Extending the Research in Relation to Materialism and Life Satisfaction

Eda Gurel Atay, University of Oregon, USA
M. Joseph Sirgy, Virginia Polytechnic Institute and State University, USA
Muris Cicic, University of Sarajevo, Bosnia and Herzegovina
Melika Husic, University of Sarajevo, Bosnia and Herzegovina

This paper builds on Sirgy’s (1998) theory of materialism by integrating exposure to materialistic advertising and social influence into a more comprehensive model. The data collected in Bosnia/Herzegovina showed that exposure to materialistic advertising and social influence contribute to materialism. Materialism, in turn, leads to the use of all types of standard of comparisons (affective- and cognitive-based expectations) to make judgments about standard of living. As the use of these standards of comparisons increases, people start to evaluate their standard of living more negatively, and this negative evaluations of standard of living leads to dissatisfaction with life.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/14173/volumes/v36/NA-36

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
Extending the Research in Relation to Materialism and Life Satisfaction

Eda Gurel Atay, University of Oregon, USA
M. Joseph Sirgy, Virginia Polytechnic Institute and State University, USA
Muris Cicic, University of Sarajevo, Bosnia and Herzegovina
Melika Husic, University of Sarajevo, Bosnia and Herzegovina

ABSTRACT
This paper builds on Sirgy’s (1998) theory of materialism by integrating exposure to materialistic advertising and social influence into a more comprehensive model. The data collected in Bosnia/Herzegovina showed that exposure to materialistic advertising and social influence contribute to materialism. Materialism, in turn, leads to the use of all types of standard of comparisons (affective- and cognitive-based expectations) to make judgments about standard of living. As the use of these standards of comparisons increases, people start to evaluate their standard of living more negatively, and this negative evaluation of standard of living leads to dissatisfaction with life.

INTRODUCTION
Materialism, defined as “the importance ascribed to the ownership and acquisition of material goods in achieving major life goals or desired states” (Richins 2004, pg. 210), has been studied extensively in the past 20 years. Several studies demonstrated that the more materialistic people are less satisfied with their lives than their less materialistic counterparts because the more materialistic people believe that any given level of possessions is inadequate to meet their living standards. (La Barbera and Gurhan 1997). For instance, Belk (1984) found that aspects of materialism (i.e., possessiveness, nongenerosity, and envy) were negatively related to happiness and life satisfaction. Similarly, Richins and Dawson (1992) found a negative correlation between life satisfaction and three subdimensions of materialism (centrality, success, and happiness). Sirgy, Lee, Larsen, and Wright (1998) also were able to demonstrate that materialistic people are less satisfied with their material possessions and less satisfied with life than non-materialistic people. However, these findings did not explain the negative relationship between materialism and life satisfaction. To address this issue, Sirgy (1998) advanced an explanation to account for this negative relationship. The gist of the explanation is that materialistic people have inflated expectations of their standard of living, whereas non-materialistic people have realistic expectations. These inflated expectations cause materialistic people to evaluate their standard of living negatively. This negative affect spills over to judgments of life overall, making materialistic people feel dissatisfied with life. Thus, one goal of this paper is to test this explanation in a formal way.

Our second goal is to further develop the research tying TV viewership to materialism (e.g., Goldberg and Gorn 1978; Greenberg and Brand 1993; Rahtz, Sirgy, and Meadow, 1989). For instance, Sirgy et al. (1998) were able to empirically demonstrate that TV viewership contributes to materialism, which in turn plays an important role in negative evaluations of standard of living and life dissatisfaction. How? We designed our study to help answer this question. Specifically, we believe that TV viewership affects materialism through exposure to materialistic advertising. That is, exposure to ads that links consumer goods and services with status and prestige is hypothesized to be a key factor influencing the development of materialism (cf. Moschis and Moore 1982; Buijzen and Valkenburg 2003; Pine and Nash 2002).

HOW DOES MATERIALISM LEAD TO LIFE DISSATISFACTION?
Sirgy (1998) developed a theory explaining how materialism leads to life dissatisfaction. He reasoned that in evaluating standard of living, materialistic people tend to employ affective-based expectations (e.g., ideal, deserved, and need-based expectations) rather than cognitive-based expectations (e.g., past, predictive, and ability-based expectations). Affective-based expectations are value-laden and they lead to experiencing intense emotions. These emotions can be positive feelings of elation, joy, and pride as well as negative feelings of anger, envy, and possessiveness. In contrast, cognitive-based expectations generate cognitive elaboration in evaluations of one’s standard of living.

There are at least three types of affective-based expectations. The first type is ideal expectations. Ideal expectations are standards of comparisons based on remote referents rather than situational ones. For example, an ideal expectation of becoming “filthy rich” is remote in the sense that is cultivated by adopting standards and goals of people that are imaginary, distant, and based on vicarious experiences not grounded by the reality of one’s situation. Materialistic people are more likely to compare their own standard of living with people who are “filthy rich” making them feel dissatisfied with their own standard of living. That ideal image of being “filthy rich” may be an image cultivated from watching too much television and seeing the lives of the rich and famous—remote referents. The second type of affective-based expectations is deserved expectations. This type of expectations reflects the tendency to make equity-based comparisons involving income and work. Materialistic people, compared to their non-materialistic counterparts, tend to think that they work harder than others but earn less. These equity-based comparisons generate feelings of injustice, anger, or envy. Lastly, minimum-need expectations of a standard of living reflect spending money to meet minimum (basic) needs. Materialistic people believe that they need more money to make ends meet. That is, their basic needs tend to be much more inflated than non-materialistic people.

In contrast to materialistic people, people who are not materialistic are more likely to use cognitive-based expectations in evaluating their standard of living. For instance, they may compare their standard of living with their past (their past material possessions). That is, non-materialistic people evaluate their income by assessing how far they have come along—compared to last year, a couple of years ago, or further back in time. Alternatively, non-materialistic people tend to evaluate their standard of living using predictive expectations (expected future wealth). Another type of cognitive-based expectations reflects the perceptions of ability to achieve in life a certain standard of living. That is, non-materialistic people use their perception of their ability to achieve a certain amount of wealth based on their education and occupational skills in evaluating their standard of living.

Overall, affective-based expectations can be viewed as unrealistically inflated goals that result in dissatisfaction with standard of living, whereas cognitive-based expectations are more realistic and non-inflated goals. Evaluations of standard of living based on
cognitive-based expectations are not likely to lead to feelings of dissatisfaction with one’s standard of living.

Based on the preceding discussion, our study will test the following hypotheses with respect to the relationships between materialism and the use of specific types of expectations in evaluating one’s standard of living:

\[
\begin{align*}
H1a: & \text{ Materialistic people are more likely to use ideal expectations in evaluating their standard of living than non-materialistic people.} \\
H1b: & \text{ Materialistic people are more likely to use deserved expectations in evaluating their standard of living than non-materialistic people.} \\
H1c: & \text{ Materialistic people are more likely to use minimum need expectations in evaluating their standard of living than non-materialistic people.} \\
H1d: & \text{ Non-materialistic people are more likely to use past expectations in evaluating their standard of living than materialistic people.} \\
H1e: & \text{ Non-materialistic people are more likely to use predictive expectations in evaluating their standard of living than materialistic people.} \\
H1f: & \text{ Non-materialistic people are more likely to use ability expectations in evaluating their standard of living than materialistic people.}
\end{align*}
\]

Furthermore, our study will test the following hypotheses with respect to the relationships between the frequency of using certain types of expectations of standard of living and satisfaction with standard of living:

\[
\begin{align*}
H2a: & \text{ The greater the frequency of evaluation of standard of living based on ideal expectations, the lower the satisfaction with standard of living.} \\
H2b: & \text{ The greater the frequency of evaluation of standard of living based on deserved expectations, the lower the satisfaction with standard of living.} \\
H2c: & \text{ The greater the frequency of evaluation of standard of living based on minimum need expectations, the lower the satisfaction with standard of living.} \\
H2d: & \text{ The greater the frequency of evaluation of standard of living based on past expectations, the lower the satisfaction with standard of living.} \\
H2e: & \text{ The greater the frequency of evaluation of standard of living based on predictive expectations, the higher the satisfaction with standard of living.} \\
H2f: & \text{ The greater the frequency of evaluation of standard of living based on ability expectations, the higher the satisfaction with standard of living.}
\end{align*}
\]

Feelings of satisfaction or dissatisfaction with standard of living plays an important role in the evaluation of life overall. There is a huge literature and much empirical evidence in the quality-of-life literature that suggests that life satisfaction is a judgment made by evaluating a variety of life domains such as leisure life, social life, work life, family life, spiritual life, and material life. The latter (material life) reflects one’s overall feelings related to one’s standard of living. Thus, life satisfaction is determined mostly by evaluations of important life domains, including material life (see Diener 1984, and Diener et al 1999 for a review of that literature).

To test the conceptual model depicted in Figure 1, a consumer survey was conducted in a major city in Bosnia and Herzegovina. First, consistent with the Anderson and Gerbing’s (1988) 2-step method, the measurement model was estimated in the first step. Then, in the second step, the structural model was estimated and
modified. LISREL 8.80 (Joreskog and Sorbom 2006) was used to analyze the covariance matrices in all analyses.

Sample
The data were collected from 301 adults in Bosnia and Herzegovina in 2007. Cluster sampling technique was used to collect the data. Specifically, the city was divided into neighborhoods and these neighborhoods were categorized as high, medium, and low income. After selecting two sample neighborhoods from each category, the researcher used the systematic random sampling to collect survey data. Once a potential respondent agreed to complete the questionnaire, the researcher made arrangements to pick up the questionnaires 4-7 days later. One hundred and one, 100, and 100 questionnaires were collected from low, medium, and high-income neighborhoods, respectively. Of 301 respondents, 120 (39.9%) were men, 180 (59.8%) were women, and gender was missing for one participant. The age of respondents ranged from 18 to 84 with a mean of 36.36. The percentage of missing data was less than 5% for each variable and those missing data were randomly distributed. Therefore, they were handled by using maximum likelihood estimation.

Measures
TV viewership. To measure TV viewership, three questions were adapted from Churchill and Moschis (1979). Two questions assessed how many hours they spent watching television in a day during the weekdays and weekend. The response sets included 17 responses ranged from 0 to 16+ hours. The third question assessed how many hours they watched television in total per week and the response set included seven categories.

Exposure to materialistic advertising. Participants were instructed to think about their image of most of the ads they had noticed about consumer goods and services in the last few weeks. Then, they were asked to describe their images of these ads along the following attributes on 7-point scale; high status/low status; affluent/non-affluent; high prestige/low prestige; high class/low class; extraordinary/ordinary; glamorous/non-glamorous; luxurious/non-luxurious; expensive/not-expensive; for the rich/for the poor; and snobbish/non-snobbish. The first five of these attributes reflect lifestyles while the second half reflects the monetary values of goods/services. Therefore, this construct was considered a two-factor correlated construct. Indeed, an exploratory factor analysis and a confirmatory factor analysis verified this 2-factor structure (Satorra-Bentler scaled $\chi^2 (34, N=301)=67.17$, $p<.001$; CFI=.99; SRMR=.044; and RMSEA=.057).

Social influence. Social influence was conceptualized as the impacts of friends and family on buying behaviors. It was measured by three questions adapted from Churchill and Moschis (1979) on five-point scales (1=all of the time, 5=never). These items assessed whether participants talked with their friends and family about buying things and whether they learned from them what to look for in buying things.

Materialism. Materialism was measured by using nine items (Gurel-Atay and Sirgy 2007) with 5-point scales (1=strongly agree, 5=strongly disagree). Materialism was conceptualized as a 3-factor construct: happiness (the belief that material possessions bring happiness to life; e.g., “Having luxury items is important to a happy life.”), success (the belief that possessions symbolize achievement and success; e.g., “I feel good when I buy expensive things. People think of me as a success.”), and distinctiveness (the belief that possessions make people feel distinctive from others; e.g., “I usually buy expensive things that make me look distinctive”).

Standards of comparison (affective and cognitive-based expectations of standard of living). We developed the measure of standards of comparison for this study. Respondents were provided with the following prompt: “Most people have strong feelings about their standard of living because they compare their family’s current financial situation with different types of standards of comparisons. The questions below are designed to capture the standard of comparison you use in evaluating your family’s standard of living.” Single items were used to measure each of the six standards of comparison in evaluating standard of living on ten-point scales.
where I means “no, my feelings about my standard of living are not based on this standard of comparison” and 10 means “yes, my feelings about my standard of living are based on this standard of comparison.”

Satisfaction with standard of living (SOL). Two sets of questions were developed to measure satisfaction with SOL. The first set included two Likert-type questions. One of the questions asked respondents to describe their current financial situation of their immediate family (1=very poor; 5=very healthy), while the other question probed the feelings of respondents about their family’s current financial situation (1=very bad; 5=very good). The second set included five semantic differential items (Ogden and Venkat 2001). Specifically, participants were asked to report their feelings about the things their family owns, their family’s standard of living, and their family’s financial situation overall on a seven-point scale (happy/angry; good/bad; elated/tensed; contended/frustrated; fulfilled/disappointed; and pleased/displeased).

Life satisfaction. To measure life satisfaction, short version of Campbell, Converse, and Rodgers (1976) scale was used. Participants were asked to rate their life on the following seven items by using seven-point scales: boring/interesting; enjoyable/miserable; useless/worthwhile; full/empty; discouraging/helpful; and disappointing/rewarding; and brings the best in me/doesn’t give me much chance.

Item Parceling: Before conducting the analyses, parceling was used on four sets of measures: exposure to materialistic advertising, materialism, satisfaction with SOL, and life satisfaction. Based on Bagozzi and Heatherton’s (1994) advice, at least two parcels were created for each construct to account for measurement error. Because exposure to materialistic advertising is considered as a two-factor construct, the indicators of each factor were summed to develop two parcels. Similarly, each dimension of materialism constituted a parcel. That is, materialism was represented by three parcels. Satisfaction with SOL, on the other hand, was represented by two parcels. One parcel included the Likert-type items while the other parcel included six semantic differential items. To develop the item parcels for life satisfaction, this measure was subjected to one-factor model. Then, the items were rank ordered based on their loadings on this factor and assigned one of two groups to provide the item-to-construct balance (Little, Cunningham, Shahar, and Widaman 2002; Russell, Kahn, Spoth, and Altmaier 1998). That is, the average loadings of each item parcel on the factor were approximately equal. These item parcels were used in subsequent analyses.

RESULTS

Measurement Model Results

Prior to conducting the CFA, normality of the observed variables was inspected. Some of the variables had high skewness and kurtosis values. Even though maximum likelihood (ML) estimation method is considered to be very robust even with highly skewed/kurtosis data, West, Finch, and Curran (1995) argue that ML produces too high chi-square statistic and leads rejecting too many true models when the variables are highly nonnormal. To deal with this problem, Satorra-Bentler correction was reported in all analyses.

To estimate the measurement model, the constructs were modeled as freely correlated first-order factors with their respective indicators. The Anderson and Gerbing (1988) convention was followed to fix the loadings and measurement errors of item parcels. First, composite reliabilities for each item parcel were computed. Then, the highest composite reliability for a given construct was chosen. For instance, materialism had three parcels (i.e. happiness, success, and distinctiveness) and composite reliabilities for each of these parcels were .899, .924, and .929, respectively. Because distinctiveness had the highest value, the loading of distinctiveness on materialism was set equal to the square root of its composite reliability. Lastly, the measurement error of distinctiveness was set to one minus its composite reliability. The same procedure was followed for exposure to materialistic advertising, satisfaction with SOL, and life satisfaction. For the constructs with single indicators (i.e. standard of comparison constructs), the loadings were set to unity and measurement errors were set to .25, which was the smallest measurement error value found for the other, estimated error variances (Anderson and Gerbing, 1988).

Satorra-Bentler scaled chi-square value was 306.83 with 163 degrees of freedom and it was significant at .001. Even though chi-square statistic was significant, other goodness of fit statistics suggested a close fit to the data with the root mean square error of approximation (RMSEA; Steiger and Lind 1980; Browne and Cudeck, 1993) = .054 (confidence interval=.045-.063), PCLOSE=.22, Bentler’s (1990) comparative fit index (CFI)=.96, and standardized root mean square residual (SRMR; Bentler 1995)=.051. Therefore, it was decided that fit was adequate.

The summary of tests related to the convergent validity (internal consistency) of the constructs and item parcels is included in Table 1. According to Fornell and Larcker (1981), average variance extracted (AVE) by each construct should be greater than .50 and the composite reliability of a factor should be equal to or greater than .60 to verify convergent validity. As Table 1 shows, the only construct that had AVE less than .50 was social influence and its AVE was .49. All other AVE values ranged from .55 to .87. Composite reliabilities were greater than .60 with a range of .74 to .94. Similarly, coefficient alphas were high and ranged from .73 to .93 with a mean of .83. Furthermore, all factor loadings were significant at .05 level. All these results imply that convergent validity (internal consistency) was satisfactory for the constructs.

To test for discriminant validity, the squares of correlations between any two constructs were compared with the AVE estimates of those two constructs (Fornell and Larcker 1981). Because the AVE for each construct was greater than its squared correlation with any other construct, discriminant validity was supported.

Structural Model Results

Table 2 presents the results for the original model as shown in Figure 1. As can be seen from the table, the fit of the model to the data was not adequate. The Satorra-Bentler scaled chi-square value was significant and other fit indices were not in acceptable ranges. The results showed that the path from TV viewership to exposure to materialistic advertising was nonsignificant. Indeed, only 1% of the variance in exposure to materialistic advertising was explained. Therefore, this path was dropped from the analysis by removing the TV viewership construct from the model. As stated in the methods section, standards of comparison constructs were represented by single indicators. Inspection of modification indices revealed that these indicators were interrelated. Moreover, the standardized residuals between these single indicators were large (greater than 2.58), meaning that those residuals were correlated. Further, modification indices for the psi matrix (the matrix that includes structural residuals) showed that the residuals of the standard of comparison constructs are correlated. All these findings implied that these constructs have something in common. Indeed, they are all types, or standards, of comparison people can use to evaluate their standard of living. Theoretically, one can propose that materialistic people use all kinds of comparisons more often than nonmaterialistic people do. Actually, the signs of the path coefficients from materialism to each of these standards of comparison were positive. Therefore, it was decided to include a single construct called
standard of comparison in the model and use six types of comparison as indicators of this construct. This model is shown in Figure 2.

The modified model fit the data better with Satorra-Bentler scaled $\chi^2$ (134, N=301)=355.02. Even though the chi-square was significant, it can be expected given the relatively large sample size. Other goodness of fit statistics were in acceptable ranges: CFI=.92, SRMR=.097, and RMSEA=.074.

Table 3 shows unstandardized parameters with standard deviations, the standardized parameters, critical ratios that were calculated by dividing unstandardized parameters by the estimates of corresponding standard errors, and the level of significance ($p$ values) for parameters. As expected, materialism was affected significantly by both exposure to materialistic advertising and social influence. Approximately, 11% of the variance in materialism was explained by these two variables. Materialism, in turn, explained 10% of the variance in standard of comparison. The positive path coefficient between these two constructs suggests that as materialism increases, the use of standards of comparison increases. Standard of comparison, on the other hand, influenced satisfaction with SOL negatively. That is, as people use standards of comparison to evaluate their SOL more often, they become more dissatisfied with their SOL. Eleven percent of the variance in satisfaction with SOL was explained by standard of comparison. As predicted, satisfaction with SOL contributed to life satisfaction positively. Twenty six percent of the variance in life satisfaction was explained by satisfaction with SOL. Overall, general support was found for the modified model.

### DISCUSSION

Two goals guided the current study. The first goal was to test the theoretical explanation of the negative relationship between materialism and life satisfaction as provided by Sirgy (1998). After modifying the original model, the results provided a moderately good fit to the data. As expected, all relationships between variables...
were significant. The study findings did not support Sirgy’s explanation but the same findings shed new light on a possible different explanation: the more materialistic people are, the more they seem to use all types of standard of comparisons (affective- and cognitive-based expectations) to make judgments about their standard of living. And the more they use these standards of comparison (irrespective of whether these expectations are affective or cognitive) the more they judge their standard of living negatively. The more negative their evaluations of their standard of living the more they feel dissatisfied with their lives. Of course we expected that the more-materialistic people use affective-based standards of comparison (ideal-, deserved-, and minimum-need expectations) the more likely they are to evaluate their standard of living negatively. But we didn’t expect the fact that the more they use cognitive-based expectations the more likely they are to make negative evaluations about their standard of living. We expected the opposite. Perhaps the reality is that the more people are materialistic the more they preoccupy themselves with all kinds of thoughts related to standard of living. These thoughts are likely to conjure up all kinds of expectations, cognitive and affective-based expectations. And the more they think about their standard of living, the more their expectations become inflated and unrealistic. This may be one explanation for our study findings. Another explanation may be that our standard-of-comparison measures were not sensitive enough to force respondents to make distinctions among cognitive versus affective-based expectations. Yet another methodological explanation may be a response bias effect. Respondents were biased by the way these measures captured their expectations and responded in the same manner across all six items designed to capture these expectations. Future research should explore this issue further and conduct studies with more sensitive expectation measures. The expectation measures should be captured with multiple indicators and the placement of these measures should be varied in the survey questionnaire to minimize response bias.

The second goal of this study was to test the explanation that materialism is not directly affected by TV viewership but through exposure to materialistic advertising (controlling for the effects of social influence). The study findings showed that materialism can indeed be predicted significantly by exposure to materialistic advertising and social influence. However, the same data failed to show that TV viewership has any predictive effects on exposure to materialistic advertising. Why did our study fail to replicate previous studies linking TV viewership with materialism? Is it possible that this finding is idiosyncratic (i.e., an outlier)? That is, could it be...
that television advertising in Bosnia/Herzegovina is significantly different from advertising in other countries (e.g., USA) that the frequency of television watching may not influence consumers’ recall of recent advertising as being status-oriented? Future research should explore this issue by collecting data across different countries (including Bosnia/Herzegovina) and conduct cross-cultural analysis.

There are additional study limitations that should be aired. First, all variables were measured concurrently. Therefore, the statistical relationships among the constructs may not reflect causation. Future research should conduct longitudinal studies and perhaps experimental studies too. Another limitation may be related to the sample. The percentage of females participated in this study was higher than that of males. The study should be replicated with equal percentages of males and females. In addition, all analyses were conducted on a single sample. The findings should be replicated with a new sample. Lastly, the data were collected in Bosnia/Herzegovina, a collectivist country. Cross-validation of results is needed across different cultures, to include both individualistic and collectivistic cultures.

REFERENCES


ABSTRACT
Consumers may base employee impressions on physical appearance and displayed personal objects. In a scenario experiment, using photos of a physician and a 360-degree panorama of his consultation room, we examined the effects of appearance and tangibles on impression formation. Study 1 shows that observers employ various strategies of combining information from different sources when forming an impression of the employee’s friendliness and competence. Whereas previous research has shown that impression formation based on personal appearances proceeds in an automatic fashion, the findings of study 2 indicate that impression formation grounded in the perception of tangibles requires more elaborate processing.

INTRODUCTION
In the MTV Dating Show “Room Raiders”, a young woman examines the bedrooms of three men to decide who she would like to go out with. Through a careful investigation of the rooms she tries to find out as much as possible about the tastes, hobbies, and personalities of the three candidates. For instance, upon finding a comic book, she may draw the conclusion that the guy is immature, a snowboard may signal that he is adventurous and sporty, while a messy room may suggest that he is too lazy to clean up. Without meeting even one of them, she has formed a detailed impression of the three men and she has made her decision. When she is to announce the winner, she meets the three candidates for the very first time. Even before any interaction has taken place, she is confronted with a new wealth of information: she sees what the three guys look like. However, it’s too late to change her mind.

This example illustrates how people find out more about others by studying their personal living environments. By altering and customizing personal working- and living environments people express and confirm their (desired) identities (Belk 1988; Schlenker 1985). Consequently, the environments that people live in are rich with information about the personality, values and lifestyle of the occupant (Gosling et al. 2002). Observers, in turn, use those elements of the tangible environment as a ‘lens’ through which they view underlying constructs such as the personality, preferences, and lifestyle of the occupant (Brunswik 1956). In addition, personality impressions are affected by personal appearance. For instance, people use others’ facial features to infer the personality (Berry and Wero 1993). In all, the example shows how people use different sources of information to assemble personality impressions.

The role of visual cues in social perception is not only interesting from the viewpoint of interpersonal communication; it is particularly prevalent in customer judgments of services. Since in services the ‘product’ consists of actions or performances rather than goods, the impressions consumers hold of service employees are central in the quality perception and satisfaction (Zeithaml, Bitner and Gremler 2006). As customers largely lack the information and skills to reliably assess the service providers’ capacities, they search for alternative indicators (Hoffman and Bateson 2006; Zeithaml 1988). Visual cues may be used as such alternative indicators. In the present studies we will focus on the ways in which a consumer bases an impression of a service provider on the tangible service environment and personal appearance.

PERSONAL APPEARANCE AND IMPRESSION FORMATION
Personal appearance may be the most direct source of information about other people (Shevlin et al. 2003). Zero-acquaintance studies have found that personality ratings of strangers that are solely based on personal appearance are significantly correlated with self-ratings (Borkenau and Liebler 1992) and personality ratings of acquaintances (Berry 1990; Borkenau and Liebler 1993). This does not only imply that others use personal appearance as a source of information in impression formation, but that this information, at least with respect to some personality traits, is often fairly accurate (Shevlin et al. 2003).

In many services, competence appears to be among the most important traits that consumers use when they evaluate employees (Czepiel, Solomon and Surprenant 1985; Gronroos 2000). Even though service encounters usually comprise rather short interactions with service employees who are usually unknown to the customer, customers are generally quite capable of forming a first impression based on brief exposures to employee appearance (Czepiel et al. 1985; Grandey et al. 2005). In the political domain, Todorov (2005) illustrated the far-reaching consequences of competence judgments at zero acquaintance: Competence judgments based solely on minimal exposure to photographs of politicians significantly predicted the outcomes of elections for the U.S. Congress. Impressions following from zero-acquaintance seem to be primarily based on faces (Berry and Wero 1993). However, besides faces, a number of other appearance attributes cues may be at play, such as clothing (Mangum et al. 1997), posture, and locomotion. In this article, we will argue that personal attributes may also be incorporated into impressions of service employees.

TANGIBLE ENVIRONMENTS AND IMPRESSION FORMATION
Individuals design and alter their environments in such a way that they reinforce and express their personal identities (Belk 1988). Observers are confronted with this information, which they process and use in impression formation processes (Gosling et al. 2002). Several studies have examined the effects of tangibles on perceived traits of occupants (e.g., Burroughs, Drews and Hallman 1991; Gosling et al. 2002; Tedeschi and Melburg 1984). Occupants of high-status offices, for instance, are judged as more neat, critical, sincere, intelligent and less noisy than occupants of low-status offices (Cherulnik and Sounders 1984). Likewise, friendliness perceptions may be based on furniture arrangement: In an ‘open’ office setup (desk against the wall), occupants are perceived as more friendly than in a closed setup (Morrow and McElroy 1981). In a physician’s consultation room, an impressive set of medical handbooks and a diploma on the wall signal competence, whereas personal objects reinforce the image of a friendly and involved person (Verhoeven, van Rompay and Pruyn 2007). These studies all illustrate how, in the eyes of observers, certain characteristics of the environment ‘transfer’ to the occupant.

Gosling and colleagues (2002) proposed two mechanisms through which these inference may be made. First, inferences may be the result of stereotype activation. Some object or symbol in the environment may trigger a stereotype (Kay et al. 2004), which is