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2 **Field Research on Learning**

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6 **Synonyms**

7 Observational learning; Social learning

8 **Definition**

9 The general concept of social learning encompasses many
10 mechanisms through which individuals may learn from
11 others. In particular, it includes the mechanism in which
12 individuals learn from each other through direct (formal
13 or informal) communications; it also includes the mech-
14 anism of observational learning where the behavior of
15 individuals is influenced by their observation of other
16 people's choices because of the information contained
17 therein. Bandura (1977) is the pioneering book in psy-
18 chology that started the research on social and observa-
19 tional learning. Banerjee (1992) and Bikhchandani et al.
20 (1992) are the seminal works in the economics literature
21 on observational learning.

22 Randomized natural field experiment is a research
23 method where researchers randomly assign different treat-
24 ments to individuals in a naturally occurring decision-
25 making setting, instead of a laboratory, to disentangle
26 the effects of different confounding mechanisms
27 (Harrison and List 2004). Field research, as in laboratory
28 experiments, randomizes the sampling of subjects and
29 their assignment into treatment and control groups and
30 compares the outcomes between these groups to distin-
31 guish and quantify the importance of different causal
32 mechanisms. However, successful randomization in
33 a field setting is much more difficult to achieve than in
34 a laboratory. Moreover, field researchers may not have
35 control over all elements relevant to the study. Finally,
36 field studies tend to be more time consuming and there-
37 fore more expensive and demanding than laboratory
38 studies.

Theoretical Background

39

40 Understanding the mechanisms through which individ-
41 uals learn from others is not only relevant for the theoret-
42 ical literature in economics, it also has policy implications.
43 The key difference between direct communications and
44 observational learning as channels of social learning lies in
45 whether temporal, spatial, and social proximity among
46 individuals is important for learning to occur. Observa-
47 tional learning can take place as long as the underlying
48 decision problems faced by individuals are similar; in
49 contrast, learning from others via direct communications
50 requires individuals to be close in time, space, and social
51 distance. As a result, if a policy maker wants to, say,
52 expedite the adoption of an advantageous technology, an
53 information campaign about the technology's popularity
54 among other groups of agents will be effective if observa-
55 tional learning is important, but will not be effective if
56 instead direct communication is the main channel of
57 social learning.

58 However, to empirically establish that an individual's
59 decisions are affected by the observation of others' choices
60 because of its informational content is complicated by at
61 least two plausible confounding mechanisms. The first is
62 the saliency effect. The term "saliency" is widely used in
63 the perceptive and cognitive psychology literature to refer
64 to any aspect of a stimulus that, for whatever reason,
65 stands out from the rest.

66 Observing others' choices could make those choices
67 more salient than the alternatives. When consumers are
68 not aware of their entire choice set, the differential salience
69 of the elements in the choice set may affect the decision-
70 maker's choices. As a result, a consumer may follow
71 others' choices because they are more salient.

72 Note that saliency effect is also an informational effect.
73 The key difference between observational learning and
74 saliency effect is that the information is about the charac-
75 teristics of the choices in the former, while it is about the
76 choice set itself in the latter. The second confounding
77 mechanism is the conformity effect, that is, individuals
78 may adopt the observed choices of others because they
79 want to conform.

80 Important Scientific Research and Open 81 Questions

82 Cai et al. (2009) conducted a randomized natural field
83 experiment conducted in a restaurant dining setting to
84 distinguish the observational learning effect from the
85 saliency effect. The restaurant they choose for their exper-
86 iment has a thick menu with about 60 hot dishes. The size
87 of the menu poses a challenge to diners when deciding
88 what to order. In their experimental design, they randomly
89 expose diners to one of three information conditions: In
90 the control tables, the diners are not given any additional
91 information about the dishes other than what is contained
92 in the menu; in “ranking treatment” tables, diners are
93 provided with a display with the names of the “top five”
94 dishes sorted by the actual number of plates sold in the
95 previous week; and in “saliency treatment” tables, diners
96 are provided with a plaque simply listing the names of
97 five “sample dishes.” They analyze how the information
98 conditions affect the choices of customers. The three
99 information conditions allow them to separately estimate
100 the saliency effect and the observational learning effect,
101 even though their experimental design does not directly
102 address the conformity channel. They find that, when
103 customers are given ranking information of the five most
104 popular dishes, the demand for those dishes increases by
105 13–20%. They do not find a significant saliency effect.
106 They also find modest evidence that the observational
107 learning effects are stronger among infrequent customers,
108 and that dining satisfaction is increased when customers
109 are presented with the information of the top five dishes,
110 but not when presented with only names of some sample
111 dishes.

112 Salganik et al. (2006) studied how social influence may
113 lead to unpredictable outcomes for popular cultural prod-
114 ucts. In an artificial music market, subjects (recruited
115 from visitors to a particular website) are shown a menu
116 of 48 songs under different treatment conditions. They
117 report the results of two experiments that differ in whether
118 the subject is provided with the knowledge of previous
119 participants’ downloading choices and in how such infor-
120 mation is presented to the participants (either in one
121 column in descending order of current popularity of the
122 song, or in a 16×3 rectangular grid, where the positions
123 of the songs were randomly assigned for each participant).
124 They found that in both experiments, social influence (i.e.,
125 others’ downloading choices) has significant effect on

subsequent subjects’ choices, and moreover, the social
influence is stronger when the information about other’
choices are arranged in a more salient manner (i.e., in
descending order of current popularity). Note that con-
formity effects are likely more severe in Salganik et al.
(2006) setting because it is well known that shared expe-
rience is a major component of the utility from consuming
popular cultural products, while contrast, restaurant
dining is a more private experience.

The experimental designs in the above two contribu-
tions do not allow us to separate conformity motives from
observational learning. Experimental designs that can
separate conformity from observational learning may be
possible if we assume that conformity motives are likely to
be stronger among closer social groups. But this remains
an open question. Another open question is whether
observational learning effects are persistent. For example,
do the diners who were exposed the information about the
popular dishes eventually find their own true favorite dish,
or they become trapped in the popular dishes of others?
A third open question is how the effect of observational
learning would change when profit-maximizing sellers,
not third parties, are providing the popularity
information.

Cross-References

- Design Experiments 151
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