

A COMPARATIVE ANALYSIS OF THE PREDICTIVE VALIDITY OF TWO CONSUMPTION EMOTION SCALES IN A REAL ESTATE CONTEXT

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INTRODUCTION

Consumption emotion has been a subject of growing interest in recent years as marketers have delved deeper into the issue of consumer satisfaction/dissatisfaction. Defined as the set of emotional responses one experiences during product usage or consumption (Westbrook and Oliver 1991), there is reason to expect that dissatisfying consumption situations will often generate strong, measurable affective reaction in consumers.

Of the numerous approaches to measuring emotional responses to dissatisfying consumption experiences, Izard's (1977) Differential Emotion Scale (DES-II) has gained widespread acceptance for its predictive validity and applicability in consumer situations (Westbrook 1987). Studies by Westbrook (1987) and Westbrook and Oliver (1991) have explored the relationship between dissatisfaction and consumption emotion through use of the DES-II measure.

Recent research suggests that consumption emotion is affected by attributions of dissatisfaction, as well as linked with behavioral intentions that follow dissatisfaction (Folkes, et al. 1987). Current understanding of consumption emotion suggests that it might also vary with perceptions of relationship quality and play an important role in consumers' choices regarding terminating or continuing relationships in which there is dissatisfaction resulting from service failure. Under circumstances involving service failures DES-II may not be the best available measure of consumption failure.

There are two reasons for questioning the adequacy of DES-II in these settings. First, DES-II is intended to capture a wider range of emotional responses than those that are likely to follow service failures. Secondly, a shorter scale may be more appropriate in circumstances in which the possibility of respondent burden is high, a case likely to arise when data collection is

accomplished via mail contact in field studies. One scale which addresses both of these potential shortcomings is Russell and McAuley's (1986) Affective Response to Failure Scale which is both shorter in length DES-II and, unlike DES-II, specifically designed for situations where service failure has occurred.

PURPOSE

The purpose of this study is to assess the relative performance of a modified version of Izard's (1977) DES-II scale and Russell and McAuley's (1986) Affective Response to Failure scale. We examine the performance of the two scales within the context of a dissatisfying service consumption experience in terms of their 1) dimensionality and conformity to factor structures established in prior research, and 2) the strength of their relationships with variables known to be closely tied to consumption emotion.

RESEARCH METHODOLOGY

A field experiment was used to examine relationships between consumption emotion, relationship dissatisfaction, attributions of responsibility for a dissatisfying outcome, and postpurchase behavioral responses to a real estate service failure. The research site was a large city in the Southeastern U.S. Participants were homeowners who had their houses listed for sale through a multiple listing service. A randomly selected sample of 1165 homeowners received a mail survey instrument that measured their emotional, cognitive, and behavioral responses to a real estate service failure scenario. Instruments were completed and returned by 358 of the homeowners in the sample, a response rate of 30.7%. Further analysis indicated no significant differences between respondents and non-respondents in home listing price or location of residence as indicated by zip code area.

Measurement Procedures

A projective technique was used to assess responses to the service failure. Respondents were presented with a one-page scenario describing a young couple who had contracted with a hypothetical real estate agent to sell their home. The service failure was represented as a lack of offers to buy the house during the contract period. After reading descriptions of the real-estate service failure, respondents were asked to put themselves in the home sellers' position and to describe the emotions these would-be sellers were experiencing and their satisfaction or dissatisfaction with the hypothetical real-estate agent. Respondents were then asked to make recommendations about behaviors that would be appropriate for dealing with their real-estate agent under the scenario that was presented. This represents a social constructivist approach to measuring emotions and is consistent with prior research in which respondents report their assessments of the likelihood of experiencing emotions rather than the frequency or intensity with which emotions were actually experienced (Averill 1988).

MEASURES OF CONSUMPTION EMOTION

Emotional responses were measured using the 14-item Affective Responses to Failure (ARF) scale developed by Russell and McAuley (1986), as well as a modified version of the DES-II measures which contained 10 items, each representing one of the fundamental emotions identified by Izard (1977). On both scales, respondents indicated the intensity of homeowners' emotional responses using a seven-point Likert-type scale with responses varying from 'Not at All' (=1) to 'Very Strongly' (=7). Since one purpose of the study was to evaluate these scales as predictors of behavioral responses, the use of seven-point scales for both sets of emotion items ensured that the potential for non-comparability due to scale attenuation was eliminated.

Both sets of emotion scale items were factor analyzed using alpha factor extraction methods. Both analyses identified three factors with eigenvalues greater than 1.0. Factors present in both sets were identifiable as "anger", "guilt", and "surprise". Of the 14 ARF items, seven had their

highest loadings on the anger factor (angry, upset, unhappy, depressed, disappointed, displeased, and furious). (See Table 1). Five ARF items had their highest loadings on the guilt factor (guilty, ashamed, incompetent, afraid, and resigned). Two ARF items (surprised and astonished) had their highest loadings on the surprise factor. Coefficient alphas for the anger, guilt, and surprise items within these factors were 0.86, 0.73, and 0.75.

Table 1
FACTOR ANALYSIS
Rotated Factor Pattern Matrix
Affective Responses to Failure (ARF)

	Factor1 (Anger)	Factor2 (Guilt)	Factor3 (Surprise)
angry	0.6647	0.2960	0.1652
upset	0.7621	0.1617	0.1493
unhappy	0.7038	0.0158	0.1372
displeased	0.7084	0.0620	0.0795
furious	0.5923	0.3722	0.1577
depressed	0.5265	0.3360	0.1470
disappointed	0.6057	0.0194	0.0781
guilty	0.1061	0.7679	0.0355
ashamed	0.1152	0.6784	0.0956
incompetent	0.3073	0.4681	0.1058
afraid	0.3574	0.4551	0.2750
resigned	-0.0082	0.4099	0.1160
surprised	0.2263	0.1079	0.9045
astonished	0.1933	0.3389	0.5823

Six of the DES-II items had highest loadings on the anger factor (angry, disgusted, contemptuous, sad, afraid and surprised). (See Table 2). Three items had highest loadings on the guilt factor (ashamed, guilty, and joyful). Only one item (interested) had its highest loading on the third factor. For the sake of consistency, this was also termed a "surprise" factor. Coefficient alphas for the DES-II anger and guilt items were 0.77 and 0.62.

Relationship Satisfaction

Respondents provided their perceptions of homeseller's satisfaction or dissatisfaction with the real estate agent using seven-point agree/disagree Likert scale items reported by Crosby, Evans and

Cowles (1990). Three items were used to assess dissatisfaction. These items indicated the degree to which the hypothetical young couple was satisfied with their agent, was displeased with her, or viewed her in a favorable way. Overall satisfaction was determined by summing the scores for these three items. Coefficient alpha for this three-item satisfaction was 0.91.

Table 2
FACTOR ANALYSIS
Rotated Factor Pattern Matrix
Differential Emotive Scale (DES-II Modified)

	Factor1 (Anger)	Factor2 (Guilt)	Factor3 (Surprise)
angry	0.6543	0.1752	0.1402
surprised	0.3952	0.0481	0.3405
afraid	0.4562	0.2617	0.4388
disgusted	0.7603	0.0473	-0.0574
contemptuous	0.5401	0.3486	0.1091
sad	0.5307	0.0607	0.1451
guilty	0.3298	0.6752	0.0538
ashamed	0.2577	0.7306	0.0431
joyful	-0.1842	0.3399	0.1676
interested	0.0349	0.0471	0.3989

Attributions

Respondents' attributions of responsibility for the lack of offers from home buyers were measured with a ten-item scale. The scale consisted of statements attributing blame either to the real estate agent, the homesellers, or market conditions outside of anyone's control. Responses were ascertained using a seven-point agree-disagree Likert scale.

Based on exploratory factor analysis, a two-factor solution consisting of "homeowner" and "agent" emerged from this scale. Two items loaded on the homeowner factor, while three items loaded on the agent factor. The remaining items were dropped from further analysis because they did not clearly load on any single factor. Items loading on each factor were summed to create values for homeowner and agent attributions. Respective coefficient alphas for these attributions were 0.82 and 0.73.

Behavioral Responses

Based on previous research (Rusbult, 1980; Rusbult et al., 1986; Singh 1988) as well as personal interviews with real estate agents and listing homeowners, a twelve-item inventory was created to capture the behavioral responses of exit, voice, and loyalty. Respondents indicated their beliefs about the appropriateness of these actions using seven-point Likert-type scales (1 = definitely should not do, 7 = definitely should do).

An exploratory factor analysis was also conducted on the twelve behavioral response items. A three-factor solution accounting for 88 percent of the variance was indicated. Loadings consistent with the exit, voice and loyalty behaviors were clearly interpretable for nine items. Two items had highest loadings on the exit factor. Three items had highest loadings on the voice factor. Three items had highest loadings on the loyalty factor. The remaining three items were dropped from subsequent analysis, because they had approximately equal loadings on all three factors. Items loading on each factor were summed to derive values for exit, voice, and loyalty responses. Coefficient alphas for these behavioral responses were 0.67, 0.81, and 0.60 respectively.

CORRELATIONS

Anger, Guilt, and Surprise emotion scores from both scales were correlated with relationship quality perceptions, attributions, and behavioral intentions. Magnitude, direction, and significance of correlations were similar for both ARF and DES-II measures.

Correlations between the emotion measures and perceived relationship quality are presented in Table 3. These data indicate that both ARF and DES-II measures of anger and surprise were positively and significantly correlated with attributions of responsibility for the service failure to the agent. (See Table 4). Both measures of guilt were positively correlated with attributions of responsibility for the failure to the owner.

Both measures of anger, guilt, and surprise were positively and significantly correlated with intentions to voice. (See Table 5). No emotion measures from either scale were correlated with

intentions to exit or to remain loyal.

Table 3
CORRELATION (With Relationship Quality)

Affective Responses to Failure (ARF)			
	Anger	Guilt	Surprise
Relationship Quality	-0.5727 (0.0001)	-0.0555 (0.3052)	-0.1723 (0.0014)

Differential Emotive Scale (DES-II Modified)

	Anger	Guilt	Surprise
Relationship Quality	-0.4584 (0.0001)	-0.0555 (0.3052)	-0.1598 (0.0029)

Table 4
CORRELATION (With Attributions)

Affective Responses to Failure (ARF)			
	Anger	Guilt	Surprise
Agent	0.3365 (0.0001)	0.0902 (0.0965)	0.1307 (0.0154)
Owner	0.0894 (0.1017)	0.1842 (0.0006)	-0.0110 (0.8381)

Differential Emotive Scale (DES-II Modified)

	Anger	Guilt	Surprise
Agent	0.3622 (0.0001)	0.0902 (0.0965)	0.1098 (0.0431)
Owner	0.0840 (0.1217)	0.1842 (0.0006)	-0.0494 (0.3635)

CONCLUSIONS

In this study, the ARF Scale was compared to an abbreviated version of DES-II in a field study of homesellers responding to a hypothetical real estate scenario. ARF was selected for examination due to 1) its brevity which may make it more suitable for field studies, and 2) its appropriateness to failure situations.

ARF was judged to be superior in the conformity of its factor structure to expectations, factor interpretability, and the reliability of measures. In terms of predictive validity as measured by correlation with variables which each

scale is supposed to predict, ARF and DES-II were comparable to one another.

These results indicate that researchers should consider ARF as an alternative to DES-II in situations in which respondent burden is an issue, as well as in studies that focus specifically on emotional reactions to service/product failure.

One limitation of this study is that ARF was compared to an abbreviated, rather than the full, DES-II Scale. Future research should be undertaken to determine the performance of ARF relative to the complete version of DES-II.

Table 5
CORRELATION (With Behavioral Intentions)

Affective Responses to Failure (ARF)			
	Anger	Guilt	Surprise
Voice	0.4774 (0.0001)	0.2302 (0.0001)	0.2520 (0.0001)
Exit	0.0300 (0.5805)	0.0661 (0.2224)	0.0483 (0.3737)
Loyalty	0.0462 (0.3945)	0.0004 (0.9945)	0.0598 (0.2696)

Differential Emotive Scale (DES-II Modified)

	Anger	Guilt	Surprise
Voice	0.4675 (0.0001)	0.2302 (0.0001)	0.2169 (0.0001)
Exit	0.0969 (0.0761)	0.0661 (0.2224)	0.0689 (0.2032)
Loyalty	-0.0015 (0.9782)	0.0004 (0.9945)	0.0650 (0.2271)

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