AIRPORT ADVERTISING EFFECTIVENESS

An Exploratory Field Study

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ABSTRACT: Transit advertising is a growing category of out-of-home advertising and an area that has received little academic attention. A field study was conducted in New York City's LaGuardia Airport to explore the effectiveness of airport advertising. The results of three studies—ethnographic, recognition, and recall—produced five general themes. Of particular interest is that depending on the type of advertising effectiveness measurement tool used by the researcher—recognition or recall—different characteristics of the advertisement or its execution correlate more strongly with one measurement tool than the other. Message response involvement provides an integrated theory that ties these findings together.

U.S. air traffic has increased nearly 20% since its low following the September 11, 2001, attacks in New York and Washington, DC (BTS 2007). Many businesses are once again reallocating a significant portion of their advertising budget to airport advertising (Tam 2004). Yet how effective is airport advertising? Nearly a third of all flights were delayed in 2007, an increase of more than 4% as compared with 2006 (USDOT 2007). This data suggests that people are spending more time in airports, but do they actually pay more attention to airport advertisements, and if they do, what executions and what locations in the terminal are the most effective in terms of recall and recognition? Consequently, we are interested in exploring the following research questions:

RQ1: How do passengers interact with and respond to airport advertising?

RQ2: What behavioral patterns do passengers consistently display while inside the concourse?

RQ3: What behavioral patterns and demographic variables of passengers are related to the recognition and recall of airport advertising?

RQ4: What characteristics of the ad are related to the recognition and recall of airport advertising?

Using a multimethod approach as called on by other researchers (Mariampolski 1999), this exploratory field study is designed to investigate how passengers notice and interact with airport advertising, what types of executions (such as travel-related themes or poster size) seem most effective, and what locations within the terminal provide for maximum exposure, and thus more attention paid to the advertisement. We present three studies conducted at New York City's LaGuardia Airport. The first study is an ethnographic observational study of people's interaction with airport advertising. The second and third studies examine recall and recognition of airport advertising, and seek to identify relevant variables that impact such recall and recognition.

CONCEPTUAL BACKGROUND

While traditional advertising media such as television, radio, and print are showing little growth due to recent product innovations such as digital video recorders like TiVo (Mack 2004) and satellite radio (Cole 2005) or declining readership in magazines and newspapers (Kelly 2003), out-of-home media continues to show steady growth. Although representing only 2% of all advertising expenditures, out-of-home advertising grew at an annual rate of 8% in 2006 (OAAA 2007). As Americans spend less time at home and more time traveling, out-of-home advertising may be an excellent vehicle to reach a very mobile consumer (Francese 2003). Out-of-home advertising includes billboards, transit, street furniture, and alternative outdoor (e.g., cinema advertising, stadium advertising, etc.). Transit advertising represents 17% of out-of-home advertising expenditures, and airport advertising is very much an important part of this category (OAAA 2007). In fact, the airport is a unique environment for advertisers to target a captive audience of business and leisure travelers.

Despite the growth and bright future for out-of-home advertising, academic research has not focused as much on this area compared to more traditional media. Yet some empirical research does exist, most of which centers on recall (Berneman and Kasparian 2003; Donthu 1994; Donthu, Cherian, and Bhargava 1993; King and Tinkham 1989; Young 1984),

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retention (King and Tinkham 1989), audience measurement issues (Bloom 2000; Hofmans 1982), attitudes toward out-of-home advertising (Veloutsou and O'Donnell 2005), or some measure of campaign effectiveness (Eastlack and Rao 1989; Fitts and Hewett 1977; King and Tinkham 1989; Woodside 1990). Other out-of-home advertising research has tackled public policy issues of regulation (Taylor 1997; Taylor and Chang 1995; Taylor and Taylor 1994) and the advertising of alcohol and cigarettes (Lee and Callcott 1994).

While we are not aware of any academic research focused on airport advertising, a study commissioned by the British Aviation Authority and JCDecaux did undertake a recall and recognition project (OAAA 2002). Their study used a fictitious brand "Bleu" to advertise banking services. Advertisements were placed throughout all four terminals of Heathrow Airport in January 2002. Using more than 1,000 interviews conducted in the terminal, unaided recall was at 3%, aided recall at 3%, and recognition at 25%.

In an effort to better understand the airport environment as an advertising platform, we draw from the message response involvement theory (MacInnis and Jaworski 1989; MacInnis, Moorman, and Jaworski 1991). This theory uses the antecedents of message processing—motivation, opportunity, and ability—as determinants for the amount of message processing that leads to a measure of advertising effectiveness. Motivation is defined as the desire to process information in the advertisement and is often referred to by other authors as the broad conceptualization of involvement (Batra and Ray 1986). Moderating the motivation relationship between ad exposure and the processing of brand information are ability and opportunity. These two factors can stimulate or hinder a consumer's motivation to process brand information. MacInnis and Jaworski (1989) define ability as the proficiency in interpreting brand information. Specifically related to advertising, ability refers to limited intelligence/education, limited product knowledge, and message difficulty. Opportunity is defined as situational factors that either impede or enhance brand processing. These factors include distractions, time compression of the message, and the inability of the consumer to control the pace to which the message is delivered. Essentially, factors relating to opportunity often distract the consumer from the primary task (brand processing) and toward the secondary task (e.g., reading, talking, etc.). Advertising effectiveness in this study is defined as the encoding of brand information in memory as measured by recognition and recall.

The message response involvement theory purports that varying amounts of motivation, opportunity, and ability affect the amount of attention and cognitive capacity that is allocated to brand processing. For example, as motivation to process the ad increases, the amount of attention paid to the ad increases (primary task) and less attention is paid to the secondary task (e.g., conversation, daydreaming, etc.). With

increasing amount of attention paid to the ad, a greater amount of working memory (cognitive capacity) is allocated to processing the ad and brand information. Deeper processing of brand information leads to more encoding of brand information into memory (Greenwald and Leavitt 1984).

Thus, at low levels of processing, cognitive responses are unrelated to the ad and memory effects are limited to recognition of salient ad features, and recognition of the ad is fostered by recognition of these ad cues. With further processing, consumers attempt to understand the meaning of the ad using existing schematic knowledge (MacInnis and Jaworski 1989). At this level, brand processing remains relatively superficial, however, and only recognition of the ad and the brand is likely.

With a moderate level of processing, deeper semantic processing suggests that brand information will persist in memory and begin to promote elementary levels of recall (Mitchell 1980). Finally, at higher levels of processing, greater levels of elaboration and self-relating occurs. At this level of processing, brand information in memory is the most durable, and thus higher unaided recall scores are more likely (MacInnis and Jaworski 1989).
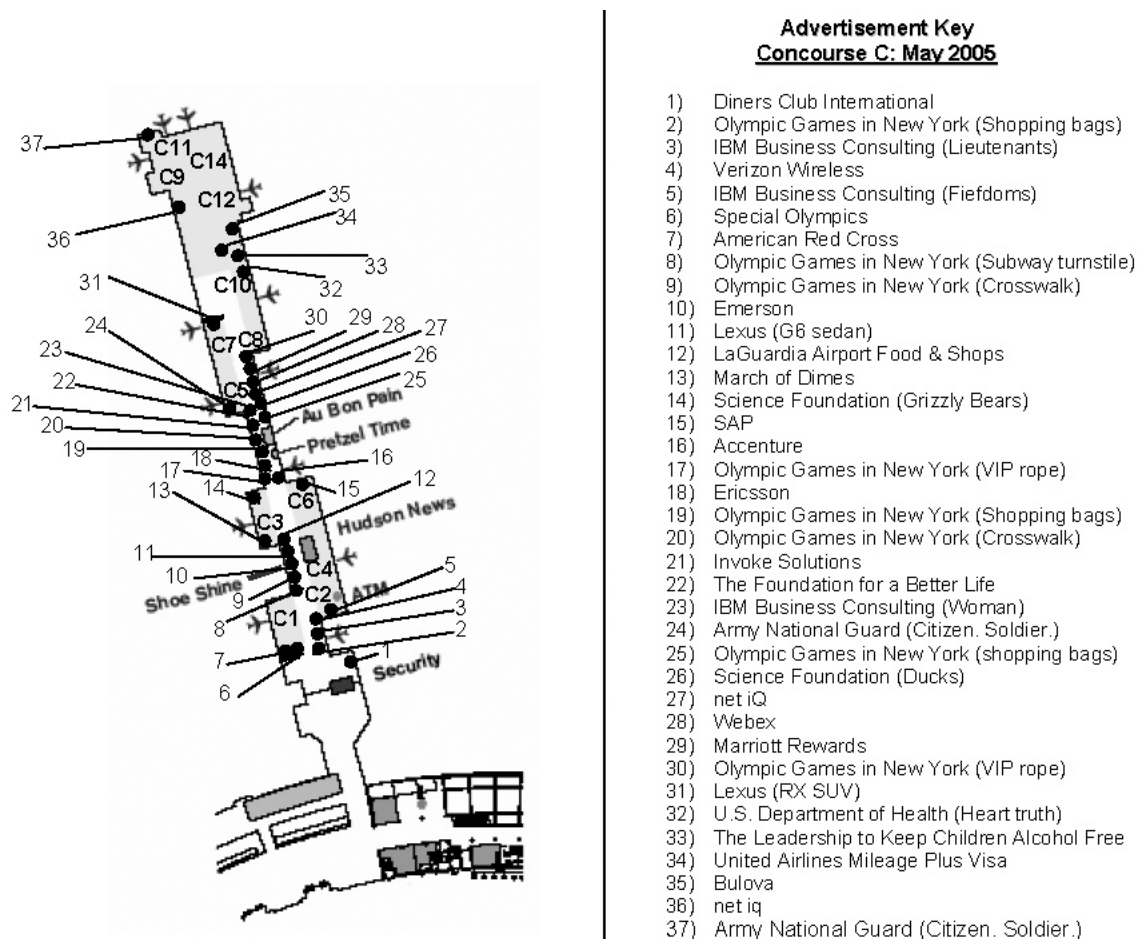
STUDY 1

Ethnography

Ethnography is a form of qualitative research in which the researcher observes a culture or a group of interest and documents the interactions between members or between members and objects (Arnould and Wallendorf 1994). Ethnographic research is used for both the study of subcultures as well as other facets of general consumer behavior (Mariampolski 1999; Pettigrew 2000). Ethnography allows for the generation of data of localized phenomena and for the development of broader theoretical frameworks (Pettigrew 2000). While the methodology for ethnography is said to vary based on the phenomenon being observed, Arnould and Wallendorf (1994) posit four primary goals for the ethnographic research. First, ethnography provides for systematic data collection in a natural setting. Second, ethnographic research necessitates extended and experiential participation on the part of the researcher in the environment of study. Third, the results of ethnographic research must be found to be credible by both the observed subjects and the intended reading audience. Fourth, ethnography requires the incorporation of multiple sources of data in the development and interpretation of the results.

Some ethnography involves direct interaction (e.g., talking with subjects) while others are less obtrusive (Adler and Adler 1987). The roles ethnographers assume in their studies range from full participation to nonparticipation (Arnould and Wallendorf 1994). Participant observers become members of the group of interest over time to gain access to consumption

FIGURE 1
LaGuardia Airport, New York, New York, Central Terminal Building, Concourse C

Advertisement Key
Concourse C: May 2005

1) Diners Club International
2) Olympic Games in New York (Shopping bags)
3) IBM Business Consulting (Lieutenants)
4) Verizon Wireless
5) IBM Business Consulting (Fiefdoms)
6) Special Olympics
7) American Red Cross
8) Olympic Games in New York (Subway turnstile)
9) Olympic Games in New York (Crosswalk)
10) Emerson
11) Lexus (G6 sedan)
12) LaGuardia Airport Food & Shops
13) March of Dimes
14) Science Foundation (Grizzly Bears)
15) SAP
16) Accenture
17) Olympic Games in New York (VIP rope)
18) Ericsson
19) Olympic Games in New York (Shopping bags)
20) Olympic Games in New York (Crosswalk)
21) Invoke Solutions
22) The Foundation for a Better Life
23) IBM Business Consulting (Woman)
24) Army National Guard (Citizen. Soldier.)
25) Olympic Games in New York (shopping bags)
26) Science Foundation (Ducks)
27) net iQ
28) Webex
29) Marriott Rewards
30) Olympic Games in New York (VIP rope)
31) Lexus (RX SUV)
32) U.S. Department of Health (Heart truth)
33) The Leadership to Keep Children Alcohol Free
34) United Airlines Mileage Plus Visa
35) Bulova
36) net iq
37) Army National Guard (Citizen. Soldier.)

behaviors that would otherwise be protected against the purview of outsiders. Nonparticipant observers, on the other hand, monitor and record naturalistic behavior without participating directly in the group. Ethnographers may also collect data via interviews where the researcher queries the subject on his or her own behavior and the behavior of others.

Ethnographies have been utilized in consumer research to understand a wide variety of groups and situations, including Harley-Davidson owners (Schouten and McAlexander 1995), gay consumers (Kates 2002), homeless people (Hill and Stamey 1990), flea markets (Sherry 1990), and Thanksgiving Day consumption rituals (Wallendorf and Arnould 1991). More recently, ethnography has also been used in the study of people's interaction with various advertising media (Hirschman and Thompson 1997; Ritson and Elliott 1999). In the study by Ritson and Elliott (1999), the researcher used a teaching position in an English high school to gain credibility and access to student subjects to understand how adolescents use advertisements in social contexts. Indeed, some researchers have suggested that if comprehensive theories about advertis-

ing effects are to be developed, ethnography must be a critical component (Buttle 1991). Buttle argues that advertising is very much integrated into the social routines of our lives and that traditional research cannot fully comprehend these effects without some form of naturalistic observation.

Method and Procedures

Ethnographic research of person–object interactions (i.e., person–airport advertising) calls for a nonparticipatory observing role (Arnould and Wallendorf 1994; Elliott and Jankel-Elliott 2003). Our field study took place during the month of May 2005 in New York City's LaGuardia Airport in the C concourse of the Central Terminal Building (see Figure 1). We received permission to conduct the study from the Port Authority of New York and New Jersey and conducted observations of more than 3,000 individuals, totaling 20 hours spread out over several days.

Observations of interactions with airport advertising were recorded in a diary and later analyzed for overarching themes.

TABLE 1
Passenger Demographics: Profile of Departing Passengers (May/June 2005), LaGuardia Airport, New York, New York, Central Terminal Building (All Concourses)

Type of passenger	
Departing	89.9%
Connecting between flights	10.1%
Type of flight	
Domestic	88.8%
International	11.2%
Trip purpose	
Business only	31.4%
Leisure only	53.0%
Business and nonbusiness	6.8%
Other	8.8%
Average time in terminal (minutes)	114
First time in terminal	
Yes	27.6%
No	72.4%
Purchased food/beverage	
Pre-security checkpoint	24.4%
Post-security checkpoint	32.9%
Did not purchase	42.7%
Purchased retail item	
Pre-security checkpoint	7.2%
Post-security checkpoint	18.2%
Did not purchase	74.6%
Gender	
Male	46.9%
Female	53.1%
Age	
18–24	12.0%
25–34	25.2%
35–54	41.5%
55+	21.4%
Income	
Under $25,000	7.6%
$25,000–$39,999	9.3%
$40,000–$59,999	16.7%
$60,000–$79,999	12.5%
$80,000–$99,999	13.0%
$100,000–$149,999	18.5%
$150,000 and over	22.5%

More than a dozen locations in concourse C were observed, including advertisements located near the security checkpoint, at the gate, near retail/food outlets, and in the main corridor. In addition, the researcher positioned himself in various positions in reference to each observed location to ensure that the faces/eyes of passengers walking to and from their gate were visible. The observations were made from designated passenger seating areas using a notebook similar to many traveling business people to ensure an inconspicuous profile.

Concourse C within LaGuardia's Central Terminal Building is one of four concourses in the building. This concourse serves a portion of American Airlines and American Eagle flights to cities such as Boston, Cleveland and Columbus, OH, Charlotte, NC, Washington, DC, Northwest Arkansas, St. Louis, and Buffalo, as well as a portion of United Airlines flights to Chicago and Denver. American Airlines and United Airlines each operate seven gates in the concourse. Data provided by the Port Authority of New York and New Jersey indicate that for the 12 months ending June 2005, 1.6 million people (roughly 50% American and 50% United) departed from concourse C. Other departing passenger demographic data for all of LaGuardia Airport's Central Terminal Building are found in Table 1.

Results and Discussion

Four general themes were identified from the observational data: attention to the advertisement as a function of location, attention to the advertisement as a function of passenger activity, span of attention to the advertisement, and attention to advertisement as a function of passenger clustering.

Attention and Location

Passengers were more likely to take notice of airport advertisements in the center of the concourse away from the bottleneck of the security checkpoint and where gates are farther apart. Using simple counts of passengers, it was determined that nearly 60% of passengers walking in the last third of the concourse appeared to notice advertisements. This high percentage appears to be associated with the notion that these passengers have left the commotion of the security checkpoint, have oriented themselves within the concourse, and appear less rushed, making more time available for nonorienting environmental scanning. Many of these passengers were also noted to have previously found their gate and were now reentering the concourse for snacks and reading material, seemingly having now determined that they had ample time to do so. Passengers near the security checkpoint appeared to notice advertisements only about 15% of the time. Finally, the location with the fewest number of passengers noticing advertisements were those ads located at the gate, at about 10% of the time.

Attention and Activity

Passengers who are sitting at the gate don't tend to spend much time looking at advertisements positioned in their purview. In fact, passengers are more likely to be reading a book or magazine, doing some kind of work, talking on a mobile phone, or watching people walk through the concourse than they are to take notice of an airport advertisement. Furthermore, when the time comes to board the plane, only about 15% of the passengers will notice one of the ads at a gate, which are typically

positioned near the jet way. People located nearest to the ads appear to be more concerned with maintaining their place in line and handing their boarding pass to the gate agent than they are in scanning the environment around them. People farther back in line appear to be less concerned about these issues, and are therefore more likely to scan the environment. However, the advertisements at the gate are blocked by passengers farther up in the line.

Passengers standing in line to purchase either food or reading materials, especially if the line stretches out into the corridor, appear to scan the environment for anything that will capture their attention rather than stare at the person ahead of them in line. Unlike those passengers waiting in line to board the plane, passengers waiting to make a purchase appear to be less concerned with loosing their place in line, and are therefore more apt to take notice of an advertisement. It appears that, on average, 25% of the passengers take notice of the advertisements.

As mentioned previously, attention to advertisements located near security are low, at 15%. Passengers just entering the concourse appear to be more concerned with orienting themselves in the concourse, finding their gate, and reorganizing their personal belongings after having just passed through security than they are in noticing advertisements or any other object positioned near the checkpoint. Conversely, passengers leaving the concourse appear to notice advertisements about 20% of the time, which is slightly better than those passengers entering the concourse. Despite the potential for exiting passengers to notice ads more frequently than passengers entering the concourse, this fact is perhaps eclipsed by the congestion of passengers entering the concourse, thereby blocking exiting passengers' view of the advertisements that lie between themselves and passengers entering the concourse.

For those passengers who have just disembarked the airplane and are now heading toward baggage claim, 20% of them appear to notice advertisements along the concourse. However, this fact seems to be moderated by the number of people who are deplaning. When there is more congestion, passengers pay more attention to people walking around them than they do to advertisements that are more peripherally located. In addition, there appears to be no discernable difference in the attention paid to advertisements in the corridor if the passenger is walking gingerly or briskly, although running passengers obviously do not notice ads.

Span of Attention

For those passengers who do notice advertisements located in the concourse, they tend to do so for no more than one to three seconds. However, a small portion of these passengers—about 10%—will spend three to four seconds viewing the ad while continuing to walk past it. Only another 10% of those who notice the ad will stop and read the ad for about five or more seconds. It is interesting to note that passengers wandering around the concourse talking on a mobile phone will often stop and stare at an ad for five or more seconds as well.

Attention and Passenger Clustering

When passengers walk through the concourse, they are more likely to notice an advertisement if they are alone than if they are with someone else. In addition, if passengers are walking in pairs and are engaged in conversation, only the person on the outside (farthest from the ad) has the opportunity to notice the ad as they turn their head to talk and listen to their companion. If passengers are walking in pairs and are not engaged in conversation, however, the person on the inside (closest to the ad) appears to notice the ad more often. The person on the outside does not seem to notice the ad; it could be that their companion is blocking their view.

Summary

The results from the ethnographic observations suggest that airport advertisements are noticed more frequently if the ad is located away from the security checkpoint and not in the gate waiting area. Passengers who are headed to their gate appear more likely to notice the ad than are passengers who have just deplaned. In addition, some advertisements appear to suffer from poor placement, as their presence is obstructed by other passengers entering the concourse or passengers standing in line to board the plane. Passengers who are walking by themselves tend to be more likely to view advertisements than passengers who are walking in a group. Finally, of the passengers who do notice the advertisements in the concourse, very few actually spend more than one to three seconds viewing the ad.

STUDY 2

Recognition

While recognition appears not to have been used in previous out-of-home advertising studies, it is often used in other forms of advertising research (Bagozzi and Silk 1983). Much of the literature on the use of recall and recognition focuses on whether these two constructs measure one or two facets of memory (for reviews, see Bagozzi and Silk 1983; Finn 1992; Shapiro and Krishnan 2001). In any case, there is agreement that both are measures of explicit memory (Insingrini, Vazou, and Leroy 1995; Rajaram, Srinivas, and Travers 2001; Shapiro and Krishnan 2001).

Recognition measures an individual's assessment as to whether or not he or she remembers seeing a particular ad,

TABLE 2
Descriptive Statistics of Participants

Participant characteristics	Recognition	Recall
Gender		
Male	14	21
Female	35	37
Total	49	58
Age		
18–24	11	7
25–34	12	8
35–54	21	27
55+	6	16
Total	50	58
Reason for flying		
Business	20	27
Leisure	30	31
Total	50	58
Number of times flown in/out of LaGuardia		
in past 30 days		
0 times	10	10
1 time	24	26
2–3 times	11	14
4+ times	5	8
Total	50	58
Length of time since passed through		
the security checkpoint		
0–15 minutes	14	16
16–30 minutes	19	24
31–45 minutes	7	3
46–60 minutes	4	6
60+ minutes	6	9
Total	50	58
Gate location of the interview		
Gate 8	4	9
Gate 9	11	11
Gate 10	9	8
Gate 11	3	6
Gate 12	11	17
Gate 14	12	7
Total	50	58

with the ad itself serving as a memory prompt. Recall, which measures an ability to identify a memory trace for an ad without being prompted by the ad itself, reflects a more cognitively demanding task than recognition (Krugman 1986; Stapel 1998). Both tasks measure memory, but the difference between them rests in how it is measured, that is, showing a picture of the ad versus prompting by brand category (du Plessis 1994). Not surprisingly, recognition scores are typically higher than recall scores (du Plessis 1994).

Method and Procedures

We conducted the recognition study during May 2005 in New York City's LaGuardia Airport in concourse C of the Central Terminal Building (see Figure 1). An airline and passenger profile for Terminal C was detailed in Study 1. Participants who were eighteen and older and who were seated in the rear of the concourse (gates 8–14) were randomly selected for participation in the recognition study. Participants in the rear of the concourse were selected to ensure that they had the opportunity to view a majority of the advertisements. Fewer than 5% of the passengers asked to participate in the study refused to do so, and those who did were predominantly men. Over the course of two days, 54 recognition surveys were collected. Four surveys were eliminated from the final analysis, however, as these respondents indicated that La Guardia Airport was not their point of departure and they therefore did not have an adequate opportunity to view all the ads in the concourse. Surveys were collected from 8 A.M. to 7:30 P.M.

The 11-page recognition survey instrument was accompanied by a booklet of 36 8.5 × 11-inch color photographs of the advertisements in the concourse. A total of 28 advertisements in the concourse were included. Twenty-six of the advertisements were flat panel, backlit, standard diorama posters 43" × 62". One ad was a flat panel, backlit, double diorama poster 43" × 126", and the remaining ad was wrapped around a desk approximately 40" × 100". In addition, seven filler ads from a Midwestern airport but not appearing at La Guardia were interspersed to assess the extent of false positives. The filler ads were actual advertisements of the same size as those appearing at La Guardia (standard diorama) and for real products and services. Finally, one ad was repeated in the booklet for a test-retest measure.

In addition to asking participants whether they recognized an advertisement, the following demographic and situational data were collected: gender, age, purpose of flight (business/ leisure), number of times flown in and out of LaGuardia in the past month, and the length of time since the participant passed through the security checkpoint. To ensure that participants had an opportunity to see a majority of advertisements from the security checkpoint to their gate, they were screened such that only those with LaGuardia Airport as an initial point of departure were used (passengers connecting from one Terminal C gate to another would not have full opportunity to view the airport ads).

Results and Discussion

The descriptive statistics for the participants are outlined in Table 2. Most participants were female, between the ages of 25 and 54, had flown in or out of LaGuardia at least once in the past month, and had passed through security some 16 to 30 minutes earlier. Just slightly more than half of the participants were traveling for leisure as opposed to business. Despite a conscious effort to obtain a ratio of male to female participants that closely matched the passenger demographics

for the airport as provided to us by LaGuardia Airport officials, women tended to be slightly more receptive to completing the surveys than were men. All other statistics, however, are generally consistent with the overall demographics for the entire Central Terminal Building as outlined in Table 1.

The mean number of advertisements recognized overall was 4.4; people recognized, on average, about 4.4 ads. Mean recognition of the filler ads was a trivial .3, suggesting little in the way of false positives. The results of the test-retest measure, which indicates that the answers given by the same participant agree from one time period to the next, produced a κ statistic of .84, indicating an almost perfect agreement between the two answers (Landis and Koch 1977). Table 3 details the descriptive statistics for the recognition scores by advertisement.

Analysis of participant characteristics related to the recognition of advertisements indicated that the number of times flown in the past month and the length of time since the participant passed through the security checkpoint is related to ad recognition (see Table 4). Consistent with the notion of repetition enhancing recognition, participants who had flown in or out of LaGuardia two or more times in the past month recognized almost twice as many advertisements as those who had flown in and out of LaGuardia fewer times (6.4 ads versus 3.5 ads).

Ethnographic observations from Study 1 suggested the importance of location in engaging travelers' attention. Analysis of the recognition data by the location of the ad in the terminal also reinforces the importance of ad placement (see Table 4). The data show that advertisements placed in the corridor of the concourse are noticed more frequently than are advertisements placed near security or at the gate (with the mean percent recognition in the corridor at 21.1% versus near security at 13.9%, and at the gate at 9.6%). Advertisements located at the gate fared the worst, as passengers in the gate area are often doing everything else other than looking at the advertisements in their purview.

The location of the advertisement in proximity to retail outlets was also significant, indicating that the closer an advertisement is placed to a newsstand or food vendor, for example, the more likely it is to be noticed (the recognition rate for ads across from, adjacent to, and near a retail outlet was 20.6% versus those not near a retail outlet at 12.5%). This result is again consistent with the ethnographic observations cited earlier, indicating that passengers waiting to pay for their purchases are scanning their environment. Contrary to the ethnographic observations, however, advertisements located in the back third of the corridor (farthest from the security checkpoint) were not recognized significantly more often than those in other locations in the corridor, suggesting that although more passengers appeared to take note of the ads more often, the opportunity to process the ads (exposure

TABLE 3
Descriptive Statistics for Advertisements: Recognition ($n = 50$)

Advertisement	Percent recognized
SAP (15)	0
Olympic Games in New York—Shopping bags (2, 19, 25)	36.7
Earth Justice (filler ad)	12.2
IBM—Lieutenants (3)	4.1
Verizon Wireless (4)	14.6
Special Olympics (6)	2.0
American Red Cross (7)	0
Airforce Nutrisoda—Energize (filler ad)	0
Olympic Games in New York—Crosswalk (9, 20)	32.7
Emerson (10)	2.0
Lexus—GS sedan (11)	18.4
IBM—Fiefdoms (5)	6.1
LaGuardia Airport Food and Shops (12)	24.5
March of Dimes (13)	6.1
Lexus—RX SUV (31)	16.3
Make-A-Wish (filler ad)	0
Diners Club International (1)	22.9
Science Foundation—Grizzly Bears (14)	14.3
AT&T (filler ad)	4.1
Accenture (16)	28.6
Olympic Games in New York—VIP rope (17, 30)	32.7
Ericsson (18)	10.4
Invoke Solutions (21)	4.1
The Foundation for a Better Life (22)	22.5
IBM—Flying phones (filler ad)	2.0
Science Foundation—Ducks (26)	8.3
net iQ (27, 36)	22.5
Webex (28)	37.5
Marriott Rewards (29)	12.2
Airforce Nutrisoda—Calm (filler ad)	6.1
Army National Guard—Citizen Soldier (24, 37)	18.4
net iQ (27, 36)	26.0
The Leadership to Keep Children Alcohol Free (33)	8.0
United Airlines Mileage Plus Visa (34)	25.0
Business 2.0 Magazine (filler ad)	4.0
Olympic Games in New York—Turnstile (8)	24.0
Overall recognition of all advertisements (including filler ads)	13.8
Overall recognition of all advertisements (excluding filler ads)	16.2
Overall recognition of filler ads	4.0

Notes: Numbers in parentheses refer to the location of the advertisement on the concourse map (see Figure 1) or whether the advertisement was a filler ad.

time) was not as great as it was for passengers standing in line near retail outlets.

Repetition is also beneficial in that the number of times an advertisement appears in the concourse also affects recognition. Advertisements with more than one appearance in the

TABLE 4
ANOVA Results for Recognition by Participant/Advertising Characteristic

Participant/advertising characteristic	Number of passengers	Number of advertisements	Mean
*Times flown in the past month** (number recognized)*	50	—	4.4
0–1 times	34	—	3.5
2+ times	16	—	6.4
*Length of time since passed through security** (number recognized)*	50		4.4
0–30 minutes	33	—	3.6
31+ minutes	17	—	6.1
*Location of advertisement in the concourse** (percent recognized)*	—	28	16.2
At gate	—	10	9.6
Near security	—	3	13.9
In corridor	—	15	21.1
Location of advertisement in proximity to retail outlets (percent recognized)*	—	28	16.2
Not near retail outlet	—	15	12.5
Near retail outlet	—	13	20.6
*Number of appearances of an advertisement in the concourse** (percent recognized)*	—	28	16.2
1 time	—	23	13.6
2 times	—	5	28.6

Note: ANOVA = analysis of variance.

* $p \le .10$.

** $p \le .05$.

concourse were noticed more than twice as much (28.6% for ads appearing twice versus 13.6% for ads appearing once). This is consistent with other studies that have demonstrated that increased repetition of advertisements leads to greater brand and message encoding in memory (MacInnis, Moorman, and Jaworski 1991; Pechmann and Stewart 1989).

Summary

Although recognition of advertisements tends to measure behaviors of only those people who may simply notice rather than process deeply (Stapel 1998), the results are nonetheless informative. The results of this study reinforce the importance of location and repetition. Advertisements located in the corridor and near retail outlets and that appear multiple times are more likely to be noticed by passengers. In addition, passengers who had either spent more time in the terminal area or had traveled more frequently had, on average, greater recognition of terminal advertising.

STUDY 3

Recall

Recall is another important indicator for advertising effectiveness (Bagozzi and Silk 1983), and has been used successfully in many out-of-home advertising studies (Berneman and Kas-

parian 2003; Donthu 1994; Donthu, Cherian, and Bhargava 1993; King and Tinkham 1989; Young 1984). Recall measures have been well established in the advertising literature (Donthu, Cherian, and Bhargava 1993; Muehling, Stoltman, and Grossbart 1990; Stewart 1989; Stewart and Furse 1986; Stone, Besser, and Lewis 2000). Recall is linked to putting a brand into a consumer's evoked set (Stewart 1989; Stewart and Furse 1986) and is frequently used by advertising professionals (Jones 1986; Walker and von Gonten 1989).

Method and Procedures

Like the previous studies, the recall study took place during the month of May 2005 in New York City's LaGuardia airport in concourse C of the Central Terminal Building (see Figure 1). Over the course of two days, 63 recall surveys were collected. Five surveys were eliminated from the final analysis, however, as these respondents indicated that La Guardia airport was not their point of departure and they therefore did not have an adequate opportunity to view all the ads in the concourse. Surveys were collected between 8 A.M. and 7:30 P.M. Participant refusal rate for this study parallels that of Study 2. See Table 2 for a breakdown of participant demographics.

The survey instrument was a four-page questionnaire that asked participants to first list any advertisements they had remembered seeing while inside the concourse (unaided recall). On the next page, participants were then asked to do the same,

TABLE 5
Descriptive Statistics for Advertisements: Recall (*n* = 58)

| | Percent recalled | | | |
| | --- | --- | --- | --- |
Advertisement	Unaided brand	Unaided any	Aided brand	Aided any
SAP (15)	0	0	0	0
Verizon Wireless (4)	3.2	3.2	6.3	6.3
Special Olympics (6)	0	0	0	0
American Red Cross (7)	0	0	0	0
Emerson (10)	0	0	0	0
LaGuardia Airport Food and Shops (12)	1.6	1.6	1.6	3.2
March of Dimes (13)	0	0	0	0
Diners Club International (1)	0	1.6	0	0
Accenture (16)	3.2	6.4	3.2	4.8
Ericsson (18)	0	0	0	0
Invoke Solutions (21)	0	0	0	0
The Foundation for a Better Life (22)	1.6	6.4	1.6	3.2
Webex (28)	1.6	1.6	1.6	1.6
Marriott Rewards (29)	1.6	1.6	0	0
Army National Guard—Citizen Soldier (24, 37)	1.6	1.6	6.3	6.3
net iQ (27, 36)	0	1.6	1.6	1.6
The Leadership to Keep Children Alcohol Free (33)	0	0	0	1.6
United Airlines Mileage Plus Visa (34)	4.8	6.4	7.9	7.9
Bulova (35)	1.6	1.6	1.6	3.2
U.S. Department of Health (32)	0	0	0	0
IBM (3, 5, 23)	3.2	3.2	4.8	4.8
Science Foundation (14, 26)	0	0	1.6	1.6
Lexus (11, 31)	1.6	1.6	1.6	1.6
Olympic Games in New York (2, 8, 9, 17, 19, 20, 25, 30)	4.8	4.8	4.8	4.8
Overall recall	1.3	1.9	1.9	2.1

Note: Numbers in parentheses refer to the location of the advertisement on the concourse map (see Figure 1).

but this time they were given 13 product categories to prompt their memory (aided recall).

Results and Discussion

Our interest was in tracking brand name recall (aided and unaided) and any recall (brand name and/or some execution-related element tied to the ad). Overall, both aided and unaided recall was low. The mean number of brands recalled using the unaided measure was .6 and the unaided any recall (brand and/or execution-related element) was .8. Category prompts made only a marginal difference in that both aided brand recall and aided any were .8. Table 5 details the descriptive statistics for all recall scores by advertisement.

Unlike recognition, recall was not significantly related to time in the terminal or frequency of travel through La Guardia, nor was it a function of the location of the advertising. However, there were several elements of the ads themselves that were significantly related to recall (see Table 6). The results shown in Table 6 are first categorized by the type of recall (e.g., unaided versus aided) and then by type of information

recalled (e.g., brand name only versus any unique execution-related element of the ad, including brand name). Recall of ads of a unique size was higher. Advertisements in a nonstandard shape were recalled more often (unaided brand at 4.0% for a unique format versus 1.0% for a standard format; unaided any at 6.4% for a unique shape versus 1.5% for a standard shape; aided brand at 5.5% for a unique shape versus 1.5% for a standard format; and aided any at 6.4% for a unique shape versus 1.7% for a standard format). Nonstandard sizes included double diorama spectaculars (43" × 126") rather than standard diorama (43" × 62"), and another that was wrapped around a desk.

The number of words in an advertisement also proved to be significant in all recall measures except unaided any recall. The general effect was that ads with fewer words (less than 12) were more likely to be recalled than ads with a greater number of words (unaided brand at 1.9% with fewer words versus .7% with more words; aided brand at 2.9% with fewer words versus 1.0% with many words; aided any recall at 3.3% with fewer words versus 1.1% with more words).

The presence of an airport/destination-related theme such as

TABLE 6
ANOVA Results for Recall by Advertising Characteristic (*n* = 58)

	Number of advertisements	Mean
Unaided, brands		
*Unique size of the advertisement** (percent recalled)*	24	1.27
Normal size	22	1.02
Different or unique size	2	4.00
Amount of words in the advertisement (percent recalled)*	24	1.27
Few words	11	1.89
Many words	13	.74
Unaided, any		
*Unique size of the advertisement** (percent recalled)*	24	1.87
Normal size	22	1.45
Different or unique size	2	6.40
Presence of an airport-related theme in the advertisement (percent recalled)*	24	1.87
No destination-related theme present	20	1.52
Destination-related theme present	4	3.60
Aided, brands		
*Unique size of the advertisement** (percent recalled)*	24	1.85
Normal size	22	1.52
Different or unique size	2	5.55
Amount of words in the advertisement (percent recalled)*	24	1.85
Few words	11	2.89
Many words	13	.98
Aided, any		
*Unique size of the advertisement** (percent recalled)*	24	2.12
Normal size	22	1.74
Different or unique size	2	6.35
*Amount of words in the advertisement** (percent recalled)*	24	2.12
Few words	11	3.33
Many words	13	1.10

Note: ANOVA = analysis of variance.

* $p \leq .10$.

** $p \leq .05$.

the use of an airplane in the advertisement or making reference to an airport-related activity (e.g., "Making your connection has never been easier"—Verizon Wireless) enhanced unaided any recall, with 3.6% recall for airport/destination-related executions versus 1.5% recall for context-independent executions. The use of context-related themes likely draws on a consumer's associations and relevant knowledge, which in turn may facilitate ad processing, particularly in lower-involvement situations (De Pelsmacker, Geuens, and Anckaert 2002).

Summary

People who are able to recall advertisements are known to have processed an ad more deeply than people who can only recognize an advertisement (Stapel 1998). It appears that for airport advertising, the use of fewer words and a unique size for the advertisement (compared to others in the concourse) are important in generating a higher recall score for identification of the advertising brand. Using an airport/destination-related theme also appears helpful.

GENERAL DISCUSSION

Out-of-home advertising is uniquely different from more traditional forms of advertising. It is not set within our favorite television programs or surrounded by our beloved music or print articles. Rather, out-of-home advertising is embedded within our mundane chores, seeking our attention as we busily go about our lives. Airport advertising is a growing part of out-of-home advertising, and an area that has received little academic attention.

A major contribution of our research is its multimethod approach, which uses a combination of ethnographic techniques and more traditional recognition and recall tests. The results

of the three studies presented here tie well to theories of message response involvement. Within this study, instances where recognition and recall were the greatest were accompanied by instances of greater motivation, opportunity, and ability. In accordance with MacInnis, Moorman, and Jaworski (1991), motivation to process airport advertising as evidenced in higher recognition and recall scores was fostered by using a unique size for an advertisement and relating the brand to the self by using an airport-related theme. Opportunity was enhanced by repeating the ad throughout the concourse, as well as by locating the ad in high traffic areas, such as near retail outlets or in the corridor. In addition, opportunity was enhanced for those passengers who were either frequent La Guardia airport travelers or had spent a greater amount of time in the concourse. Ability was enhanced by decreasing message difficulty, with higher recall for ads with fewer words.

Based on the three studies presented here, five general themes seem apparent. The first is the importance of location. Like the proverbial "location, location, location," location is very much a critical element in the effectiveness of airport advertising. Results from the ethnographic and recognition studies confirm that proximity to retail outlets and being positioned in the main corridor away from the bustle of the security checkpoint can increase the opportunity to process an ad. This is consistent with other out-of-home advertising studies in which recall rates were greater for ads in areas with fewer distractions and less congestion (Donthu, Cherian, and Bhargava 1993). The poorest-performing location is at the gate, where sitting passengers are doing everything but looking at the ads in the immediate area. However, results from the recall study did not support location as a factor affecting recall. This suggests that while location may be important for gaining attention to the ad, it is not an important factor in generating additional message processing.

The second important theme is centered on the activity of the passenger. Similar to the results of other transit advertising research (Jenkins and Welch 1985; Prendergast and Hang 1999) and the results of our ethnographic study, attention to the ad is impacted by what the passenger is doing. For example, passengers standing in line to pay at retail outlets are more motivated to scan the environment and notice ads than are passengers standing in line to board a plane. In addition, passengers just entering the concourse near the security checkpoint are too busy orienting themselves in the concourse and recollecting their personal belongings to notice the ads in the area. Passengers who have deplaned or are walking and talking are less likely to notice advertisements than passengers who are walking by themselves or are in route to their gate.

The third theme discovered here is concerned with tactical and execution-related decisions that lead to greater message processing. Consistent with other out-of-home advertising studies, increasing repetition (Berneman and Kasparian 2003)

and using an ad of a unique size (Young 1984) increase the effectiveness of airport advertising. While general outdoor campaigns suggest 36+ exposures are adequate (Murray and Jenkins 1992), in smaller, somewhat self-contained areas such as airports this research suggests that as few as two occurrences of the same ad may be sufficient to increase advertising effectiveness. Execution-related elements also aid in increasing the effectiveness of airport advertising, such as using fewer words or airport/destination-related themes.

The fourth theme identified in this research found that some advertisement characteristics correlate only with high recognition scores, while other characteristics correlate only with high recall scores. Recognition tests are intended to measure mere awareness of an ad, whereas recall tests are intended to measure deeper message processing (Krugman 1986; Mitchell 1980; Stapel 1998). Tactical advertising decisions such as repetition and placement within the concourse, which increase opportunity to process an ad, were significantly related to recognition. Elements related to the ad's execution that increase motivation and ability, such as using fewer words in an advertisement, a uniquely sized ad, and an airport/destination-related theme, were significantly related to recall, which suggests that these tactics help to increase message processing by creating a novel, simple, and familiar message.

The last important theme identified in this study was the characteristics of passengers that affected recognition. Passengers who fly more often and who spend more time in the concourse have greater recognition of ads. However, an inverted-U relationship seems to exist with the amount of time spent in the airport and recognition. Recognition scores continue to increase up to 60 minutes, after which they begin to drop off, suggesting that after an hour, passengers may become less attentive in an environment that has become, unfortunately, all too familiar.

This research is not without limitations. While these results may be generalizable to other terminals at La Guardia Airport and other airports, or even in other transit advertising situations, this cannot be truly known until this study is replicated in other locations. Ultimately, generalizability can only be assessed through multiple studies (McGrath and Brinberg 1983). In addition, further research could use larger sample sizes. Considering this study is the first of its kind, we hope that other researchers might replicate our multimethod approach to other airport terminals and other out-of-home advertising environments to better assess its validity.

MANAGERIAL IMPLICATIONS

While the results of this study certainly suggest that some execution-related items appear to enhance the effectiveness of airport advertising (e.g., using fewer words), there are also other important implications. It is not enough to advocate

advertising *in* airports; rather, it's important to consider the location of where the ad is placed *within* the airport and what the potential recipient of the message is doing *at* that location.

In an effort to address this last statement, many media placement agencies are often involved in the design of new and remodeled airport terminals. Placement agencies often lobby airport management for strategic locations where passenger traffic flow is greatest and where advertising can be seen by passengers head-on rather than from the right or left. In some instances, agencies don't have a choice in where advertising is placed within the terminal. That said, placement agencies can, and have, successfully argued for a specific location that is beneficial for all parties. Airport management has a dual role in the process, however, which may make the process difficult for placement agencies. Airport management must attempt to provide essential services and maintain efficient traffic flow, while also attempting to take advantage of revenue opportunities brought about by airport advertising. To offset the potential lack of attractiveness of some advertising locations within the terminal, placement agencies sometimes offer clients the opportunity to have their advertisement rotated throughout the terminal at set intervals during their purchase period.

Consequently, advertisers should take an active role in the placement of their ads in the concourse, perhaps seeking a rotating schedule or a fixed location that is found to generate high recall or recognition rates as identified in this current study. Advertisements in corridors and near retail outlets should be preferred over the security checkpoint or the gate unless placement is modified taking into account passenger flow and other obstacles that would otherwise hinder attention. We also recommend that advertisers use repetition and a uniquely sized ad to increase passengers' opportunity and motivation to process an ad. Advertising placement agencies, on the other hand, should consider charging differential pricing based on location. We also recommend that placement agencies consider ethnographic studies as a way to optimize placement of their ad space, taking into account passenger activity—for example, passengers who board planes blocking the view of advertisements of those who are in more of a position to notice the ads. The results of these in-depth ethnographic observations can be a more powerful tool than anecdotal evidence when lobbying airport management for changes in advertising placement.

Similar to the results of Taylor and Franke's (2003) findings on manager perceptions of using billboards, airport advertising may be more beneficial for firms that have narrowly defined customer segments that coincide with airport passenger profiles, such as business and leisure travelers. In these instances, airport advertising offers greater reach and lower cost per thousand exposures (CPMs) than do other media such as newspaper, radio, and television.

Finally, it appears that few people spend more than one to three seconds viewing airport advertising—unless they are waiting in line, for example. Thus, it appears that advertisements should be brief, should use simple appeals, and/or should have multiple placements in the concourse. However, certain situations may warrant advertisers incorporating more information into the ad's execution than would otherwise be recommended, as when the ad is placed in a location where passengers are known to spend more idle time, such as standing in line at retail or food outlets.

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