4. The Dutch Marital Satisfaction and Communication Questionnaire. A Validation Study

4.1. INTRODUCTION

Marital communication and satisfaction represent two key elements in understanding current marital dynamics. Since the maintenance of relationships has increasingly become dependent on husbands' and wives' appreciation of marriage, gaining insight in spousal marital satisfaction is of utmost importance (Beck & Beck-Gernsheim, 1995). Several researchers and family therapists claim that one of the core elements in this appreciation of the marital relationship is communication (Becvar & Becvar, 1996; Fitzpatrick & Ritchie, 1994; Meeks, Hendrick, & Hendrick, 1998). Communication is not only instrumental for marital satisfaction but even one of the most crucial factors contributing to it (Karney & Bradbury, 1995; Noller & Fitzpatrick, 1990).

The close association between satisfaction and communication might explain the conceptual confusion about these concepts in the past. Within a Dyadic Adjustment approach, which was prominent during the seventies, satisfaction and communication are both considered as indicators of a broader concept labeled marital adjustment or marital quality (Spanier, 1976)[12]. This approach and the widely known Dyadic Adjustment Scale that was developed within this thinking received much conceptual as well methodological criticism (Fincham & Bradbury, 1987(a); Norton, 1983; Sabatelli, 1988). The major drawback relates to the confounding of descriptions of the marriage with its evaluation. As a matter of fact, the dyadic adjustment

[12] Spanier (1976, pp. 127-128), one of the most important representatives of the Dyadic Adjustment School, defines marital adjustment as "a process, the outcome of which is determined by the degree of (1) troublesome marital differences, (2) interspousal tensions and personal anxiety; (3) marital satisfaction; (4) dyadic cohesion; and (5) consensus on matters of importance to marital functioning." According to this definition, adjustment functions as a sort of container term consisting of diverse aspects, assumed to be necessary to build (up) a harmonious marital relation (Spanier, 1976). However, a well-founded theoretical framework that indicates why these specific five aspects need to be considered is lacking.

approach makes it difficult to examine how marital communication is related to spouses' satisfaction with marriage. Because items used to measure communication overlap in content with items used to measure marital quality, it is doubtful whether these measures assess distinct constructs.

In answer to this content overlap, a new conceptualization of marital quality, assessing only subjective evaluations of the marriage, was suggested (Fincham & Bradbury, 1987(a); Norton, 1983). The underlying assumption is that the person in question is the only expert with regard to his/her well-being. Thus instead of measuring different aspects of the marital relationship, only marital satisfaction, which is an overall evaluation toward one's partner and the relationship, is used as a referent for marital quality[13]. This approach is appealing, particularly because it allows researchers to draw inferences about how communication behavior is associated with marital satisfaction.

The latter embodies the quintessence of behavioral marriage therapy. One of the goals behavioral therapists strive to is increasing the frequency of positive communication behaviors and decreasing the frequency of negative ones. It appears that the balance rather than negative and positive interaction in itself distinguishes stable and unstable marriages. Gottman (1994) report that in stable marriages a 5:1 ratio of positivity to negativity during conflict was established whereas in unstable marriages this ratio was 8:1.

Yet, what 'good' and 'bad' or 'negative' and 'positive' communication precisely is, cannot be easily defined and is often based on global notions within the field of family and couple therapy (Kerkstra, 1985). Although an excess of 'good' communication could also work out negatively whereas not all 'bad' communication styles should be equally harmful, some negative communication styles, such as withdrawal, criticizing and blaming the other, have been systematically linked with lower marital satisfaction and higher rates of divorce (Brown & Rogers, 1991; Buunk & Nijskens, 1980;

[13] This specific point of view was subjected to a lot of criticism from the Dyadic Adjustment School. Spanier en Lewis (1980, p. 832) point out that "….it is unfortunate that at the time when many marriage researchers are attempting to conceptualize and measure a marriage as a unit (a dyadic relationship), [some] have chosen to employ an intrapersonal conceptualization (subjectively experienced reaction), rather than an interpersonal conceptualization."

Gottman, 1991, 1993, 1994; Gottman & Krokoff, 1989; Karney & Bradbury, 1995). Reversely, sharing thoughts and feelings about the relationship and daily event talk are considered as instrumental and functional for the relationship (Canary & Stafford, 1992; Wood, 1993). Evidence for the beneficial effect of this behavior on relationship satisfaction is obtained in several studies (Buunk & Nijskens, 1980; Canary, Stafford, & Semic, 2002; Honeycutt & Wiemann, 1999; Weigel & Ballard-Reish, 1999; 2001)

Moreover, both communication behaviors strongly correspond to two relational maintenance strategies identified by Canary and Stafford (1992). A first strategy is *openness* and includes behaviors such as discussing the relationship and sharing relational feelings. A second maintenance strategy is labeled *positivity* and refers to interacting in a polite, cheerful and uncritical manner. This behavior represents the opposite of the aforementioned negative interaction behavior.

Hence, the assessment of these communication behaviors along with spousal marital satisfaction is therefore important for therapeutical as well as theoretical aims. However, Dutch measures on this issue are scarce and the few available instruments consist of a large number of items, validated in relatively small research groups (see Kerkstra, 1985). As space is at a premium in family survey research, the availability of brief, but valid and reliable measures of marital satisfaction and communication would suit the purpose of quantitative research designs (Schumm, et al., 1986).

In addition to this, validation studies on communication and satisfaction measures are mainly directed towards internal consistencies and cross-sectional validation, failing to take into account the stability of the measures across time. Particularly, within the scope of longitudinal research, the latter is of utmost importance. When examining marital satisfaction and communication in a multiwave design, one needs to ascertain that questioning quantitative change in marital satisfaction over time is meaningful at all, i.e. the concept of interest at Time 1 should be comparable to the same concept at later points in time. Since individuals perpetually constitute and reconstitute their interpretation of reality and events, it is conceivable that at two different points in time, two different concepts are measured with the same set of indicators (Steenkamp & Baumgartner, 1998). This phenomenon is referred to as measurement variance or instability (Taris, 2000). It is therefore striking to note, though, that marriage literature is increas-

ingly focusing on longitudinal research designs while it leaves the matter of measurement invariance undiscussed. Nonetheless, it is a logical and inevitable prerequisite to analyze longitudinal hypotheses. Therefore, in contrast to which has often been the case until now, research into concept validation should also address stability, equivalence or invariance across time.

4.2. RESEARCH AIM

To deal with the need for a valid but briefer and stable measure of the above-cited aspects, we present in this study the development and validation of the Dutch Marital Satisfaction and Communication Questionnaire (DMSCQ). The DMSCQ is an instrument designed to measure marital satisfaction and spousal negative and open communication styles. The initial 24-item questionnaire was derived from the Marital Satisfaction and Stability Inventory and the Communication Inventory developed by Kerkstra (1985).

From the former instrument, we exclusively retained those items measuring global experience of the relationship and the partner, i.e. marital satisfaction. This conceptualization precludes some difficulties expressed on previous measurements such as blending general marital satisfaction and satisfaction with specific aspects of one's marriage.

The Communication Inventory of Kerkstra (1985) assesses couples' perception of the way in which they and their partner communicate in marriage. The items are derived from several communication questionnaires such as the Communication Questionnaire of Buunk and Nijskens (1980), the Primary Communication Inventory (Navran, 1967) and the Marital Communication Inventory (Bienvenu, 1970). Using factor analysis, two dimensions prove to be paramount, i.e. destructive communication and intimacy. Although Kerkstra (1985) and Buunk and Nijskens (1980) also identified a third factor tapping 'avoidance', these items yielded low reliability.

Because it was attempted to validate a brief battery of items regarding marital communication, the items of the destructive and intimacy scales were selected for the DMSCQ. Both communication scales measure the perception of communication behavior and not individual communication skills. The Destructive Communication items measure to what degree cer-

tain forms of negative communication are characteristic of the marital relationship (e.g., "My partner often blames me when we are quarreling", or, "My partner and I interrupt each other a lot when we are talking together"). In this study, we label this scale *Negative Communication*. The intimacy scale maps out communication styles of which it is assumed that this way of communicating results in emotional closeness and intimacy between the partners. Because the items measure the openly sharing of personal experiences, we refer to this scale as the *Open Communication* scale.

Using exploratory and confirmatory factor analysis, we attempt to test the factorial structure of the DMSCQ. Both the internal consistency of the identified scales and their construct validity is demonstrated. We report on three studies to describe the psychometric properties of the DMSCQ. A first study explores the factor structure of the initial questionnaire in a sample of 646 couples followed by some validation tests. In a second study this factor solution is evaluated in a sample of 1187 couples and the correlations with five criterion variables are studied. The third study examines the stability of the factor solution over time.

4.3. STUDY 1

The objective of the first study is to evaluate the initial 24-item questionnaire in a sample of Dutch married couples. Four criterion variables will be used to assess the construct validity of the DMSCQ: (1) parental depression, (2) parenting stress, (3) conflictual family climate and (4) parental role restriction. We hypothesize that parental depression and a conflictual family climate perception is related to lower marital satisfaction, more negative communication and less open communication (Beach, Katz, Sooyeon, & Brody, 2003; Olson, McCubbin, Barness, & Hill, 1983). Because of a spillover effect between the spousal and the parental system, parenting stress is expected to be negatively correlated with marital satisfaction and to result in more negative communication (Wise, 2003). Because our measure of open communication does not refer to the dyadic system but to the individual him/herself, it is not clear whether parenting stress is strongly associated with this communication behavior. Further we hypothesize that the degree to which the parent report to feel restricted by his or her role of parenting in arranging one's personal life is negatively related to marital

satisfaction and open communication and may be associated with more negative communication (Lavee & Sharlin, 1996; Rogers & White, 1998).

4.3.1. Procedure and Participants

The research sample consists of married men and women participating in the longitudinal research project "Child-Rearing and Family in the Netherlands" (Gerris et al., 1992; 1993; 1998). Families were recruited using a multi-stage sampling method. In the first stage, a sample was taken of all Dutch municipalities; in a second stage a sample of children aged 9 to 16 years was selected in these municipalities. These children as well as their parents were included in the research group. In 1990, this procedure resulted in a sample of 788 families. The sample's representativeness regarding regional zone and degree of urbanization was satisfactory. In order to establish a homogeneous research group, only first married couples were selected. This selection resulted in 646 couples with children. Data were gathered by means of structured interviews and questionnaires, completed by both the child and the parents**.** Mothers were 40 years (SD= 4.88) and fathers were 42,5 years old (SD= 4.17) on average. The couples had been married for about 17 years (SD=3.37)

4.3.2. Measures

All measures described below consist of 7-point Likert items, ranging from 1 = "not at all applicable" to 7 = "very applicable".

Marital satisfaction is measured by nine items referring to the degree to which parents experience the marital relationship as satisfying and positive. (e.g., "If I could choose again, I would choose the same partner").

The *Negative Communication* scale assesses the degree to which the partner reports to experience the communication and interaction with the partner as negative. The scale consists of nine items (e.g., "My partner often blames me when we are quarrelling").

The *Open Communication* scale maps out the degree to which the parent reports to exchange personal experiences in communication and interaction with the marital partner. It is a six-item scale (e.g., "I often talk to my partner about personal problems").

The *Conflictual Family climate* is a scale used to assess the extent to which conflictual interactions are characteristic of the family (e.g., "We quarrel a lot in our family"). The scale consists of 5 items with internal consistencies (Cronbach's alpha) of .66 and .70 for fathers and mothers respectively.

Parental Depression measures the degree to which the parent reports to be confused about and to feel unhappy with his functioning as a person and to be subject to feelings of depression (e.g., "Whatever I am doing, I will never manage"). It is a 7-point Likert item scale consisting of 9 items. Alpha coefficient is .79 (fathers) and .81 (mothers).

The *Parenting Stress* scale is a 3-items scale with alpha .77 for fathers and .81 for mothers. It refers to the degree to which the parent reports to experience child-rearing as a burden and as problematic (e.g., "raising my child(ren) frequently causes problems").

The *Parental Role Restriction* scale consists of 5 items measuring the degree to which the parent feels restrictions for their personal life from the parenting role (e.g., "Because of your children you cannot plan your life as you want"). Alpha is .67 (fathers) and .69 (mothers).

4.3.3. Results

Factorial structure

The factorial structure of the satisfaction and communication items was analyzed separately for husbands and wives. The central aim, however, was to obtain a similar structure for both spouses. In line with the aim to develop concepts that are empirically and conceptually clearly separated from each other, it was required that the resulting concepts were sufficiently reliable in terms of internal consistency.

Table 4.1
Completely Standardized Factor Loadings and Reliabilities of the CFA's on the Marital Satisfaction, Open and Negative Communication Items, Study 1, 2 and 3

	Study 1		Study 2		Study 3	
	Men	Women	Men	Women	Men	Women
Marital Satisfaction						
ms1 The way we treat each other now, I would like to stay with my partner forever.	.41	.54	.64	.76	.53	.56
ms2 Compared to the past I am now less satisfied with the way my partner and I treat each other.	.75	.72	.71	.66	.76	.71
ms3 I expected more from the relationship with my partner.	.76	.75	.79	.82	.84	.87
ms4 I think that the relationship with my partner is hardly a success.	.47	.64	.57	.60	.69	.80
ms5 If I could choose again, I would choose the same partner.	.46	.59	.39	.49	.59	.57
ms6 Actually, I think that the relationship with my partner should be better.	.77	.82	.77	.80	.75	.82
ms7 Generally, I am dissatisfied with the relationship with my partner.	.49	.57	.48	.53	.47	.53
Cronbach's α	.80	.77	.81	.84	.84	.86
Negative Communication						
nc1 My partner often blames me when we are quarrelling.	.72	.70	.76	.70	.80	.80
nc2 When my partner and I don't agree, we often get angry at each other.	.67	.65	.69	.62	.58	.65

		Study 1		Study 2		Study 3	
		Men	Women	Men	Women	Men	Women
nc3	My partner often pushes has his/her own way.	.54	.62	.70	.67	.65	.62
nc4	My partner and I interrupt each other a lot when we are talking together.	.53	.44	.58	.56	.49	.46
nc5	My partner often finds fault with me.	.74	.60	.68	.67	.76	.67
nc6	When talking to me my partner sometimes uses a tone of voice I don't like.	.68	.57	.62	.68	.69	.59
Cronbach's α		.81	.86	.84	.82	.83	.80
Open Communication							
oc1	I often talk to my partner about personal problems.	.41	.47	.59	.60	.65	.64
oc2	I often talk to my partner about things in which we are both interested.	.69	.75	.69	.73	59	.63
oc3	I often talk to my partner about the nice things that happened that day.	.67	.54	.70	.68	.68	.81
Cronbach's α		.61	.62	.69	.70	.67	.71

Using principal factor analyses (PFA) with oblique rotation, the relational structure between the concepts was clarified. Items, which met the criterion of a weight of .40 or more on the factor they intended to represent and a weight of .25 or less on the other factors, were retained. This procedure yielded a clear-cut pattern of three factors, which corresponded with the hypothesized constructs. Eight items were removed from the analysis because they did not meet the retention criteria. The factor solution results in seven items loading on the factor 'marital satisfaction', six items on the factor 'negative communication' and three items load significantly on the factor 'open communication'.

Cross-loadings vary from .00 to .20, with the exception of one item from the satisfaction scale with a cross-loading of .25, indicating that we reached a simple factor structure with high loadings on the factor to be represented and low loadings on the other factors. For men, the three factors accounted for 40 % of the total variance; for women the total variance explained was 42%. The factor solution (pattern matrix) and the items are presented in Table 4.1.

Internal Consistency

Reliability coefficients (Cronbach's alpha) are reported in Table 4.1. As can be seen the marital satisfaction and negative communication scales show acceptable internal consistencies (alpha) of .77 or higher for both men and women. The open communication scale is less reliable but this may be due to the fewer items of which it is composed.

Construct Validity

Pearson correlations between the identified scales and the four criterion variables (1) parental depression, (2) parenting stress, (3) conflictual family climate and (4) parental role restriction are presented in Table 4.2. For both men and women negative associations were found between marital satisfaction and these four criterion variables. Moreover, parenting stress, parental depression, conflictual family climate and parental role restriction are associated with more negative communication. From Table 4.2 it also becomes clear that parental depression and a conflictual family climate are negatively related to open communication for both spouses. Parental role restriction shows a significant negative correlation with open communica-

tion for women but not for men. Parenting stress appears to be unrelated to the open communication.

4.4. STUDY 2

To examine whether the results of Study 1 can be replicated, a new independent sample of couples is used. The factorial structure is tested using CFA. Besides this, internal consistencies and construct validity were established. With respect to the latter, correlations between the DMSCQ and the scales of parental depression, parenting stress, conflictual family climate, life satisfaction and well-being were examined.

4.4.1. Procedure and Participants

The research sample consists of a Dutch representative sample of 1.267 families (father and/or mother with one target child with ages between 0 and 18 years old) participating in the research project "Parenting in the Netherlands" (Rispens, Hermans, & Meeus, 1996; van Ammers, et al. 1998). Families were recruited using a national family file controlled for representativeness with respect to SES, degree of urbanization and family composition (one- and two-parent families). Because 7 % of the sample consists of one-parent families, the final sample for our study consists of 1.178 two-parental families. Data were gathered by means of structured interviews and questionnaires, completed by both the child and the parents**.** Mean age of mothers was 38.1 years (SD= 6.2) and of fathers 40.4 years (SD= 6.0).

Table 4.2
Pearson Correlations Between the DMSCQ-Scales and Criterion Variables, Study 1, 2 and 3

Measures	Marital satisfaction		Negative communication		Open communication	
	Men	Women	Men	Women	Men	Women
Study 1						
Parental depression	-.46[a]	-.46[a]	.50[a]	.49[a]	-.14[a]	-.21[a]
Parenting stress	-.22[a]	-.17[a]	.29[a]	.22[a]	-.05	.02
Conflictual family climate	-.30[a]	-.30[a]	.37[a]	.31[a]	-.19[a]	-.13[b]
Parental Role Restriction	-.24[a]	-.27[a]	.29[a]	.28[a]	-.01	-.10[b]
Study 2						
Parental depression	-.32[a]	-.33[a]	.34[a]	.32[a]	-.17[a]	-.17[a]
Parenting stress	-.17[a]	-.20[a]	.16[a]	.19[a]	-.04	-.13[a]
Conflictual family climate	-.38[a]	-.40[a]	.44[a]	.44[a]	-.21[a]	-.23[a]
Parental Role Restriction	-.21[a]	-.19[a]	.21[a]	.20[a]	-.08[c]	-.06[c]
Life satisfaction	.42[a]	.54[a]	-.27[a]	-.30[a]	.24[a]	.34[a]
Well-being	.27[a]	.33[a]	-.24[a]	-.21[a]	.17[a]	.19[a]
Study 3						
Parental depression	-.39[a]	-.39[a]	.40[a]	.42[a]	-.28[a]	-.17[b]
Parenting stress	-.18[a]	-.10	.16[a]	.24[a]	-.06	-.06
Conflictual family climate	-.32[a]	-.41[a]	.35[a]	.40[a]	-.20[a]	-.20[a]
Parental Role Restriction	-.23[a]	-.33[a]	.26[a]	.30[a]	-.11[c]	-.11[c]

Note : [a] $p < .001$ [b] $p < .01$ [c] $p < .05$

4.4.2. Measures

The same criterion measures as in the first study were used. Additionally, a life satisfaction scale and well-being indicator was used.

Well-being was measured by means of one question. "We would like to know how you feel? You can indicate this below by circling the answer (between 1 and 10) that is most applicable. Answering "1" means that you are doing badly and a "10" means that you are doing well".

The *life satisfaction* scales measures the global evaluation of how satisfied one is with life in general. The scale consists of five items with response categories ranging from "1" not at all applicable to "7" very applicable (e.g., "If I could have my life over again, I would change anything"). Alpha is .86 (fathers) and .88 (mothers).

4.4.3. Results

Factorial structure

Using LISREL 8.5 (Jöreskog & Sörbom, 1996) two CFA's were conducted separately for men and women. To evaluate the models, we consider two goodness of fit indices (1) the root mean square error of approximation (RMSEA) and (2) the comparative fit index (CFI). Models with a RMSEA value lower than .05 and CFI values over .95 indicate an acceptable fit between model and data (Billiet & Mc Clendon, 1998; Byrne, 1998; Hu & Bentler, 1999; Mueller, 1996). RMSEA values between .05 and .08, and CFI values of at least .90 are indicative of fair fit (Kline, 1998).

It was hypothesized that three prescribed factors underlie the sixteen manifest items with each item loading significantly on the target factor and having zero-loadings on the non-target factors. The factors were free to correlate and except for two items of the marital satisfaction (ms1 and ms5) scale and two items of the destructive communication scale (dc5 and dc6), the error terms of the items were kept uncorrelated. The completely standardized factor loadings are presented in Table 4.1. Besides one item with a factor loading of .39 all other loadings were above .40. As can be seen in Table 4.3, both the male and the female model show acceptable fit: For men $\chi^2(99) = 333.57$ with RMSEA = .045 and CFI = .982 and for women $\chi^2(99) = 323.65$ with RMSEA = .044 and CFI = .986.

Table 4.3
Goodness of Fit Indices of the CFA on the Marital Satisfaction, Open and Negative Communication Items, for Men and Women, Study 2 and 3

	χ^2	Df	RMSEA	CFI	Comparison χ^2	△ df	P
Study 2 (N = 1187)							
Factorial structure							
Men							
Non invariant model	333.57	99	.045	.982			
Women							
Non invariant model	323.65	99	.044	.986			
Study 3 (N = 386)							
Both waves participants							
Men							
Non invariant model	835.54	447	.047	.973			
Λ invariant	853.33	460	.045	.973	17.79	13	n.s.
Women							
Non invariant model	897.58	447	.047	.974			
Λ invariant	914.82	460	.041	.974	17.24	13	n.s.

Internal consistency

The DMSCQ-scales were evaluated for internal consistency. For both men and women, Cronbach's alpha showed a value of at least .81 for the marital satisfaction and destructive communication scales (see Table 4.1). The internal consistencies (Cronbach's alpha) of the open communication scale were .69 for men and .70 for women.

Construct validity

Table 4.2 shows the correlations between the DMSCQ-scales and parental depression, parenting stress, conflictual family climate, parental role restriction, life satisfaction and well-being. In accordance with the results from Study 1, the concepts 'parental depression' and 'conflictual family climate' are negatively related to marital satisfaction and open communication but show meaningful positive associations with negative communication. The reverse pattern of associations is found for 'life satisfaction' and 'well-being'. Regarding parenting, it becomes clear that for both men and women 'parenting stress' and 'parental role restriction' are linked with more negative communication and less marital satisfaction. Weak negative correlations exist between open communication and parental role restriction. Parenting stress is negatively related to women's open communication but unrelated to men's open communication.

4.5. STUDY 3

Using a longitudinal measurement model, the objective of this study is to examine the stability of the factor structure across time. This analysis is conducted for the respondents that participated both in 1990 (see Study 1) and in 1995. Internal consistencies of the DMSCQ scales and their correlations with the scales of parental depression, parenting stress, conflictual family climate and parental role restriction are demonstrated.

4.5.1. Procedure and Participants

Of the 647 couples participating in 1990 (Study 1), 386 first married couples also participate in 1995. Their average marital duration is 22 years. Men are on average 47.5 years old and women 45.0 years old.

4.5.2. Measures

The measures used in Study 1 were also used in this study. These concern the scales on parental depression, parenting stress, conflictual family climate and parental role restriction.

4.5.3. Results

Factorial structure

Before testing the stability of the factor model, the factor solution of the previous studies was examined within the sample of subjects who participated at wave 1 and wave 2. The results are given in Table 4.1. As can be seen all factor loadings range between .46 and .87. Goodness of fit indices indicate an acceptable fit for both the male and the female model. RMSEA values are around .05 and CFI's are around .95

Stability of the factor solution over time

In a next step, the stability of the factor solution was examined across time. According to Steenkamp and Baumgartner (1998), and Vandenberg and Lance (2000), two conditions may be fulfilled when assessing this measurement invariance: (1) the same items load on the same underlying factor (configural invariance) and (2) the factor loadings are similar for the two groups (metric invariance). If the purpose is to explore the basic structure of a concept and to demonstrate whether items are similarly conceptualized by two groups or at two different points in time, establishing the same factor structure for these two groups (configural invariance) is sufficient. Although not strictly necessary for this objective, the factor loadings may also be expected to be equal across time (metric invariance). If these criteria are not met, it may be supposed that after a while the (same) group of respondents attached a different meaning to the same set of items.

To test the stability of the factor solution over time, a longitudinal factor model was constructed with marital satisfaction, negative communication and open communication as latent variables at Time 1 and Time 2 and the respective items as their indicators. The same items load on the same underlying factors. Latent variables were allowed to correlate within Time 1 and Time 2 but also over time. Error terms between Time 1 and Time 2 were not correlated. The covariance matrix containing covariances between items at Time 1, Time 2 and between Time 1 and Time 2 was used as the input matrix. Fit indices show that the presumed factor model fits the longitudinal covariance matrix well: For men $\chi^2(447) = 835.54$ with RMSEA = .047 and CFI = .973 and for women $\chi^2(447) = 897.58$ with

RMSEA = .047 and CFI = .974 (see Table 4.3). Moreover, the lambda coefficients are invariant across time. Imposing equality constraints on the factor loadings of T1 and T2, chi-square difference tests demonstrate that with respect to the male and female model, no significant differences are found between T1 and T2. For men $\Delta\chi^2(13) = 17.79$, n.s. and for women $\Delta\chi^2(13) = 17.24$, n.s.

In addition, correlations between concepts at Time 1 and Time 2 were computed. Stability of concepts over time requires a positive correlation between identical factors at Time 1 and Time 2. Table 4.4 presents the correlations between the factors in 1990 (wave 1) and 1995 (wave 2). These correlations have to be higher than correlations of that concept in Time 1 with other concepts in Time 2. The results support this assumption. For men, marital satisfaction (r=.59), negative communication (r=.60) and open communication (r=.38) were (much) more strongly correlated than with any other construct at Time 2. This also applies for marital satisfaction (r=.58), negative communication (r=.61) and open communication (r=.47) among women.

Table 4.4
Pearson Correlations Between the Three Latent Factors of the DMSCQ Across Time
[Women Beneath Diagonal, Men Above Diagonal]

	M. S. '90	O. C. '90	N. C. '90	M. S. '95	O.C. '95	N.C. '95
M.S. '90	--	.30	-.52	.59	.34	-.39
O.C. '90	.44	--	-.22	.25	.38	-.14
N.C. '90	-.52	-.21	--	-.36	-.29	.60
M.S. '95	.58	.29	-.40	--	.40	-.57
O.C. '95	.36	.47	-.26	.42	--	-.28
N.C. '95	-.46	-.20	.61	-.64	-.31	--

Note: M.S. = marital satisfaction, O.C. = open communication, N.C. = negative communication

4.6. DISCUSSION

The Dutch Marital Satisfaction and Communication Questionnaire is designed to assess partners' marital satisfaction and their open and negative

communication behavior. The latter two are specifically assessed because of their relevance in understanding marital success. This article addresses three properties of the DMSCQ: (a) the factorial validity of the instrument, (b) the reliability of the identified scales and (c) their construct validity.

With respect to the factorial validity, the first study led us to conclude that the three hypothesized constructs were established but that some items did not successfully discriminate between the different factors. Removing these items resulted in a 16-item version of the DMSCQ representing a solid three-factor structure. This factorial structure is replicated in a new and independent sample (Study 2) and across time (Study 3). Our findings show that marital satisfaction, open communication and negative communication operate in the same way for different samples and for both men and women. Measurement invariance was demonstrated in Study 3 for the longitudinal sample.

Cronbach's alphas demonstrate that the internal consistency of the marital satisfaction and negative communication scales is good. The open communication scale, however, has a somewhat lower reliability, probably due to the smaller number of items. Initially, this scale consisted of six items but was reduced to three items because of the retention criteria.

The three studies reported above, provide support for the construct validity of the DMSCQ. Most results confirmed our hypotheses with respect to the relation between the DMSCQ-subscales and related variables of interest. Evidence was obtained for the hypothesized negative relationship between parental depression and marital outcomes in terms of the three identified scales. The same finding holds with respect to the association with conflictual family climate. The reverse results were obtained regarding life satisfaction and well-being. In line with the spillover effect of satisfaction with different areas of life, individuals who are more satisfied with life in general also tend to be more satisfied with their relationship. Apparently, they also communicate more openly and are less likely to perceive the communication in negative terms. Spouses who feel restricted by their parental role or experience parenting stress tend to be less satisfied with their partnership and to perceive the marital communication as more negative. However, these parents do not necessarily communicate more or less openly. We contend that this lack of association may be due to the unit of analysis. Both the marital satisfaction and negative communication scale

refer to the marital relationship whereas the open communication scale is formulated from the perspective of the respondent him/herself. It can be speculated that the parental and marital system are more closely tied up to each other than are the parental system and indicators on the individual level.

In sum, an encouraging effort was made in designing a short, reliable and valid instrument to assess partners' satisfaction and communication in the Dutch-speaking region. Nonetheless, we see three important avenues for future research. First, to increase the reliability of the open communication scale of the DMSCQ, it could be extended with new items. Recent research of Caughlin (2003) on family communication standards may be a source of inspiration for this adaptation. His scale of *openness* also consists of items such as "openly discussing topics like sex" or "freely deal with issues that may be upsetting". Second, the three identified scales of the DMSCQ need to be further validated with observational studies and other assessment methods. Because respondents reported their subjective evaluation of the marital communication processes, standardized procedures to observe marital interaction may indicate the degree to which our measures reflect "real-life" communication. This opinion may be validated for example, by asking partners to fill in the questionnaires for their own communication behavior as well as for one's partner communication. In this way, own and partner's perceptions can be compared. Third, although our instrument was primarily designed for research purposes, it may also be a useful diagnostic tool. To this end, however, more research is needed on the discriminant validity of the DMSCQ.

Despite these limitations and recommendations, our findings suggest that the DMSCQ provides a psychometrically sound tool for assessing relationship satisfaction and communication. Based on theoretical insights in couple's behavior to develop and sustain a satisfying relationship, three related but empirically distinct concepts are measured. The DMSCQ offers an important alternative to researchers who need a brief but valid and reliable measure of marital satisfaction and communication. Moreover, because of the satisfying criterion validity, the instrument it is not only suitable for research purposes but also for the clinical practice.