and Memory

One-year old's were identified as having a secure attachment or insecure-avoidant attachment. When they were three years old, they watched a puppet show.

FIGURE 4.14

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Infants with a secure attachment remembered more positive events.

Number of events remembered

Image source: Schacter, Gilbert and Wegner, 2011, Psychology

■ Positive events   ■ Negative events

FIGURE 4.14

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Infants with an insecure attachment remembered more negative events.

Attachment style affects what is remembered--they all watched the same puppet show.

Three Phases of Information Processing in Memory

Psychologists use the *metaphor* that the brain is an information processor that
- encodes,
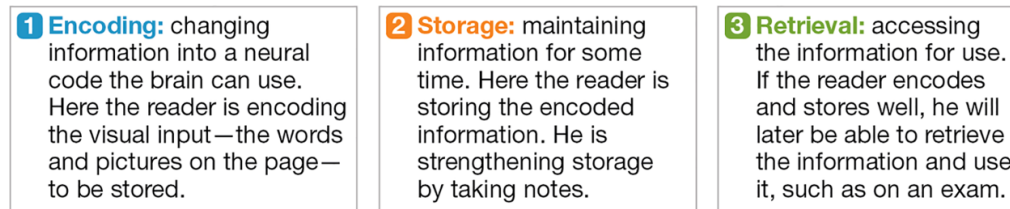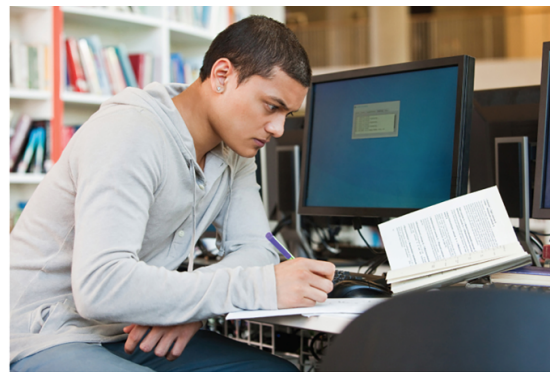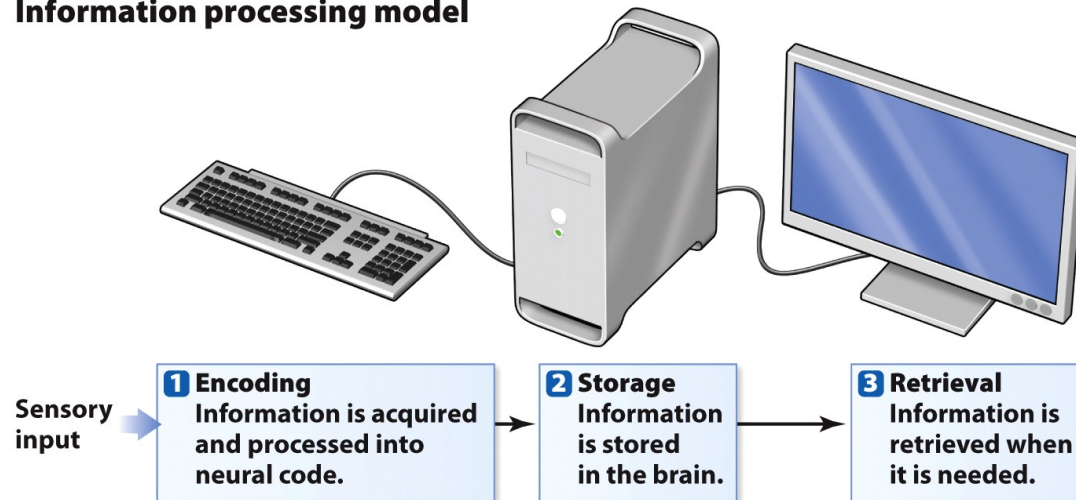- stores and
- retrieves
information.

1 Encoding: changing information into a neural code the brain can use. Here the reader is encoding the visual input—the words and pictures on the page—to be stored.

2 Storage: maintaining information for some time. Here the reader is storing the encoded information. He is strengthening storage by taking notes.

3 Retrieval: accessing the information for use. If the reader encodes and stores well, he will later be able to retrieve the information and use it, such as on an exam.
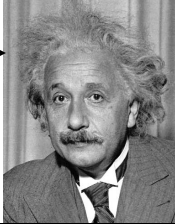
FIGURE 7.1

Three Phases of Information Processing in Memory

A *rough* analogy is that the brain is like a computer.

Information processing model

Sensory input → **1 Encoding** Information is acquired and processed into neural code. → **2 Storage** Information is stored in the brain. → **3 Retrieval** Information is retrieved when it is needed.

Psychological Science, 4/e Figure 7.11a
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Encodes information	Stores information	Retrieves information
gets it in	holds it	gets it out

Memory as Information Processing

The computer analogy doesn't capture other features of memory such as that people forget and distort information and sometimes remember events in a way that is different than how the event actually occurred.

Memory is not like a video tape or movie. We cannot replay the video to a particular event and rewatch it as it happened. Memory is like a jigsaw puzzle where we remember bits and pieces and fill in the blanks with what is reasonable and familiar.