

First possession: An assumption guiding inferences about who owns what

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How do we determine who owns what? This article reports evidence indicating that we typically assume that the first person who possesses an object is its owner. In Experiments 1 and 2, participants read cartoons in which two children each take a turn playing with a toy. Participants selected the character who first possessed the toy when judging who owned it, but not when judging which character liked it more. In Experiment 3, participants read stories based on the *Pierson v. Post* (1805) property law case. In line with the appellate court's ruling in that case, participants selected the character who first captured and possessed an animal as its owner over another character who had pursued it earlier. Together, these findings provide evidence for an assumption that specifically guides our reasoning about ownership and that may lead everyday intuitions about property to be generally consistent with property law.

Ownership of property is an important determinant of behavior. For example, as the owner of a book, you may read it, write in it, or sell it. As a borrower, most of these actions are not entertained. As this example illustrates, we typically consider ownership when deciding how to behave in relation to objects. Reasoning about ownership is therefore essential for understanding and predicting other people's behavior.

Most investigations of ownership (for reviews, see Dittmar, 1992; Pierce, Kostova, & Dirks, 2003) have focused on the consequences of ownership. For example, owners prefer owned objects over similar, unowned objects (*mere ownership effect*; Beggan, 1992) and value their property more highly than do nonowners (*endowment effect*; Thaler, 1980). But we know little about the psychological basis of our capacity to reason about ownership.

People draw three types of inferences when reasoning about ownership. First, we make inferences about what can be owned and by whom. For example, we may reason that people can own books, but that books cannot own people. Second, we make inferences about which privileges are conferred by ownership and which are not. For example, we may reason that the owner of a book is permitted to read it or to set it on fire, but not to set it on fire to burn down someone else's house (see Snare, 1972, for an account of the privileges ownership confers).

Third—and the focus of this article—is our ability to infer who owns what. Inferring ownership is trivially easy when we are explicitly told who owns an object (e.g., "That's Sally's") and when we know whether an object was acquired through means that are obviously legitimate (e.g., a gift) or illegitimate (e.g., theft) for establishing ownership. But such information is often unavailable, and

yet we still have intuitions about who owns what. How else do we infer who owns what?

Only three studies have investigated how adults infer ownership (Beggan & Brown, 1994; Hook, 1993; Shotland & Hyers, 2000). In two of these studies, participants read stories in which one party is explicitly stated to initially own an object, but subsequent events may cause ownership to be transferred. In the story used in Hook (1993), the owner of a wooden block lends it to a friend, who then carves it into a statue. Participants judged who owned the statue, and how the money earned from selling it should have been distributed. In the story used in Shotland and Hyers (2000), an owner neglects property (construed broadly to include a child and a patentable process), which is then taken by another party; participants again judged who owned it. These studies are mainly informative about conditions under which ownership is transferred, but not about how adults infer initial ownership when not explicitly told. Only Beggan and Brown (1994) used scenarios that did not explicitly mention which party initially owned the object; this experiment is described in the General Discussion.

First Possession

The present study investigated the proposal that we usually assume that the person who first possessed an object (to our knowledge) owns it. For example, suppose you are playing soccer with friends. The first possession assumption will lead you to infer that the ball belongs to the person who had the ball first, even if someone else has it now.

The first possession assumption is broadly consistent with first possession legal rules. These rules grant ownership to the first person or group to possess or control an object or resource, and they are included in many legal

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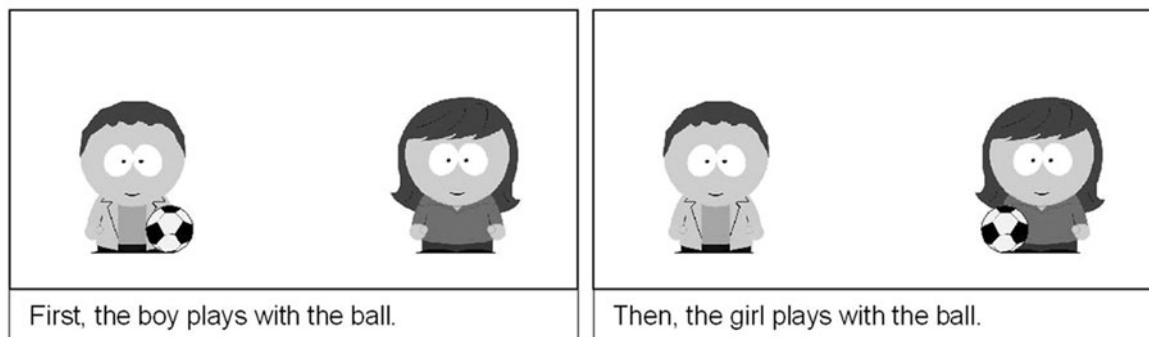


Figure 1. Sample cartoon from Experiment 1.

systems (Lueck, 1995). Thus, the first possession assumption may lead the intuitions of people (untrained in property law) to correspond with property law and the reasoning of property-law experts.

Evidence for the first possession assumption is provided by an experiment in which preschoolers watched scenarios in which first one character and then another plays with a toy. When asked whose toy it was, preschoolers mostly selected the character who played with it first (Friedman & Neary, in press).

The present studies investigated whether adults also infer ownership from first possession and whether they do so when other, obvious cues for inferring ownership are available.

EXPERIMENT 1

Participants read two cartoons; each was about a boy, a girl, and a toy. In each cartoon, one child plays with the toy and then the other child plays with it. Participants were asked which child owned the toy. This question has no correct answer because either child (or both or neither) might be the owner. Nonetheless, it was predicted that participants would select the character who first possessed the toy.

The toys were a ball and a teddy bear. These toys are sex typed; balls are viewed as masculine, and teddy bears as feminine (Miller, 1987). Participants received either tasks in which first possessors had toys consistent with sex stereotypes (boy with the ball, girl with the bear), or tasks pitting first possession against sex stereotypes. Although participants might base ownership inferences on sex stereotypes, it was predicted that participants would rely on first possession.

In order to test whether first possession affects not only judgments of ownership but also other judgments, a “liking” condition was included: Participants read the same cartoons but judged which character liked the toy more. It was predicted that participants would respond according to sex stereotypes—pairing the girl with the bear and the boy with the ball.

Method

Participants. Ninety-six participants, 18–25 years of age, were randomly assigned to the ownership or liking condition, with the

constraint that equal numbers were in each condition. Two participants (one in each condition) were excluded from all analyses because they refused to answer the test questions, leaving 47 participants in each condition. Participants (in all experiments) were recruited and tested at a campus student center and received candy in appreciation of their participation.

Materials and Procedure. Participants received booklets containing either two ownership tasks or two liking tasks, with each task on its own page. At the top of each page were instructions: *Below is a cartoon about two children and a [toy]. Please read the cartoon, and answer the following question.* Immediately below was a cartoon depicting a scenario about a girl and boy (standing side by side) and a toy: First one child plays with the toy, and then the other child plays with it. See Figure 1 for a sample cartoon.

Below the cartoon was a question, which differed between the conditions. In the ownership condition, the question was, *Whose [toy] is it?* In the liking condition, the question was, *Who likes the [toy] more?* Immediately below the question were pictures of the two characters, with a small box beneath each. Participants answered the question by checking one of the boxes.

Different characters and toys were used in the two cartoons. Within each condition, three factors were fully counterbalanced between participants: (1) whether, in each cartoon, the boy was on the right and the girl on the left, or the reverse; (2) whether the first possessor was a boy in the first cartoon and a girl in the second cartoon, or the reverse; and (3) whether the toy was the ball in the first cartoon and the bear in the second cartoon, or the reverse.

Results and Discussion

Responses were scored in two ways: First possession scores were derived by scoring participants 1 for each selection of the first possessor (maximum = 2). Sex stereotype scores were derived by scoring participants 1 for each response consistent with sex stereotypes (maximum = 2). Figure 2 shows the mean scores in the ownership and liking conditions.

Participants inferred ownership according to first possession and not according to sex stereotypes. In the ownership condition, first possession scores exceeded the chance score of 1 [$M = 1.57$, $SD = 0.74$; $t(46) = 5.27$, $p < .0001$]; sex stereotype scores did not [$M = 1.15$, $SD = 0.93$; $t(46) = 1.10$, n.s.].

When judging which character liked the toy more, participants selected not according to first possession, but according to sex stereotypes. In the liking condition, first possession scores did not differ from chance [$M = 1.11$, $SD = 0.91$; $t(46) = 0.80$, n.s.]; sex stereotype scores ex-

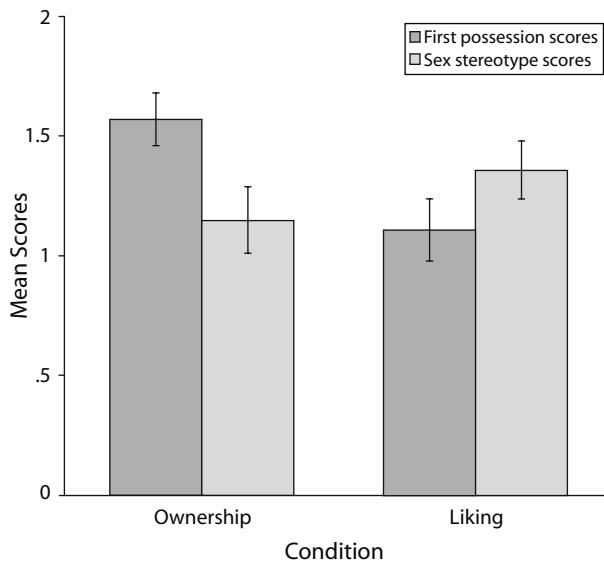


Figure 2. Experiment 1. Mean scores in the ownership and liking conditions in Experiment 1. First possession scores show the mean number of times the first possessor was selected (max = 2); sex stereotype scores show the mean number of times selection matched sex stereotypes (max = 2). Error bars depict the standard error of the means.

ceeded chance [$M = 1.36$, $SD = 0.85$; $t(46) = 2.94$, $p = .005$]. This result demonstrates that the first possession assumption is specific: Participants do not rely on first possession whenever answering questions with two plausible answers; rather, they limit its use to questions regarding ownership.

First possession scores differed between the ownership and liking conditions. (This analysis excluded participants for whom first possessors had toys consistent with sex stereotypes because these participants were expected to respond similarly in the ownership and liking conditions.) The participants for whom first possession was pitted against sex stereotypes were more likely to select the first possessor in the ownership condition ($M = 1.43$, $SD = 0.84$) than in the liking condition [$M = 0.74$, $SD = 0.86$; $t(44) = 2.76$, $p \leq .01$]. (Repeating this analysis for sex stereotype scores would be redundant: For this group of participants, the sex stereotype scores equal the first possession scores subtracted from 2.)

Finally, a comparison of the two tasks received by each participant found no order effects, and no effects of whether the toy was a ball or a bear.

EXPERIMENT 2

Experiment 2 was conducted in order to replicate the basic findings of Experiment 1, while pitting first possession against a different potential cue for inferring ownership—duration of possession. Participants again read cartoons in which two children each play with a toy, and they again made ownership or liking judgments. However, the duration of play was specified. That is, participants received either tasks in which the first possessor plays with the toy for a long time and the second possessor plays with it for a short time, or tasks with the opposite pairings. Participants might base ownership and liking judgments on duration of possession, selecting the character who plays with the toy for a long time over the character who only plays with it for a short time. However, it was predicted that this would be true only for liking judgments and that ownership inferences would be based more strongly on first possession.

Method

Participants. Ninety-six participants, 17–25 years of age, were randomly assigned to the ownership or liking condition, with the constraint that equal numbers were in each condition.

Materials and Procedure. Participants received booklets similar to those in Experiment 1 (with two ownership or liking tasks), but with new cartoons. One cartoon was about two boys and a toy robot, and the other was about two girls and a spinning top. In each cartoon, one child plays with the toy and then the other child plays with it. However, one child plays with the toy for a long time, and the other child for a short time. See Figure 3 for a sample cartoon.

Within each condition, three factors were fully counterbalanced between participants: (1) whether the first cartoon was about two boys and the second cartoon was about two girls, or the reverse; (2) whether the first possessor was on the left in the first cartoon and on the right in the second cartoon, or the reverse; and (3) whether the first possessor played with the toy for a long time in the first cartoon and for a short time in the second cartoon, or the reverse.

Results and Discussion

Responses were scored in two ways: First possession scores were again derived by scoring participants 1 for each selection of the first possessor (maximum = 2). Long possession scores were derived by scoring participants 1

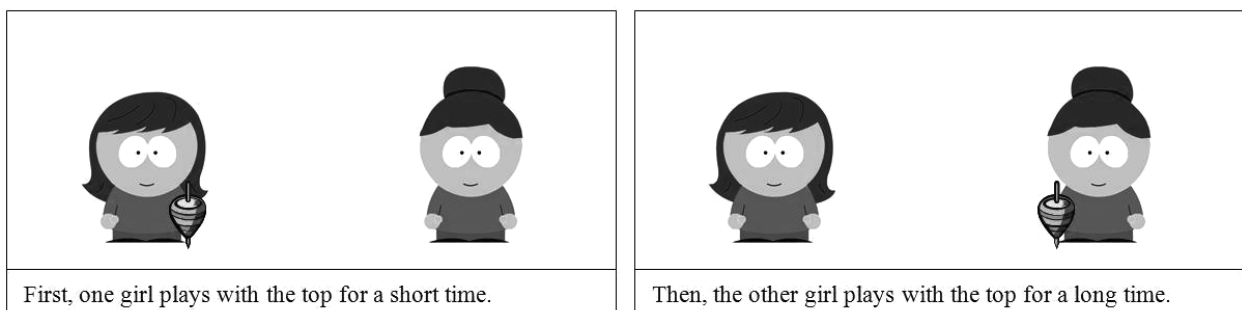


Figure 3. Sample cartoon from Experiment 2.

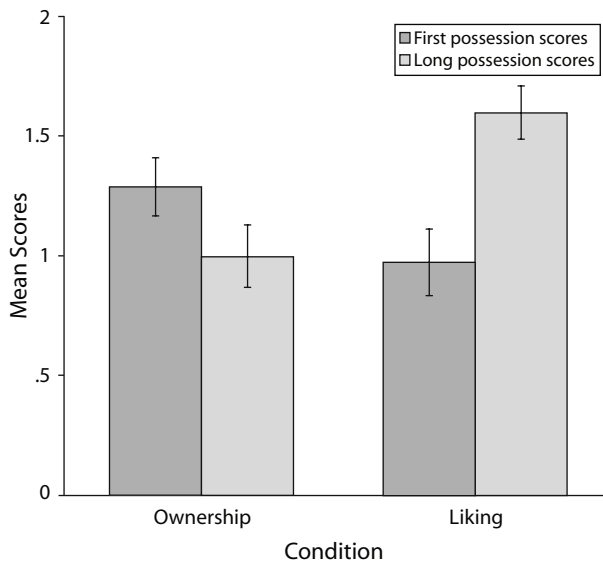


Figure 4. Experiment 2. Mean scores in the ownership and liking conditions in Experiment 1. First possession scores show the mean number of times the first possessor was selected (max = 2); long possession scores show the mean number of times the character who possessed the toy for longer was selected (max = 2). Error bars depict the standard error of the means.

for each selection of the character who played with the toy for a long time (maximum = 2). Figure 4 shows the mean scores in the ownership and liking conditions.

Participants inferred ownership according to first possession, but not according to long possession: In the ownership condition, first possession scores exceeded chance [$M = 1.29$, $SD = 0.82$; $t(47) = 2.45$, $p = .018$]; long possession scores did not [$M = 1.00$, $SD = 0.88$; $t(47) = 0.00$, n.s.].

In contrast, when judging which character liked the toy more, participants did not select according to first possession, but did select according to long duration of possession: In the liking condition, first possession scores did not differ from chance [$M = 0.98$, $SD = 0.96$; $t(47) = -0.15$, n.s.]; long possession scores exceeded chance [$M = 1.60$, $SD = 0.74$; $t(47) = 5.70$, $p < .0001$]. This result provides more evidence that first possession is specific to inferring ownership.

First possession scores differed between the ownership and liking conditions. The participants for whom first possession was pitted against long duration were more likely to select the first possessor in the ownership condition ($M = 1.29$, $SD = 0.86$) than in the liking condition [$M = 0.38$, $SD = 0.71$; $t(46) = 4.03$, $p < .001$].

Finally, a comparison of the two tasks found an order effect in the ownership condition: Participants were more likely to select the long possessor in the second task than in the first task (McNemar sign test, $N = 12$, $x = 2$, $p = .039$).

EXPERIMENT 3

As was noted above, the first possession assumption may lead everyday intuitions about property to be generally consistent with property law and the reasoning of property law

experts. Consider the famous property law case *Pierson v. Post* (1805). Post was hunting a fox; Pierson saw this, but killed and took the fox. Following a trial court case favoring Post, the appeals court reversed the decision (with one judge dissenting) and ruled in favor of Pierson as the owner of the fox. The ruling was made by judges with expertise in property law and refers to legal works dating from as early as the 6th century (Dukeminier, Krier, Alexander, & Schill, 2006). But it is also consistent with the first possession assumption, because Pierson came to possess the fox and Post did not. Thus, in reasoning about ownership disputes similar to the one between Pierson and Post, people (though unschooled in property law) should side with the character who first takes possession.

In order to test this prediction—and to demonstrate the first possession assumption in a new context—participants read stories in which an animal is pursued by one character but is then captured by another character. It was predicted that in inferring ownership, participants would select the character who first possessed the animal over the character who earlier pursued it.

Method

Participants. Forty-eight participants, 18–26 years of age, were tested.

Materials and Procedure. Participants received a page with instructions at the top (*Please read the two stories below, and answer the question following each*). Lower on the page were two stories, each immediately followed by a question. Each story was about two characters (one male, one female). One character (pursuer) tries to capture an animal (fox or trout); the other character (possessor) sees this and then succeeds in capturing it. Here is a sample story and question.

Bob is fishing, and has been trying to catch a big trout for a while. Ann sees this, casts her fishing line towards the trout, and catches it. They argue about who gets to keep the fish.

Who does the fish belong to?

Ann

Bob

The characters differed across the stories. Three factors were fully counterbalanced between participants: (1) whether, following each question, the pursuer's name was listed first and the capturer's name listed second, or the reverse; (2) whether the pursuer was male in the first story and female in the second story, or the reverse; and (3) whether the object was the fox in the first story and the trout in the second story, or the reverse.

Results and Discussion

Participants were scored 1 for each selection of the possessor and 0 for each selection of the pursuer (maximum = 2). As predicted, participants mostly selected the first possessor as owner [$M = 1.71$, $SD = 0.58$; $t(47) = 8.43$, $p < .0001$]. A comparison of the two tasks found no effect of order, and no effect of whether the object was a fox or a trout.

The scenarios in this experiment are very different from those in the previous experiments: The object is an (initially unowned) animal; both characters claim ownership of it, and the question regarding ownership likely has a correct answer. Despite these differences, participants again selected the first possessor.¹ Thus, participants' intuitions were consistent with the *Pierson v. Post* (1805)

ruling. Note that *Pierson v. Post* is often viewed as demonstrating that pursuit does not count as possession (see e.g., Stake, 2004). The present findings suggest that participants agree with the law on this.

GENERAL DISCUSSION

In three experiments, participants preferentially selected the character who first possessed an object as its owner. These findings support the view that adults infer ownership from first possession.

In Experiments 1 and 2, participants usually selected the child who first played with a toy as its owner, even after another child subsequently played with it. This response pattern is striking, because either character might have been the owner and because there were many other dimensions on which ownership inferences might have been based. Most notably, ownership inferences could instead have been based on sex stereotypes (Experiment 1) or on the duration of possession (Experiment 2). However, participants also could have selected the second and current possessor, the character on the left (or right), the female (or male) character, or whichever character they preferred looking at. They also could have responded randomly.

Participants in the liking conditions read the same scenarios but judged which child liked the toy more. Again, either character might have liked the toy more. Instead of relying on first possession, participants responded according to sex stereotypes (Experiment 1) or the duration of possession (Experiment 2). These findings provide preliminary evidence against the view that the first possession assumption reflects a general tendency to rely on temporal priority whenever answering questions with multiple plausible answers.

In Experiment 3, participants inferred ownership in scenarios based on the events leading to the famous *Pierson v. Post* (1805) case. These scenarios differ greatly from those in Experiments 1 and 2. Nonetheless, participants selected the character who first possessed the object, highlighting the wide scope of the first possession assumption. Because the first possessor was pitted against a character with an earlier association with the object (rather than against a subsequent possessor), this finding provides further evidence against the view that ownership inferences are guided by a general tendency to rely on temporal priority.

The finding of Experiment 3 also suggests that the first possession assumption leads everyday intuitions about ownership to correspond with the reasoning of experts. Consistency between everyday intuitions and the law may be important for maintaining people's respect for the law (Darley, 2001). Consistency may be especially important for ownership: Reasoning about property is an everyday event; thus, inconsistencies between intuition and law would likely lead to countless violations of law, which would be impractical to litigate. Such inconsistency could be partially responsible, for example, for the prevalence of media piracy.

In seeming opposition to the present findings, participants tested by Beggan and Brown (1994) often favored a

current possessor as owner over a first possessor. In the scenarios in that experiment, a character finds a stick, leaves it on the ground and goes home to eat dinner, and then returns to discover that another character possesses it.

This finding does not necessarily conflict with the present findings. The present research suggests that people usually assume that the first character to possess an object is its owner. But there must be many situations in which ownership inferences are not based on this assumption alone, or at all. The assumption is probably supplemented by other rules for inferring ownership when objects are sold, given as gifts, or abandoned; in Beggan and Brown (1994), participants probably believed that the first possessor abandoned the stick. First possession may also be disregarded when competing information about ownership is available, as when we are explicitly told who owns something. In fact, the present findings do not preclude the possibility that we occasionally disregard first possession in favor of sex stereotypes, duration of possession, or prior pursuit. For example, participants might have relied on sex stereotypes if toys with stronger stereotypes had been used.

The present study provides evidence for one assumption guiding our reasoning about ownership. Beyond psychology, studying this assumption may eventually inform us about law. As was noted above, the first possession assumption is broadly consistent with first possession legal rules. This consistency raises the possibility of a causal relation between psychology and law. Living in a culture with first possession legal rules may lead us to assume that first possessors are owners. Alternatively, we might be innately endowed with the first possession assumption. If so, we may readily adopt laws that are roughly consistent with it; property law may have an innate basis (Stake, 2004).

AUTHOR NOTE

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NOTE

1. This result replicates a finding from a poster (Blumenthal, 2002) that was learned of after the present experiment was conducted. Undergraduates were given a summary of the *Pierson v. Post* (1805) case, and 89% sided with Pierson.

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