

Measuring experienced emotions during service recovery encounters: construction and assessment of the ESRE scale

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Received: 29 September 2006 / Accepted: 15 November 2006 / Published online: 25 May 2007
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Abstract The role of emotions is increasingly gaining attention as a central element in understanding customer evaluations of service failure and recovery experiences. Despite the importance of emotions for service organizations, however, empirical investigations of customers' emotional response to service recovery encounters remain scarce. A reason for this has been the absence of a valid and reliable measurement instrument for analyzing and comparing the emotions associated with different recovery experiences. Addressing this issue, the current paper presents the development and validation of a new scale specifically designed to measure experienced emotions during service recovery encounters (ESRE). The results show that the ESRE scale is a valid and reliable instrument, which should be helpful for empirically studying the role of emotional responses to service failure and recovery encounters.

Keywords Service recovery · Emotions · Scale development

1 Introduction

Service providers are frequently exhorted to strive towards a “zero defects” service (Zeithaml and Bitner 1996; Palmer 1998); the ability to “get it right first time” is thought to offer significant benefits to organizations in terms of both customer evaluations and costs of delivery (Eitzel and Silverman 1981; Hart et al. 1990; Reichheld and Sasser 1990). In practice, however, it is often difficult to imagine how service providers can attain such a goal, not least because of the inherent heterogeneity in service provision and limitations on the extent to which a provider can control the range of different interactions with customers (Zeithaml and Bitner

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1996; Palmer 1998). If service failure cannot be wholly eliminated, then understanding the processes of service recovery and the way in which consumers respond can be of considerable value in managing organizational performance. Indeed, some authors argue that service recovery and complaint handling should be seen as critical “moments of truth” for organizations in their efforts to satisfy and keep customers (e.g., Stauss and Seidel 1998). Consequently, the topics of service failure and service recovery have attracted considerable research attention during the past decade (for a review of the relevant literature see Davidow 2003) and there is a growing body of evidence suggesting that good service recovery can have a positive impact on a variety of service outcomes including consumer satisfaction, re-patronage intentions and the spread of positive word-of-mouth (e.g., Fornell and Wernerfelt 1987; Kelley et al. 1993; Blodgett et al. 1997; Tax et al. 1998; Smith and Bolton 1998, 2002; Matilla 2001; Maxham 2001).

In this context, consumer emotions play an important role in service recovery situations for two main reasons (Bagozzi et al. 1999). First, there is a growing recognition that one of the key outcomes of service recovery, namely satisfaction, will have emotional as well as cognitive antecedents (e.g., Westbrook and Oliver 1991; Mano and Oliver 1993; Oliver 1993; Liljander and Strandvik 1997; Andreassen 2000; Matilla and Wirtz 2000). Second, it has been argued that many customers feel strong emotional reactions in response to service recovery encounters, which influence their decision on whether to continue their relationship with the organization (Smith and Bolton 2002).

Despite the above-mentioned details, our knowledge of the emotional facets of the service recovery experience remains limited, not least because of the absence of a valid and reliable measurement instrument specifically designed to capture the diversity of emotions associated with different service recovery experiences (Bennet et al. 2004). Previous efforts in this direction have either used “general” emotions scales (e.g., Westbrook 1987; Godwin et al. 1995) drawn from the psychology literature or “intuitive” measures generated on a more or less ad hoc basis (e.g., Liljander and Strandvik 1997; Maute and Dubé 1999; Chebat and Slusarczyk 2005). However, the emotional taxonomies and associated instruments advanced in the psychological literature (e.g., those by Plutchik 1962; Mehrabian and Russell 1974; Izard 1977; Watson et al. 1988) were not purposely conceived as systems for categorizing emotional reactions to service recovery encounters.¹ On the other hand, the use of ad hoc measures (e.g., Chebat and Slusarczyk 2005; Maute and Dubé 1999; Liljander and Strandvik 1997) is also problematic as such measures typically fail to capture the full range of emotions (a content validity issue) and are insufficiently based on psychometric evidence.² If emotional response to service

¹ Izard’s (1977) differential emotions scale (DES), for example, overemphasizes negative feelings and is therefore unable to capture the full range of emotions (i.e., negative *and* positive) elicited during and/or after service recovery encounters.

² The practice of ad hoc measurement in the context of service recovery is well illustrated in a recent study by Chebat and Slusarczyk (2005) who measured negative emotions by two discrete emotions (anxiety and disgust) and positive feelings by joy and hope. As a rationale for choosing these specific items, the authors simply state, “[the] choice of these items has been inspired by Plutchik (1980) (p. 668)”. Moreover, at no point do the authors provide information on the reliability and validity of these ad hoc measures.

recovery is a rich, multifaceted phenomenon, how can it be best captured? What specific types of emotional responses are provoked during service recovery, and how can a measurement instrument be developed to validly and reliably gauge them?

With these questions in mind, the twofold objectives of this study are defined. First, to develop a psychometrically sound scale capturing consumers' experienced emotions during service recovery encounters (ESRE). Second, to assess how ESRE is linked to customer satisfaction as well as to behavioral outcomes, such as word-of-mouth communication and repurchase intentions.

In the section that follows, we provide a brief conceptual background on emotions in a service recovery context and provide the theoretical anchoring of ESRE. Next we describe the procedures used for item generation, scale construction, and validity and reliability assessment. We follow this by an examination of the links between the ESRE measure and measures of customer satisfaction, word-of-mouth communication and repurchase intentions. We conclude the paper with some suggestions about the use of the ESRE scale in future empirical research.

2 Conceptual background

Little consistency can be found in the use of terminology related to emotions. For purposes of organization and discussion, we begin with a definition of emotions and then turn to frameworks for interpreting emotional behavior.

A fundamental problem that has long plagued research on emotion, both in psychology and in marketing, has to do with the demarcation of terms. Various terms have been interchangeably used in the literature to describe phenomena that may or not may be the same; terms such as “emotion”, “affect”, and “mood”. In the absence of a generally agreed-upon definition, we will follow Bagozzi et al. (1999, p. 184) who have defined emotions as “... mental state[s] of readiness that arise from cognitive appraisals of events or one's own thoughts”. Bagozzi et al. (1999) suggested that emotions typically have a *specific* referent (e.g., a customer is angered by slow service in a restaurant). In contrast, and consistent with Cohen and Areni (1991) and Johnson et al. (2005), they consider affect to be a *general* category for mental feeling processes that includes emotions, moods and possibly attitudes. Bagozzi et al. (1999) also distinguish emotions from moods in that moods tend to be lower in intensity than emotions, are generally nonintentional, do not have a specific referent, and are not as directly coupled with action tendencies as are emotions.

The psychological literature has produced two major empirically based approaches to the description and categorization of emotions (for a review, see Havlena and Holbrook 1986; Mano 1991; Johnson et al. 2005; Laros et al. 2005).³ The first views emotions as stemming from a relatively small number of “basic” or “discrete” emotional categories—such as joy, anger, sadness, and fear—that are innate to all human beings (e.g., Izard 1992; Plutchik 1982). The subjective experience of emotion is the result of the particular pattern of response across these various basic emotions. Thus, in any given situation, it is possible to describe

³ For a recent attempt seeking to integrate these perspectives, see Laros et al. (2005).

emotional response by measuring the extent to which each of the basis emotions is experienced (Richins 1997). However, the “discrete” emotion approach has often been criticized as merely involving labeling without a sound theoretical foundation that explains the experience of emotion (Rosman 1984). Taken to the extreme, there could be a basic emotion for *every* emotional response resulting in literally thousands of such basic emotions (Johnson et al. 2005). Furthermore, “discrete” or “basic” emotions seem to be experienced in patterned relations to one another (Diener 1999). For instance, the various pleasant emotions, such as joy, affection, and pride, are usually experienced together, while the unpleasant emotions of anger, anxiety, and sadness also seem to have a strong tendency to co-occur. As Diener (1999 p. 803) points out, “there is a glue that holds together certain of the discrete emotions”.

The second major approach views emotions in terms of continuous underlying dimensions that distinguish among emotional states. Such “dimensional” theories attempt to simplify the representation of emotional responses by identifying a set of common dimensions that can be used to distinguish specific emotions from one another. Among the exemplars of dimensional theories of emotion that have been applied in a consumer behavior context are Russell and Mehrabian’s (1977) pleasure arousal dominance (PAD) model and Watson and Tellegen’s (1985) circumplex model. Two valenced dimensions consistently emerge in studies of affective structure, both in the US and in a number of other cultures (Liljander and Strandvik 1997); these dimensions emerge as the first two factors in factor analyses of self-rated mood and as the first two dimensions in multidimensional scaling of facial expression or mood terms (Diener et al. 1985; Russell 1980, 1983; Zevon and Tellegen 1982; Watson et al. 1984). Watson and Tellegen (1985) have summarized the relevant evidence and presented a basic, consensual two-factor model. Whereas some investigators work with the unrotated dimensions (typically labeled pleasantness–unpleasantness) (e.g., Russell 1979, 1980), the varimax-rotated factors (usually labeled positive and negative affect) have been used more extensively in the literature (e.g., Watson and Tellegen 1985; Oliver 1993).

Although the terms Positive and Negative Affect might suggest that these two factors are polar opposites, they have in fact emerged as highly distinct (Watson et al. 1988) and can thus be considered as different constructs. Indeed, a large body of literature has developed in which positive and negative emotions are treated as independent (e.g., Bradburn 1969; Cacioppo and Berntson 1994; Cacioppo et al. 1997; Watson et al. 1999; Larsen et al. 2001). Beginning with Nowlis and Nowlis (1956), researchers including Bradburn (1969) and Costa and McGrae (1980) found psychometric evidence that what had been previously assumed to be bipolar opposites were in fact correlated only weakly, were distinctive in their relations to other variables and were therefore better represented as independent of one another.

Further support for the view that separate positive and negative dimensions offer a better representation of affective and evaluative processes stems from recent evidence in neuroscience suggesting that positive and negative responses of organisms may be rooted in separate physiological systems that have different foci

in the brain (Ahern and Schwartz 1985; Davidson et al. 1990; Gray 1990; Berntson et al. 1991; Davidson 1992; for a review of the psychobiological evidence see Watson et al. 1999). These findings are further buoyed by evidence showing that positive and negative affects have distinct and asymmetrical effects on behavior (Cacioppo and Gardner 1993; Cacioppo et al. 1997) and are independent across a range of time frames, Watson 1988).

In light of the aforementioned evidence, it seems that positive and negative affect systems can be co-activated, i.e., that positive and negative emotions can co-occur (Cacioppo and Bernston 1994). This, however, is conceptually impossible if positive and negative emotions are treated as opposite dimensions on a bipolar scale. *Only* when emotional valence is represented by two independent dimensions “... can one ... experience conflicting emotions, [and] such joint experience may be natural and frequently occurring” (Williams and Aaker 2002, p. 636).

In summary, positing that positive and negative emotions are separable holds out the possibility that people can experience mixed feelings of happiness and sadness at the same time (Larsen et al. 2001). Indeed, recent empirical evidence shows that this may well be applicable in emotionally complex situations (e.g., Larsen et al. 2001, Williams and Aaker 2002) such as service recovery encounters where numerous and varied attributes (resolution speed, politeness, honesty, etc.) exist. Because each attribute is a potential source of pleasure or frustration, the likelihood of positive and negative *co*-experiences is enhanced.

Based on the above discussion, we view the emotion process as comprising an affective event (i.e., a service recovery encounter), which evokes appraisal processes and emotional reactions. experienced emotions during service recovery encounters (ESRE), in this context, are thus conceptually defined as a set of valenced feeling states that arise from the cognitive appraisal of a specific service recovery encounter. Furthermore, following independence theory (e.g., Bradburn 1969, Cacioppo and Berntson 1994; Cacioppo et al. 1997; Larsen et al. 2001), we allow for the separability and coactivation of positive and negative emotional states during service recovery encounters. Hence, for measurement purposes, we treat negative and positive emotions as distinct latent variables and proceed with the parallel development of multi-item scales to capture them.⁴

3 Development of item pool

The generation of appropriate item pools of relevant positive and negative emotions in a service recovery context was undertaken in several steps. First, through a thorough review of a large base of the relevant literature and past measurement instruments (e.g., positive affect negative affect schedule (PANAS), PAD and DES, a total of 40 preliminary scale items (20 for positive emotions and 20 for negative emotions) were identified. Second, two expert judges (one trained in consumer

⁴ For informative purposes only, we also repeated the measurement development process by analyzing positive and negative emotions simultaneously (i.e., by treating their items as part of the same item pool). The results, shown in [Appendix](#), are practically identical with those reported in the text.

behavior and the other trained in psychology) selected those items they thought could be identified as experienced emotions during service recovery encounters. The judges also examined the items in terms of content validity and redundancy (Rossiter 2002). The rule used to delete items was to eliminate those that had not been selected by any of the judges, leaving a total of 31 items. Then, these items were reworded as adjectives to express the customer's emotional state during a service recovery encounter (e.g., "sadness" was reworded into "sad"). Third, personal interviews were carried out with 22 consumers of different sex, age, education and income in order to (1) confirm the relevance of existing items, (2) generate additional items, and (3) eliminate any redundant items. As a result, one new item was incorporated, some items were reworded, and one was eliminated. Finally, a focus group interview was conducted, consisting of six individuals (two males and four females respondents with ages ranging from 21 to 47 years), some of them working as frontline employees for service organizations.

Following a familiarization phase, participants were requested to focus on a recent service recovery experience. Then, first the (non-technical) ESRE definition⁵ and second, the list of items was shown to the group for discussion. Finally, participants were asked to add any item they thought could be considered as part of ESRE and was not included in the aforementioned list.

In all, 31 items were generated from the literature, expert judges, personal interviews and the focus group. Two professional colleagues⁶ subsequently evaluated these items for representativeness of the construct domain and examined any discrepancies between the focus group and personal interview results. Again, they were given the definition of ESRE and were asked to place each item into one of the following three categories: "clearly representative", "somewhat representative", and "clearly not representative" of the ESRE construct domain. Two items were considered to be "clearly not representative" and consequently they were eliminated. Finally, after deliberation with an expert in marketing research, a further four items were removed because of close semantic similarities to items already included (e.g., "unhappy" and "unpleased" were removed because "happy" and "pleased" were already in the item pool), resulting in a final set of 25 items—13 of these items covered positive emotions and 12, negative emotions (see [Appendix](#)).

4 Scale development

The item pools generated by the procedures described in the previous section were subsequently incorporated in a questionnaire which was personally administered to a sample of 168 individuals⁷ Using a scenario approach, the respondents were randomly assigned to one of eight versions of a scenario describing a complaint-handling

⁵ experienced emotions during service recovery encounters (ESRE) were defined as positive or negative feeling states arising during and/or after a complaint handling experience.

⁶ They were formally trained in psychometric theory and experienced in survey development.

⁷ The sample consisted of 168 students and employees (54% women and 46% men) from two large universities. Respondents ranged in age from 18 to 65+ years (mean = 27) and tended to have a university education (89%).

experience at a tour operator's check-in counter in an airport.⁸ Following the scenario description, they were asked to indicate how strongly the 25 emotional states in Appendix described their reaction to the complaint-handling encounter described in the scenario (the scale format used ranged from 1 = "not at all" to 5 = "extremely"). The resulting responses were then subjected to maximum likelihood common factor analysis with oblique rotation (Ping 2004). This produced a two-factor structure accounting for 53.45% of the common variance for positive emotions and a two-factor solution accounting for 57.87% of the common variance for negative emotions. Inspection of the factor loadings, however, showed that one item ("distressed") had high cross-loadings (>0.40), while another item ("ashamed") failed to load on either factor. These two items were subsequently eliminated and the factor analysis was re-run with the remaining negative emotion items; all items ended up loading significantly on one factor only.

The factor solution for the positive emotion adjectives comprised of a general *Pleasure* factor (comprising of items such as "joyful", "happy", and "proud") and a more specific *Involvement* factor (made up of items such as "attentive", "alert", "active", and "interested"). Similarly, the factor analysis of the negative emotion adjectives resulted in one factor representing *Discontent* (made up of items such as "sad", "angry", and "annoyed") and a second, more specific *Concern* factor (consisting of items such as "nervous", and "afraid"). Calculation of alpha reliabilities for the derived factors produced highly acceptable estimates (Pleasure = 0.843, Involvement = 0.890, Discontent = 0.920, Concern = 0.730).

Taken together, the factor analyses show that two distinct types of emotions are expressed during service recovery encounters: Type A emotions (consisting of Pleasure and Discontent) have to do with the *outcome* and *process* of service recovery and can therefore be expected to be *predictive* of recovery evaluation and subsequent behavior (e.g. repurchase intention and word of mouth communication). Anger and happiness, for example, typically characterize an emotional response to a service recovery outcome or process (e.g., refund, apology or resolution speed). Type B emotions (consisting of Involvement and Concern), on the other hand, are only *descriptive* of the *nature* of a recovery encounter; thus are *not* expected to directly impact upon recovery outcomes such as customer satisfaction judgments and behavioral intentions. Feeling 'afraid' or 'attentive', for instance, characterizes an emotional state during the recovery process but not how the customer feels *in response* to the outcome (e.g., refund) or process (e.g. resolution speed). Thus, experienced emotions in a service recovery context appear to have the structure of a multidimensional *profile* construct (Law et al. 1998), in that they comprise distinct dimensions which, however, cannot be combined into an overall score; it is the

⁸ The eight scenarios described a complaint-handling experience at a tour operator's check-in counter in an airport following the cancellation of a flight. Scenarios were manipulated to produce high and low levels of interactional, procedural and distributive justice in the required combinations. The use of scenarios in service recovery research is a commonly accepted methodology (e.g., see Smith and Bolton 2002; Hess et al. 2003). Full versions of the specific scenarios used are available from the authors upon request.

configuration on the four dimensions that is represented by ESRE rather than the *aggregation* of the dimensions involved.

As a second stage in scale development, the 23 items retained from the first stage were administered online to a second sample of 186 consumers.⁹ Respondents were requested to recall a time¹⁰, when they complained about a failed product/service experience and to rate on a 5-point scale (1 = “not at all”, 5 = “extremely”) how strongly the 23 emotional states described their reactions during and/or after the service recovery encounter. The responses of this second sample were subsequently subjected to confirmatory factor analysis (CFA) via LISREL 8.54 (Jöreskog and Sörbom 1996). Specifically, a two-factor CFA model for positive emotions and another two-factor CFA model for negative emotions were specified and estimated with the items allocated to each factor based on the results of the first stage (Steenkamp and van Trijp 1991; Gerbing and Hamilton 1996). The initial fit of both models revealed that several items displayed highly standardized residuals and modification indices. Problematic items were deleted one at a time, followed by re-estimation of the models. This iterative process resulted in the deletion of eight items. Reestimation of the CFA models produced good fit for both the positive ($\chi^2 = 20.98/df = 19$, RMSEA = 0.024, CFI = 0.997, GFI = 0.972, standardized RMR = 0.037) and negative emotions models ($\chi^2 = 16.50/df = 13$, RMSEA = 0.038, CFI = 0.996, GFI = 0.975, standardized RMR = 0.035); all items loaded significantly ($p < 0.01$) on their respective factors, there were no cross-loadings and no correlated measurement errors (Danes and Mann 1984).

The last stage in scale development focused on cross-validation and involved the administration of the purified set of 15 items to a third sample of 134 consumers.¹¹ Again, respondents were asked to recall a recent service recovery encounter and rate on a 5-point scales (1 = “not at all”, 5 = “extremely”) how strongly the 15 emotional states described their reactions during and/or after the service recovery encounter. Subsequently, two two-factor CFA models (i.e., one for positive emotions and one for negative emotions) were specified and estimated with the items allocated to each factor based on the results of the second stage. This analysis was *strictly* confirmatory (i.e., no attempts at model modification were made), the sole intention being to check the stability of the final ESRE scale with an independent sample. The results shown in Table 1, confirmed the structure of the ESRE scale as indicated by the pattern of significant factor loadings and the highly satisfactory composite reliability estimates.

⁹ The sample consisted of 186 consumers (59% women and 41% men) who were recruited from relevant online discussion groups such as “holiday complaints”, “travel complaints” and “airline complaints”. Respondents fell into various age groups ranging from under 16 (7.6%) up to 65+ years (0.5%) and tended to have a university education (65.8%).

¹⁰ In order to reduce recall-related distortion problems, the time frame maximum was set to six months.

¹¹ Using a structured-undisguised questionnaire, the scale items were personally administered to a randomly selected sample of 134 consumers (62% women and 38% men) in a major English city. Respondents fell into various age groups ranging from under 16 (1.2%) up to 65 years (7.1%) and tended to have a university education (60.3%).

Table 1 Factor loadings, reliabilities and average variance extracted: final sample

Dimensions	Items	Completely standardized loadings	Composite reliability	Average variance extracted
Pleasure	Joyful	0.831	0.902	0.653
	Happy	0.827		
	Proud	0.621		
	Warm feelings	0.967		
	Being valued	0.757		
Involvement	Attentive	0.780	0.775	0.536
	Active	0.640		
	Interested	0.770		
Discontent	Upset	0.770	0.851	0.545
	Angry	0.848		
	Sad	0.426		
	In a bad mood	0.790		
	Annoyed	0.778		
Concern	Nervous	0.809	0.680	0.520
	Afraid	0.621		

5 Validity assessment

5.1 Convergent and discriminant validity

The average variance extracted (AVE) was calculated for each of the factors and used to evaluate the convergent and discriminant validity of the ESRE scale (Table 1). If the shared variance among the indicators accounts for 0.50 or more of the total variance, then convergent validity can be assumed (Ewing and Napoli 2005). Similarly, discriminant validity is evident when the AVE for each construct is greater than the squared correlation between that construct and any other construct in the model (Fornell and Larcker 1981). Both conditions were satisfied by the ESRE scale. As Table 1 shows, all AVE values exceeded 0.50 providing evidence of convergent validity. In addition each subscale's AVE was substantially higher than the squared multiple correlation between the subscales. Thus evidence of discriminant validity was also obtained.¹²

Table 2 shows the correlations between the four emotion subscales. It reveals a moderate positive correlation between Pleasure Emotions and Involvement (0.352, $p < .05$) and a negative correlation between Pleasure and Discontent (-0.373 , $p < 0.05$). Interestingly, no significant association can be detected between Concern and any other emotional dimension. It thus appears that such emotions are activated independently from all others.

¹² As a further check on discriminant validity, 95% confidence intervals of the inter-construct correlations among the different subscales were computed; none of the resulting intervals included ± 1.00 , providing additional support on discriminant validity.

Table 2 Inter-construct correlations

	Pleasure	Involvement	Discontent
Involvement	0.352*		
Discontent	-0.373*	0.096	
Concern	-0.092	0.093	0.125

* Significant at the 0.05 level

5.2 Nomological validity

Nomological validity involves identifying theoretically relevant relationships from prior research and then assessing whether the new scale behaves in a theoretically predictable manner (Netemeyer et al. 2003). Here, drawing on previous research by Westbrook and Oliver (1991) and Blodgett et al. (1997), we expect that experienced emotions during service recovery encounters (ESRE) will have an effect on customer satisfaction, word-of-mouth communication and repurchase intentions. However, consistent with our earlier observation that expressed emotions during service recovery encounters can be classified into two types (i.e. Type A and B), it is expected that *only* Pleasure and Discontent will impact upon service recovery evaluations and behavioral outcomes. In contrast, Involvement and Concern, are not expected to impact on the aforementioned outcomes.

We used three established measures to assess the nomological validity of ESRE, capturing customer satisfaction, repurchase intentions, and word-of-mouth communication, respectively (Appendix), and regressed the four ESRE dimensions on them (Table 3).

The first regression analysis, with customer satisfaction as the dependent variable produced a significant R^2 of 0.472 ($p < 0.05$) and, as expected, the two Type A emotions (i.e., Pleasure and Discontent) were significant predictors; moreover, and again consistent with expectations, neither of the Type B emotions (Involvement and Concern) registered a significant impact.

The second multiple regression, with repurchase intentions as the dependent variable, also produced a significant result ($R^2 = 0.290$, $p < 0.05$). Again, only the Type A emotions of Pleasure and Discontent were significant predictors of repurchase intentions following a service recovery encounter.

Table 3 Regression results (standardized coefficients)

ESRE sub-scale	Customer satisfaction	Repurchase intention	Positive word-of-mouth
Pleasure	0.340*	0.298*	0.306*
Involvement	0.035	0.089	0.019
Discontent	-0.504*	-0.357*	-0.468*
Concern	0.084	0.030	0.028
Adjusted R^2	0.472	0.290	0.398

* Significant at the 0.05 level

Table 4 Descriptive statistics of the ESRE scale ($N = 491$)

	Pleasure	Involvement	Discontent	Concern
Number of items	5	3	5	2
Theoretical range	5–25	3–15	5–25	2–10
Actual range	5–25	3–15	5–25	2–10
Overall mean	6.955	7.472	14.813	2.741
SD	3.446	3.610	6.054	1.455
Coefficient of variation	0.495	0.483	0.409	0.531
Correlation with age	-0.071	0.080	-0.057	-0.072
Correlation with gender	-0.008	-0.201*	0.001	0.089
Correlation with education	0.065	0.148*	0.042	0.147*

* Significant at the 0.05 level

The final regression analysis, with positive word-of-mouth communication as the dependent variable, resulted in a significant R^2 of 0.398 ($p < 0.05$). As in the previous regression models, only Type A emotions (i.e. Pleasure and Discontent) were significant predictors of positive word of mouth communication.¹³

Taken collectively, the results of the regression analyses provide clear support for the nomological validity of the ESRE scale. In this context, it is worth noting that a substantial proportion of variance in customer satisfaction (47.2%), repurchase intentions (29%) and positive word-of-mouth communication (39.8%) is accounted for by ESRE. This suggests that ESRE's predictive ability is very satisfactory.

6 Scale description

Table 4 shows descriptive statistics for the four subscales comprising the ESRE measure. It is based on a pooling of all three samples and, in addition to the observed means, standard deviations, etc., it also reports on the correlation of each subscale with socio-demographic characteristics.

Inspection of Table 4 reveals that the actual scores obtained on the ESRE subscales cover the entire range that is theoretically possible. This suggests that ESRE does not suffer from major “range restriction” problems and that it is, therefore, capable of differentiating among respondents with different levels of emotional response along the Pleasure, Involvement and Discontent and Concern dimensions. However, it should also be pointed out that the distribution of scores is skewed, particularly with regards to the Pleasure dimension.

Focusing on Type A emotions, the average level of Discontent is almost twice that of Pleasure indicating that, on the whole, negative feelings overshadow positive

¹³ As an additional statistical check on nomological validity, the regression analyses for the final scales were repeated on the other two samples where exactly the same picture emerged, i.e., only the Type A emotions ‘Pleasure’ and ‘Discontent’ were significantly related to service recovery outcomes, with positive and negative effects, respectively. The R^2 -values obtained were all also very similar to those reported in Table 3.

feelings. While this is consistent with expectations (since the very nature of a service *recovery* encounter implies that consumers initially faced a problem with the service provider, which had to be subsequently fixed), it also suggests that, on average, the outcome of the service recovery process failed to generate a sufficiently strong positive emotional response among the affected consumers. It is also worth noting that none of the socio-demographic characteristics are significantly related to either Pleasure or Discontent, which implies that Type A emotions are not differentially manifested across different socio-demographic groups.

Shifting attention to Type B emotions, the very low average level of Concern indicates that nervousness and fear are not dominant responses associated with the service recovery process. In contrast, there seems to be a substantial degree of Involvement that is, on average, displayed during service recovery encounters, particularly by male consumers. A possible explanation for this substantial degree of involvement might be the fact that the customer needs to lodge a complaint (i.e., engage in a specific action) for the recovery process to be initiated. Finally, both Type B emotions are positively and moderately correlated with education, indicating that such emotions are more strongly manifested among better educated consumers.

Note that, in Table 4, no attempt was made to combine the four subscales into an aggregate measure so as to generate an “overall” ESRE score. This is because, as already mentioned, ESRE captures a profile construct, and as such, its dimensions *cannot* be combined algebraically (Law et al. 1998). Thus, in using ESRE, the scores on the *individual* subscales should be reported and compared rather than “global” ESRE scores.

7 Conclusions

The age-old saying that what does not get measured does not get managed seems to be relevant in a service recovery context since effective management of service recovery encounters is hampered in the absence of an instrument to measure emotions during such encounters. To the best of our knowledge, the ESRE scale represents the first attempt to develop a tailor-made instrument for measuring experienced emotions during service recovery encounters. Based on accepted principles of scale development and using three separate samples, our results show that customers’ emotional reactions are best conceptualized as a profile multidimensional construct incorporating multiple positive and negative dimensions. Regarding positive emotions, the relevant dimensions are Pleasure and Involvement, whereas negative emotions are represented by the dimensions of Discontent and Concern. Importantly, while the two positive dimensions are (positively) interrelated, the negative dimensions are not; moreover, Concern seems to be independent of all other dimensions. Particularly interesting is the fact that the impact of Discontent emotions on service recovery evaluation (i.e., customer satisfaction) and behavioral outcomes (i.e., repurchase intentions and positive word-of-mouth) is stronger than for Pleasure-related emotions (see Table 3). Effective service recovery management should therefore first attempt to reduce the elicitation

of such negative emotions (i.e., Discontent) before spending effort on generating positive emotions (i.e., Pleasure).

The psychometric evidence on the dimensionality, reliability and validity of the ESRE scale was very encouraging and suggests that the four sub-scales could be profitably employed in substantive research in services, marketing research in general and service recovery research in particular. A clear advantage of its usage is the distinction between *predictive* (i.e., Type A) and *descriptive* (i.e., Type B) emotions—not all emotions have the same predictive power. Thus, when including emotions into outcome-oriented models of service recovery encounters, researchers should avoid using emotion measurement instruments that mix both emotional types (such as the PANAS scale). This is not to say that Type B emotions are unimportant. Indeed, they can be profitably used to classify customers into different groups according to displayed Type B emotions. For example, customers with high Involvement and high Concern would clearly be the number one priority for service recovery management. These customer need to be re-assured that their problems are being dealt with as well as be given detailed information about the service recovery process. On the other hand, when dealing with customers who display a high level of Concern and a low level of Involvement, service recovery management's focus should be on re-assuring them that they do not have to worry; less attention can be given to the provision of detailed information about the recovery process. Similar suggestions can be derived for the other possible scenarios.

Also on the managerial front, a service provider using ESRE should be in a position to identify emotions, which are most commonly associated with service recovery encounters and use this information to train frontline staff in effective emotion management. In this context, current managerial emphasis on training providers in rational, function-oriented recovery strategies aimed at retaining customers in the wake of negative experiences may not be sufficient. It may be necessary to build into this training some of the less-rational reactions that may arise in the thick of the action, when companies are faced with emotionally-charged customers (Menon and Dubé 2004). In this regard, training service providers to better recognize the various facial, vocal, or postural expressions that manifest emotions in service recovery contexts would be important. Given the affective component of customer satisfaction, effective management of customer emotions during service recovery encounters should assist companies in re-establishing customer satisfaction and maintaining successful long-term relationships.

Concerning the study's limitations, the present study partly required that respondents recall an event. Thus, problems associated with memory loss or enhancement could have potentially impacted the findings (Smith and Bolton 1998). In particular, measuring emotional reactions closer to the point in time at which the service recovery encounter takes place may result in different evaluations (Peterson and Wilson 1992)¹⁴ Another limitation of the current study is that scale development was based upon purposive rather than truly random

¹⁴ Note, however, that stable results were obtained between the scenario-based sample and the two other samples which is undoubtedly encouraging.

samples. However, due to the absence of a suitable sampling frame for the population of interest (i.e., customers that had recently experienced a service recovery encounter), a conventional random sampling approach was clearly not feasible.

Regarding future research, the ESRE scale may help integrate the affective component of customer satisfaction formation into a coherent framework that facilitates the systematic investigation of the influence of affective versus cognitive factors in determining customer satisfaction judgments. Another potential avenue for future research is the examination of the formation of emotions during service recovery encounters. Again, the ESRE scale provides us with distinct emotional dimensions, which are likely to result from different cognitive appraisal processes. By establishing how such emotions are formed, future research would deepen our understanding of service recovery encounters and allow us to better incorporate emotions; existing customer satisfaction/dissatisfaction models as well as models incorporating behavioral outcomes such as repeat-buying behavior and word-of-mouth communication.

Acknowledgment The authors would like to thank Prof. A. Parasuraman for helpful comments on previous versions of this paper.

Appendix

Tables 5, 6

Table 5 Item pools for emotions expressed during service recovery encounters

Item	Positive emotions	Negative emotions
1	Delighted	Downhearted
2	Attentive	Enraged
3	Alert	Upset
4	Joyful	Angry
5	Active	Sad
6	Pleased	Distressed
7	Happy	In a bad mood
8	Excited	Ashamed
9	Proud	Irritated
10	Warm feelings	Annoyed
11	Enthusiastic	Nervous
12	Being valued	Afraid
13	Interested	

Table 6 Measurement of customer satisfaction, repurchase intentions and positive word-of-mouth

Construct	Operationalisation	Source
Customer satisfaction	Customer satisfaction was measured using four 5-point differential items: <i>displeased/pleased, dissatisfied/satisfied, does a poor job/does a good job and unhappy/happy</i> Respondents were instructed to evaluate their overall service experience	Smith and Bolton (1998)
Repurchase intentions	<i>It is likely that I will buy something from that company again</i> <i>I will consider this company when purchasing a similar service/product</i> All variables were measured on 5-point scales anchored at “strongly agree” and “strongly disagree”	Halstead and Page (1992); Swanson and Kelley (2001).
Positive word-of-mouth	<i>I would recommend the company’s service to my friends.</i> <i>If my friends were looking for a similar service, I would tell them to try this company.</i> <i>It is likely that I will give positive recommendations about the company’s service.</i> All variables were measured on 5-point scales anchored at “strongly agree” and “strongly disagree”	Blodgett et al. (1997), Maxham III (2001)

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