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Social contagion of memory

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We report a new paradigm for studying false memories implanted by social influence, a process we call the social contagion of memory. A subject and confederate together saw six common household scenes (e.g., a kitchen) containing many objects, for either 15 or 60 sec. During a collaborative recall test, the 2 subjects each recalled six items from the scenes, but the confederate occasionally made mistakes by reporting items not from the scene. Some intrusions were highly consistent with the scene schema (e.g., a toaster) while others were less so (e.g., oven mitts). After a brief delay, the individual subject tried to recall as many items as possible from the six scenes. Recall of the erroneous items suggested by the confederate was greater than in a control condition (with no suggestion). Further, this social contagion effect was greater when the scenes were presented for less time (15 sec) and when the intruded item was more schema consistent (e.g., the toaster). As with other forms of social influence, false memories are contagious; one person's memory can be infected by another person's errors.

Remembering is usually conceived as a process occurring only within the individual. Cognitive psychologists have typically studied memory phenomena by having subjects study words, pictures, sentences, stories, or videotapes and then testing them in isolation. Of course, this technique employing the lone rememberer does capture a valid aspect of human remembering. Yet remembering often also occurs in social settings, as when we reminisce with friends and families over past events. Despite the ubiquity of social remembering, the social psychological processes in remembering have been generally neglected, although Bartlett (1932) long ago argued for the importance of their study.

In recent years some researchers have begun to explore social factors in memory; Weldon (2000) provides an admirable review of this young endeavor and its historical roots. For example, one interesting question concerns whether people trying to remember an event in groups can outperform individuals tested alone. In general, the answer seems to be no, although the answer depends on the type of test given (Weldon, 2000). On a free recall test, groups of 2 or 3 people recall more material than does an individual subject. However, if the performance of 2 or 3 individuals who recalled alone is compared with that of the group in terms of total items recalled, the individuals do better (e.g., Weldon & Bellinger, 1997). The poorer performance of the group in relation to the total recall of individuals may be due to processes in group recall disrupting strategies that individuals use to optimize recall (Basden, Basden, Bryner, & Thomas, 1997; Weldon, Blair, & Huebsch, 2000).

The purpose of the present investigation was to ask about possible social influences in arousing false memories and to report a new technique for studying the effect of social influence on memory. Our procedure can be construed as the melding of two famous experimental paradigms, one used by social psychologists and the other developed by cognitive psychologists. Using a procedure apparently first used by Binet (1900), Asch (1952, 1956) studied conformity in perceptual judgments by having a group of people judge the length of lines, making public responses one at a time. Interest centered on the judgment of an individual subject's responses when one or more confederates responding before the subject reported an obviously wrong answer. Asch found that the subject would often conform to the erroneous response of the confederate, and many later studies have confirmed and extended this basic observation (see Bond & Smith, 1996, for a review). We use aspects of this paradigm in our own procedure.

The other element comes from the eyewitness memory studies of E. F. Loftus (e.g., Loftus, 1993; Loftus & Palmer, 1974), in which subjects witness an event and then misinformation about this event is presented later. Subjects often recall and recognize the misinformation as part of the event. In this paradigm, there is an implied social presence in delivery of the information, because often subjects read a narrative, allegedly written by another observer, that provides the erroneous information. However, the other person is not present and the amount of detail provided in the narrative is great, so the subject would naturally conclude that this observer had a remarkably powerful memory for fine details. Many researchers have used this technique, of course, and it provides compelling data revealing false remembering (e.g., Roediger, Jacoby, &

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McDermott, 1996). However, the experimenter demand for accuracy of the misinformation seems relatively great. Another way of delivering misinformation is through presuppositions in questions ("Did the car stop at the stop sign?" when in fact the relevant traffic sign was a yield sign). In this case, the demand placed on the subject to assume that the delivered information is accurate is perhaps even greater, because the researcher creating the question would be presumed to know the correct details of the scene.

In our procedure, a subject came to the lab along with another apparent subject, who was an experimental confederate. Both were shown six pictures of household vistas (a kitchen, a bedroom, etc.). Then they engaged in collaborative recall, with the confederate and the subject taking turns recalling items from the scenes that were cued by the scene's name. Most items recalled by the confederate were objects that actually appeared in the scene, but the confederate recalled several items that did not appear in some scenes. After a short break, the experimenter took the subject to a room for a final recall test alone, with an emphasis on recalling the objects that appeared in the six scenes as accurately as possible. The question of interest was whether the subject would recall the erroneous items suggested by the confederate as actually having appeared in the scenes. Would the confederate's false reports infect the subject's memory? If so, this outcome would constitute evidence for the social contagion of memories.

Several features of this procedure may make it less likely to create false memories than the standard conformity or misinformation paradigms. First, in using a variant of Asch's (1952, 1956) procedure, we confront the debate about whether conformity reflects public demand (subjects know their conforming response is wrong) or rather true conversion of belief or memory (private conformity, as it is called). Much greater conformity occurs when subjects report in public rather than in private in the Asch procedure, so most researchers have assumed that results from this paradigm mostly reflect public conformity (Bond & Smith, 1996). We have arranged our conditions so that, on the critical test, subjects' memories were assessed individually, in private, with a premium on accurate recall of the original scenes. If the procedure we use is like Asch's in producing mostly public conformity, we may find no effects. Second, unlike the misinformation paradigm, the current procedure does not use a high-credibility source for delivering misinformation. Rather, the experimental confederate is (to the subject) another undergraduate whose memory should be assumed to be no less fallible than the subject's own memory in this situation. The subject may therefore ignore the misinformation or even consciously recognize errors by the confederate and ignore them. Underwood and Pezdek (1998) showed that when the narrative in a misinformation paradigm is attributed to a source that has low credibility, the misinformation effect is weaker than when the narrative is attributed to someone of high credibility. (See Wells, Lindsay, & Ferguson, 1979, and Smith & Ellsworth, 1987, for related studies.) Dodd and Bradshaw (1980) showed other pragmatic constraints on the misinformation effect. However, in all these instances, the narrative or other method of delivery of the misinformation represents an implied, rather than actual, person (see also Betz, Skowronski, & Ostrom, 1996). Having another (apparent) subject deliver the misinformation may or may not produce the same effect.

Schneider and Watkins (1996) reported experiments relevant to these questions, although their techniques were different and may have produced only public conformity. Pairs of subjects studied lists of words and (in two experiments) reported responses aloud. The interest was in the social influence of 1 subject's report on the immediate response of the other subject. If the prior subject called an item "old," would this inflate the hit rate and false alarm rate of the person tested second? They showed that the prior judgment of the other person did increase both the hit rate and the false alarm rate of the person making the second judgment (see also Betz et al., 1996). However, their paradigm focused on the immediate influence of the confederate on the subject's response, much as in the Asch paradigm, whereas our procedure permits us to ask if the confederate's response exerts an effect on later recollections. By testing subjects later, alone, with instructions to report the scene as accurately as possible, we can ask whether their memories are altered as a function of the confederate's earlier erroneous responses. Schneider and Watkins's (1996) results could all be due to public conformity of the subject under social pressure from the other person.

The experiment reported here was designed to determine whether subjects would fall prey to social contagion effect in the collaborative memory paradigm just described. Further, we were interested in whether items expected to appear in a given scene (high-expectancy items) would be more contagious than items that were less expected to be in the scene (low-expectancy items). We also manipulated how long the participants viewed the scenes prior to testing (15 or 60 sec). On the basis of prior false memory work in related arenas, we predicted greater effects of social contagion when the suggested items were more schema consistent (Brewer & Treyens, 1981) and when the scenes were learned less well (McDermott & Watson, in press).

METHOD

Subjects and Design

The subjects were 24 Washington University undergraduates who participated in the experiment for partial fulfillment of a course requirement. The experiment consisted of a $2 \times 2 \times 2$ mixed design. Exposure to social contagion (contagion or no contagion) and the expectancy of the contagion items (high expectancy or low expectancy) were manipulated within subjects. Presentation rate of the scenes (15 or 60 sec) was manipulated between subjects. The primary dependent variable was false recall of the suggested items,

Table 1
Mean Proportion of High- and Low-Expectancy Items Falsely Recalled When Each Scene was Presented for 15 Sec and 60 Sec

	15 Sec		60 Sec		
Items	Low	High	Low	High	*M*
Contagion	.17	.41	.05	.24	.22
Control	.03	.11	.00	.08	.06
Difference	.14	.30	.05	.16	.16

although subjects also made remember/know judgments on recalled items.

Materials

Six slides of common household scenes were created. They included a tool chest, a bathroom, a kitchen, a bedroom, a closet, and a desk. The scenes contained an average of 23.8 objects that were a mixture of high- and low- expectancy items. Expectancy ratings were gathered from a pilot study in which 13 Washington University undergraduates were asked to imagine each of the six scenes from a simple verbal description ("a typical kitchen scene") and list at least 10 items they might expect to be in the scene. The items listed by 5 people were considered to be high-expectancy items, whereas items listed by 1 person were considered to be low-expectancy items. The range of the number of people listing each item was 1 to 12. For each scene, two high-expectancy items and two low-expectancy items were excluded from the slide so that these items could later be used as contagion (or misinformation) items in the confederate's recall. A list of the contagion items for each scene is provided in the Appendix.

Procedure

All subjects were tested individually with a single confederate and received the same materials in the same order. The experiment consisted of a study phase, a filler task, a collaborative recall task, and finally an individual recall task that provided the critical measures of interest. In the study phase, the subject and the confederate saw slides of the six household scenes successively for either 15 or 60 sec each. The scenes were always presented in the same order (toolbox, bathroom, kitchen, bedroom, closet, desk), and each scene was verbally labeled as it was presented ("the toolbox scene," "the bathroom scene," etc.), since these were the phrases later used to cue recall. Subjects were instructed to pay careful attention to the slides because they would later be tested on their memory for items present in the scenes.

After seeing all six scenes, the subject and the confederate were given a filler task consisting of multiplication problems on a sheet of paper. They were instructed to complete as many of the problems as possible in the 4 min allotted for this task.

The subject and the confederate were next asked to participate in a collaborative recall test. This task required the subject and the confederate to take turns recalling items from each scene until each person had recalled 6 items from each scene, for a total of 12. Pilot testing had shown that subjects would have no problem completing this task. The confederate had memorized a list of responses for each scene and gave these responses. For half of the scenes, the confederate produced one high-expectanc y contagion item (e.g., toaster for the kitchen scene) and one low-expectancy contagion item (oven mitts). Note that these contagion items had not actually appeared in the scene. The confederate tried to recall his six items in a natural manner, similar to that used by the subject, with no difference between the items recalled that were correct and incorrect. On two trials, the subject had already falsely recalled the high- or low-expectancy contagion item before the confederate, so the confederate produced an alternative high/low expectancy item. The high-expectancy item was always the fourth word the confederate recalled, whereas the low-expectancy item was always presented as the sixth and final word he recalled. (This feature was counterbalanced in another experiment not reported here and was determined to have no significant effect.) The scenes in which false information was intruded were counterbalanced, so that each scene was presented to an equal number of subjects with or without social contagion. Each subject recalled three scenes with contagion items and three scenes with no contagion items.

Finally, the subject and confederate were placed in separate rooms and instructed to recall items from each scene on their own. In this phase of the experiment, the confederate did not complete the individual recall task, but rather sat quietly or did his own course work. The subjects were given a sheet of paper with the name of the scene on top and were given 2 min to write down as many items from the scene as they could remember. They were instructed to write down the items that they remembered as having been present in the scenes, with an emphasis on accuracy. In addition, they were asked to make a remember/know judgment for each of the items they recalled (Tulving, 1985). Subjects were instructed to make a remember judgment if they could recall some specif ic characteristic of the item such as its color or location, or if it reminded them of some other specific event. In short, remember judgments were for items that could be consciously recollected as having occurred in the scene (see Tulving, 1985; see also Gardiner, 1988, and Rajaram, 1993, for refinement of the instructions). Know responses were reserved for those items about which subjects did not have specific recollections; rather, they were simply confident that the items had been in the scene. Every 2 min, the experimenter opened the door of the individual testing room and handed the subject a new sheet of paper with the next scene listed on top. The door of the confederate's individual testing room was also opened every 2 min so as to encourage the subject's belief that the confederate was undergoing an identical procedure. This procedure was repeated for all six scenes. After the experiment, the subjects were fully debriefed and thanked for their participation.

RESULTS

The basic results for false recollection are shown in Table 1 and indicate that this paradigm does produce social contagion in memory. Subjects recalled items in the final recall test that had been suggested by the confederate in the collaborative test at higher levels than in the control condition. Further, the social contagion effect was the strongest when the scenes were presented at a faster rate and the contagion items were high-expectancy items. Table 1 presents the mean proportion of high- and low-expectancy items that were falsely recalled when the scenes were presented for 15 and 60 sec, and the following paragraphs provide statistical verification for these claims.

A 2 (contagion or control) × 2 (high or low expectancy) × 2 (15 or 60 sec) analysis of variance (ANOVA) revealed a significant main effect of the contagion manipulation [$F(1,22) = 23.87, MS_e = 0.04, p < .01$]. Subjects falsely recalled the contagion items that had been suggested to them by the confederate ($M = .22$) significantly more than they falsely recalled the control items, which were the contagion items that had not been suggested by the confederate ($M = .06$). The main effect of contagion indicates that subjects integrated the misleading responses of the confederate into their individual recall of the scenes in the final test.

There was also a significant main effect for expectancy of the items [$F(1,22) = 22.53, MS_e = 0.04, p < .01$], with

Table 2
Mean Proportion of Remember Responses and Know Responses for High- and Low-Expectancy Contagion and Control Items Falsely Recalled

	15 Sec		60 Sec		
Items	Low	High	Low	High	*M*
Contagion					
Remember	.03	.11	.00	.03	.05
Know	.14	.30	.05	.21	.17
Control					
Remember	.00	.00	.00	.00	.00
Know	.03	.11	.00	.08	.06
Difference					
Remember	.03	.11	.00	.03	.05
Know	.11	.19	.05	.13	.11

subjects being more likely to falsely recall high-expectancy contagion items ($M = .33$) than they were to falsely recall low-expectancy contagion items ($M = .11$). The high-expectancy items are more schema consistent and more highly associated to the scene. Higher levels of false recall for highly associated items have been obtained in studies of word lists (e.g., Roediger & McDermott, 1995) and visual scenes (e.g., Miller & Gazzaniga, 1998).

The main effect of presentation time was marginally significant [$F(1,22) = 3.81$, $MS_e = 0.07$, $p = .06$], but this factor significantly interacted with the contagion manipulation [$F(1,22) = 4.31$, $MS_e = 0.07$, $p = .05$]. The interaction shows that although false recall in the control conditions did not differ as a function of presentation rate, the social contagion effect was greater with the faster rate of presentation. Although subjects in both conditions fell prey to the contagion effect, those who saw the scenes for 15 sec were more likely to incorporate the suggested items into their own reports ($M = .22$) than were subjects who saw the scenes for 60 sec ($M = .10$).

For each item that subjects recalled on the final test, they indicated whether they remembered the item from the scenes or rather knew it was there. Table 2 presents the mean proportion of remember and know responses for the three rows of Table 1 (contagion and control conditions and their difference). That is, the data of Table 1 are decomposed in terms of remember and know responses in Table 2. Of particular interest is the proportion of remember and know responses for the contagion items. In general, those items that were falsely recalled by subjects were more likely to be given a know response ($M = .17$) than a remember response [$M = .05$, $t(23) = 3.0$, $SE = .04$, $p < .01$]. The same pattern occurred in the control condition [$M = .06$ for know responses and $M = .00$ for remember responses, $t(23) = 2.91$, $SE = .02$, $p = .008$]. This pattern is typical of false alarms in recognition memory experiments (Rajaram, 1993), although exceptions do exist (e.g., Roediger & McDermott, 1995).

Examining only remember responses across conditions, a 2 (remember responses for contagion or control items) × 2 (high or low expectancy) × 2 (15- or 60-sec presentation rate) ANOVA revealed a main effect for contagion items relative to control items [$F(1,22) = 5.62$, $MS_e = 0.07$, $p = .03$]. A greater proportion of remember judgments were given for suggested contagion items ($M = .05$) than were given for contagion items that had not been suggested by the confederate but that were still falsely recalled ($M = .00$). This outcome indicates that the confederate's suggestions did influence what subjects remembered from the scenes, despite the overall low rate of remember responses. Remember responses did not differ significantly for high- and low-expectancy items [$F(1,22) = 2.05$, $MS_e = 0.02$, $p > .05$], nor between 15- and 60-sec presentation rates [$F(1,22) = 2.51$, $MS_e = 0.07$, $p > .05$], although trends favoring more remember responses for high-expectancy items and the 15-sec rate are apparent in the data.

Know responses were analyzed across conditions in an identical manner. Again, there was a significant main effect for contagion items versus control items [$F(1,22) = 11.92$, $MS_e = 0.03$, $p < .01$]. Subjects were more likely to give know judgments to the items that had been suggested by the confederate ($M = .17$) than to those same items when they had not been suggested by the confederate ($M = .06$). In addition, high-expectancy items were more likely to be given a know judgment than were low-expectancy items [$F(1,22) = 11.19$, $MS_e = 0.03$, $p < .01$]. However, there was no difference in the proportion of know responses between the 15- and 60-sec presentation rate conditions [$F(1,22) = 1.27$, $MS_e = 0.03$, $p > .05$].

Finally, the mean proportion of veridical recall averaged across scenes was .35 for subjects who saw the scenes for 15 sec and .44 for subjects who saw the scenes for 60 sec. (These proportions are based on an average of 23.8 objects that could be recalled from the scenes.) Not surprisingly, veridical recall was significantly better when the scenes had been presented for 60 rather than for 15 sec [$t(22) = 2.81$, $SE = .03$, $p = .01$]. For the 15-sec presentation rate condition, the mean proportion of veridical recall ranged from .28 to .53 across the six scenes. The range of veridical recall for the scenes presented for 60 sec each was .34 to .63.

DISCUSSION

Social contagion does create false memories. After hearing confederates falsely remember items from the scenes, subjects incorporated the confederates' memories into their own recollections and later came to recall items from the scene that had not been present. The social contagion effect was greater when the scenes had been studied for less time (15 instead of 60 sec) and when the suggested item was more consistent with the schema of the scene (e.g., a toaster rather than oven mitts). In addition, although false remembering (in Tulving's, 1985, sense) did occur, subjects were more likely to report that they "knew" the suggested items had been in the scenes than to claim they actually remembered them as being there. Judging false recalls and false recognitions as known rather than remembered is the typical outcome in most experiments, although exceptions do exist (e.g., Roediger & McDermott, 1995). The standard interpretation of

know responses is that they reflect retrieval from generic (semantic) memory (Tulving, 1985) or that based on global familiarity of the event (e.g., Jacoby, Yonelinas, & Jennings, 1997).

This paradigm reveals social influences on memory consistent with past research. For example, Loftus (e.g., 1993) has shown that subjects will incorporate new information presented in lengthy narratives and later recall it as if it had actually occurred in a witnessed scene. However, because the narrative is typically so detailed and most details are accurate, subjects may be more inclined to assume that the new information is accurate, too. In our paradigm, subjects pick up the misinformation from another person engaged in exactly the same task that occupies them during collaborative recall, so they can better judge accuracy of the other person's recall (cf. Basden, Reysen, & Basden, 1998; Schneider & Watkins, 1996). Nonetheless, they continue to internalize the misinformation and recall it later. The finding that it is easier to insert information that is more expected and fits more readily with the scene is also consistent with prior work (e.g., Brewer & Treyens, 1981). An interesting question for future work is how far the effect can be extended. Even with items such as oven mitts, which could appear in a kitchen, the effect was small. With more improbable (but not impossible) items (e.g, a book in the kitchen, a cat in the kitchen), the social contagion effect may vanish altogether. Loftus (1979) showed that blatantly contradictory misinformation does not produce the standard misinformation effect, and we anticipate the same outcome in the social contagion paradigm.

We have conducted further experiments, which are still ongoing, that replicate our basic effects and show that they are robust over several experimental manipulations. For example, if subjects are warned between the collaborative recall test and the individual recall test that the confederate made errors in recall and that they should be vigilant in their own recall, the effect is diminished but still occurs. In addition, the social contagion effect persists on a recognition/source monitoring test in which subjects are given choices among possible sources of information (was the item in the scene? did the other person report this item? was it in the scene and reported by the other person?). This last fact is notable, because the misinformation effect can be eliminated under source monitoring conditions (Lindsay & Johnson, 1989) as can other illusions of memory (Multhaup, 1995). Finally, increasing the number of confederates who respond with wrong information increases the social contagion effect (Meade & Roediger, 2000).

Theoretically, the social contagion effect can be interpreted within the Johnson's source monitoring framework (e.g., Johnson, Hashtroudi, & Lindsay, 1993; Johnson & Raye, 1998). Briefly, Johnson argues that information from many sources may be used in recall and that, in retrieving information from memory, subjects may recall salient and recent information and misattribute its source to an earlier event (see also Jacoby, Kelley, & Dywan, 1989). In the social contagion paradigm, subjects are asked to recall information from the six scenes on the final recall test. However, the collaborative recall test serves as a potential source of retroactive interference (Melton & Irwin, 1940) when the confederate has recalled erroneous information, thereby exposing it to the subjects. The subjects retrieve the errors later, but the erroneous items are attributed to the original scenes rather than being accurately attributed to the confederate. The source monitoring framework predicts that the more similar the confederate's statements are to the original scene, the more probable the social contagion effect; conversely, the more distinctive the confederate's suggestions (or the items suggested) from those portrayed in the original scene, the less probable the social contagion effect. Other characteristics that would be interesting to manipulate would be similarity of the confederate to the subjects, to see if social influence would be greater between similar than dissimilar people.

Other theoretical interpretations are possible for social contagion, of course, but the source monitoring framework provides a natural and compelling interpretation that is rich in suggesting future research. The fact that most suggested false memories are deemed to be "known" rather than "remembered" in the social contagion paradigm may indicate that subjects have difficulty in locating the source of these memories. (If a source could be confidently attributed, the item should be judged as remembered.)

The social influence of one person's (or several people's) reports on another person's memories may shed light on vexing problems of how false memories develop in groups. For example, several commentators on probable instances of false memory in natural settings have noted that powerful social influences are probably at work in their development (Ofshe & Watters, 1994; Pendergrast, 1996). For example, most individuals who remember being abducted by aliens from space (Mack, 1994) have read popular books describing others' experiences and been to meetings in which people described their experiences. Often, new reports conform to these prior reports, with many descriptions of aliens also resembling popular characters from science fiction movies. So too, recovered memories of traumatic events, which have been allegedly repressed, may be subject to social influence. People who "recover" memories of childhood abuse in therapeutic contexts, when they had no inkling of the events prior to therapy, have sometimes received suggestions from therapists that abuse may have occurred. In addition, those who recover memories may have read accounts of abuse, and they may have been in therapy or support groups in which others shared their experiences. Although it is certainly possible that suggestions in these situations may trigger recovery of valid memories, another plausible possibility is that the repeated suggestions can

create false memories through social contagion (Zaragoza & Mitchell, 1996). The present results show that social contagion of memory exists, but further research will be required to determine how general such phenomena are. However, social influence permeates all aspects of life—Bartlett (1932, p. 243) maintained that nearly all psychology is social psychology—so it would be surprising if memory processes were immune.

Finally, one caveat. In this experimental report we have emphasized the negative effects of social influence, with one person's errors incorporated into another person's memories. However, this view is somewhat one-sided, because social influence can have positive as well as negative effects on memories. If one person has poor memory for a jointly witnessed event and another person reports detailed memories, it would be adaptive for the first person to incorporate the newly learned details into memory of the event. This pattern occurred in our own study. For the three scenes in which confederates recalled all six items correctly during collaborative recall, the subjects later correctly recalled 43% of these items as compared with only 26% final recall of items that were recalled by neither the subject nor the confederate in the collaborative phase. These data should be considered tentative, because appropriate counterbalancing was not used, but other data (e.g., Loftus, Miller, & Burns, 1978) lead to the same conclusion, and, in some sense, this effect simply shows that two presentations of information aid recall more than one presentation. In short, there can be (and probably often are) positive biasing effects of information supplied retroactively (see Jacoby, Hessels, & Bopp, 2001). If it is generally adaptive for people to update their memories based on other's recollections of the same events, then the occasional negative effects—creating false memories through erroneous reports—become understandable as an inevitable consequence of a normally adaptive process.

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APPENDIX
High- and Low-Expectancy Contagion Items (With Alternates in Parentheses) for Six Scenes

	Expectancy	
Scene	High	Low
Toolbox	screws (pliers)	ruler (pencil)
Bathroom	toothbrush (soap)	hair brush (lens solution)
Kitchen	toaster (knife)	oven mitts (napkins)
Bedroom	clock (mirror)	cologne (night lamp)
Closet	shoes (boxes)	belt (ball)
Desk	printer (stapler)	rolodex (calendar)

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