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Communication Behaviors as Predictors of Long-Term Dyadic Adjustment: Personality as a Moderator

Ariane Lazaridès, Claude Bélanger, Stéphane Sabourin

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***Abstract*—**In this longitudinal study, we examined the moderating role of personality in the relationship between communication behaviors and long-term dyadic adjustment. A sample of 82 couples completed the NEO Five-Factor Inventory and the Dyadic Adjustment Scale. These couples were also videotaped during a 15-minute problem-solving discussion. Approximately 2.5 years later, these couples completed again the Dyadic Adjustment Scale. Results show that personality of both men and women moderates the relationship between communication behaviors of the partner and long-term dyadic adjustment of the individual. Women's openness and men's extraversion moderate the relationship between some communication behaviors and long-term dyadic adjustment

***Keywords*—**Communication Behavior, Couples, Dyadic Adjustment, Personality.

I. Introduction

THE way couples deal with their inevitable conflicts seems to be a powerful predictor of couples' adjustment and stability [1]-[5]. Observation of couples' behavior during conflict-solving interactions has been a very informative way to study factors leading to marital stability and satisfaction. Marital distress has been linked with more negativity and less positivity during conflicts, negative reciprocity and difficulty getting out of the negative reciprocity cycle [1] as well as negative non-verbal communication [6]. Unhappy couples display, among others, more criticism, dominance and withdrawal, and less support and problem-solving behaviors [7] and the demand-withdraw pattern of interaction has been linked repeatedly to marital satisfaction, albeit in a inconsistent way [8], [9]. The level of positive and negative behaviors has been related to how fast marital satisfaction drops over time but not to satisfaction at the beginning of marriage [10]. However, it seems that positive affect neutralizes aversive behaviors so that they do not affect the decline of marital quality [11]. Despite the relationships found between observed couple interactions and marital satisfaction, relatively few studies have relied on observational data and many of those who did relied on small samples due to the difficulty and costs of recruiting and observing large numbers of couples. There is still much to be explored in the relationship between behaviors and marital satisfaction.

However, the actual exchanged behaviors are only part of the equation leading to an individual's perception of the costs and benefits of the relationship. Among others, intrapersonal factors also play a central role in determining what behaviors one will manifest and how one will react to one's partner's behaviors. In particular, personality is a stable characteristic, commonly defined as a propensity to react in consistent patterns to different situations [12], and as such, is likely to act as a communication filter between partners, by determining different affective, cognitive and behavioral reactions most likely for a person.

One of the most used models of personality, the Five-Factor [13], describes five dimensions of personality: neuroticism, agreeableness, openness, extraversion and conscientiousness. Neuroticism, the propensity to negative affect, is the factor that has been most consistently associated with marital distress [14], [15]. For instance, Karney and Bradbury found, in a meta-analysis of 115 longitudinal studies, that neuroticism was more strongly linked to marital outcomes than other personality factors [3]. Agreeableness, whose facets include altruism, compliance, modesty, straightforwardness, tender-mindedness, and trust [13], has also been found to be associated positively with several relationship variables, such as relationship satisfaction, marital stability [3] and sexual satisfaction [14], and negatively with negative interactions [14]. Conscientiousness, the tendency to be disciplined and responsible, shows a positive relationship with marital adjustment [16], sexual satisfaction, decreased level of negative interactions and marital quality [14]. The links of extraversion (which is characterized by warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions) and openness (which denotes imagination, curiosity, and liberalism of attitudes and values) with marital adjustment are mitigated. When these traits have been found to be related to relationship variables, the valence of the association was inconsistent between studies [14], [15]. It has also been found that these traits were negatively associated with couples' stability [3]. At least for openness, union length has been shown to be a moderating factor, such that the positive relationship of openness with marital adjustment becomes negative over time, perhaps due to a

A. Lazarides was with the department of psychology, University of Quebec in Montreal, Quebec, Canada. She is currently practicing as a clinical psychologist (corresponding author: ariane.lazarides@gmail.com).

C. Bélanger is with the department of psychology, University of Quebec in Montreal; department of psychiatry, McGill University, and Douglas Institute Research Center, Quebec, Canada (belanger.claude@uqam.ca)

S. Sabourin is with the department of psychology, University Laval, Quebec, Canada (Stephane.Sabourin@psy.ulaval.ca)

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higher propensity to question the relationship and be open to alternatives to it [17], which could partially explain the inconsistencies between studies examining the relationship between openness and marital adjustment. Marital quality has been shown to be affected by the interaction of partner's personality traits (e.g. [18]) and by combinations of personality traits and behavior (e.g. [19]). These last results suggest that personality might not exert its effect on marital relationship in a direct, linear way, but should be studied in a more complex model in order to comprehend its influence.

Despite much research, many ambiguities remain in our understanding of the way in which marital quality is determined by interpersonal (e.g. communication behaviors) and intrapersonal (e.g. personality) factors. Not surprisingly given the complexity of intimate relationships and the numerous variables that could play a role in their outcome, some results are inconsistent across studies, and some relations do not hold when they are examined over time. A better understanding of the interplay of inter- and intrapersonal variables is necessary to explain the processes that lead to marital outcomes. For instance, even though the relevance of communication behaviors as predictors of marital outcomes has been demonstrated, we do not know much about what factors influence this relationship. Communication behaviors do not occur in a vacuum: they are exchanged between two partners, each with their own characteristics and background, and a given behavior is likely to be perceived in different ways by different individuals, given their personal history and characteristics, their relationship history, and the larger context in which the intimate relationship takes place. Among factors that are likely to modify the way communication behaviors are related to marital outcomes, personality is especially interesting, because it is a stable characteristic that is likely to act as communication filter by affecting perception of and reaction to relational events. One way that the relationship between communication behaviors, personality, and marital satisfaction has been studied is within a mediational model, in which personality affects marital satisfaction through communication behaviors [20], [14]. In this study, we rather propose a moderational model, in which one's personality impacts the relationship between one's partner's communication behaviors and one's marital satisfaction. That is, one's personality serves as a filter through which one interprets his or her partner's behavior; thus, the impact of the partner's behavior on one's marital satisfaction is moderated by one's personality. This model has, as far as we know, never been studied and could give another angle from which to view the interplay between inter- and intrapersonal factors in the determination of marital satisfaction.Another step on the way to understand processes leading to marital satisfaction or dissatisfaction is to study them longitudinally. Even though the mere fact that a study is longitudinal does not provide it with the power to expose causal relationships, the clearly defined temporal relationship between predictors and dependent variable helps to a better understanding of the phenomena studied than cross-sectional studies, in which it is impossible to ascertain which variable has an effect on which (if such a relationship is present). For instance, if studying cross-sectionally behaviors and dyadic adjustment, it would be impossible to tell if negative behaviors led to a low adjustment or if they were its consequence. Also, in the case of research about marital adjustment, previous studies have found that cross-sectional predictors of marital adjustment are not necessarily good predictors of long-term marital adjustment [21]. In the perspective of long-term intimate relationship improvement, longitudinal studies are thus mandatory [6] and the current study respects this criterion.

This study has the objective to shed more light on factors that influence the relationship between communication behaviors and long-term dyadic adjustment. To do so, it relies on observational data and uses a longitudinal research device, which will help fulfill the need for more observational studies for predicting couple outcomes. Our study also goes one step beyond this relationship and factors in the function of personality. The question we have explored is: what are the effects of one's personality on the relationship between one's partner's communication behaviors and one's long-term dyadic adjustment? As a first step, we have investigated separately the relationships between communication behaviors and personality, on the one hand, and long-term dyadic adjustment, measured two and a half years later, on the other hand. We then have examined whether one's personality moderates the relationship between one's partner's communication behaviors and one's long-term dyadic adjustment.

II. Method

Participants

The original time-1 sample included 315 French-speaking Canadian heterosexual couples from Quebec. The sample used for the current study comprises 82 couples that were still together at time 2 (approximately 2.5 years later), could be contacted, and accepted to participate in the second phase of the study. Logistic regression analyses on all of the variables of the present study found no differences between couples who participated in time 2 and other couples.

Of these 82 couples, 39 (47.6%) were married and 43 (52.4%) were cohabiting. At time 1, they had been living together from six months to 34 years, with an average of 7.59 (*SD* = 7.51) years. The couples had an average of 1.09 children from their current relationship (*SD* = 1.30) and individuals had on average .35 children from previous relationships (*SD* = .89). The mean age of women was 34.01 years (*SD* = 8.62), with 15.71 years (*SD* = 2.91) of formal education. The mean age of men was 36.79 years (*SD* = 9.61) with 16.41 years (*SD* = 3.81) of formal education. Mean annual income was $23,489 (*SD* = 15,083) for women and $38,139 (*SD* = 21,587) for men (Canadian dollars).

Procedure

Couples were recruited in the community through newspapers, television and radio. As an incentive, couples completing stage 1 were given a written report about their results to questionnaire, and a 1.5-hour consultation with a psychologist. At both stages of the study, they completed self-report questionnaires (see description below). They were

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asked to answer the questionnaires without consulting each other. At stage 1, they were also videotaped during a 15-minute conflict resolution discussion whose topic was a medium-intensity conflict chosen based on partners' answers to the Potential Problem Checklist [22]. The couple was told to aim for a solution to their problem.

Measures

Dyadic adjustment. The Dyadic Adjustment Scale (DAS) [23], [24] is a self-report measure of marital adjustment. Its 32 items yield a global score that is used as a measure of dyadic adjustment as perceived by the individual. A score of 100 or above is usually interpreted as indicating good adjustment. In our sample, 76.3% of women and 81.7% of men were adjusted at time 1, and 77.8% of women and 79% of men were adjusted at time 2. The French version used for this study has satisfying psychometric properties [24], [25]. In the current study, Cronbach's alphas were between .92 and .94 for men and women at both stages.

Conflict sources. The Potential Problem Checklist [22], [26] enumerates 16 topics that can be a source of conflicts for couples, and asks the respondent to rate, on a 7-point Likert scale, to what degree they and their partner agree about each topic. During the videotaped interaction, couples discussed a source of medium-intensity conflicts chosen by them from their questionnaires.

Personality. The NEO Five-Factor Inventory [13] is a shortened version of the NEO Personality Inventory–Revised [13]. It comprises 60 statements that are rated on a 5-point Likert scale, ranging from "*strongly disagree*" to "*strongly agree*", according to the extent to which the respondent believes the statement describes him or herself. The inventory yields scores on five subscales: neuroticism (defined as anxiety, depression, hostility, impulsiveness, self-consciousness, and vulnerability); extraversion (defined as warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions); openness (defined as openness to fantasy, aesthetics, feelings, actions, ideas, and values); agreeableness (defined as altruism, compliance, modesty, straightforwardness, tender-mindedness, and trust); and conscientiousness (defined as achievement striving, competence, deliberation, dutifulness, order, and self-discipline). The scores are transformed in *T* scores with a mean of 50 and a standard deviation of 10. For this study, alpha coefficients were acceptable, ranging from .62 to .75 for the five subscales.

Communication behaviors. The Global Couple Interaction Coding System (GCICS) [7] is a macroanalytic marital coding system that measures five dimensions of couples' problem-solving interactions: (a) withdrawal/avoidance: withdrawing from discussion, avoidant nonverbal behavior; (b) dominance: control and direction of the discussion; (c) criticism/attack/conflict: criticism, blame, threat, nonverbal hostility display, negative mind-reading, and negative escalation; (d) support and validation : listening, validating and reinforcing one's partner's statements, verbally or nonverbally; (e) problem solving : acknowledging the existence of a problem and taking steps towards its resolution. Each dimension includes verbal as well as nonverbal behaviors.

For this study, the couples' 15-minute discussions were coded by two graduate students in psychology who received training in coding problem-solving interactions with this instrument. The discussions were divided into three 5-minute segments. For each of the five dimensions, each partner was given a score on a 4-point scale ranging from "*not displayed*" to "*strongly displayed*" according to the frequency, intensity and duration of the behaviors displayed during each of the three segments. The scores given by a coder for the three segments were then averaged to yield the global score for that dimension. The final score for each dimension was the average of the global scores given by the two coders. Intercoder agreement was calculated with intraclass correlation coefficients using the global scores of 25 discussions. The intercoder agreements were .90 for withdrawal, .84 for dominance, .86 for criticism, .75 for support, and .78 for problem-solving behaviors, with an average of .83, which denotes nearly perfect agreement [27].

III. RESULTS

Means and standard deviations for personality and communication behaviors at time 1, and dyadic adjustment at times 1 and 2 are presented in Table 1. We verified whether men and women differed on these variables, using gender as a repeated measure because the scores of men and women were expected to be correlated. For self-reported variables, means differed significantly only for extraversion, with men scoring higher, $t(81) = 2.06$, $p = .04$, effect size $d = .32$. For communication behaviors, genders differed on withdrawal, with men scoring higher $t(81) = 2.15$, $p = .03$, $d = .25$, and criticism, with women scoring higher, $t(81) = 3.06$, $p = .003$, $d = .32$.

TABLE I
MEANS AND STANDARD DEVIATIONS BY GENDER

	Women (n = 82)		Men (n = 82)	
	M	SD	M	SD
DAS (time 1)	110.34	16.61	112.91	15.88
DAS (time 2)	109.15	17.69	112.01	16.32
NEO-FFI subscales				
Neuroticism	50.14	8.50	47.69	8.63
Extraversion	49.20*	10.52	52.50*	10.40
Openness	50.54	9.62	51.24	11.00

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Agreeableness	49.91	10.59	50.14	10.47
Conscientiousness	50.05	9.90	51.50	10.20
Communication Behaviors				
Withdrawal	.41*	.42	.53*	.53
Dominance	.74	.52	.71	.56
Criticism	.59**	.50	.43**	.50
Support	.53	.36	.55	.36
Problem solving	.59	.36	.58	.38

Note: DAS = Dyadic Adjustment Scale score.
*: Means in a row differ at p < .05, **: means in a row differ at p < .01. All p values for two-tailed tests

Correlations between time-1 variables and time-2 dyadic adjustment

We then examined how time-1 communication behaviors and personality were related to dyadic adjustment 30 months later, controlling for dyadic adjustment at time 1. Results of these analyses are presented in Table 2. Women's agreeableness (r = .24, p = .03), conscientiousness (r = .26, p = .02), and withdrawal behaviors (r = .30, p = .008) were positively related to their partner's time-2 dyadic adjustment, but women's dominance (r = -.24, p = .03) was negatively related to men's time-2 dyadic adjustment. Men's dominance (r = .23, p = .04) was positively related to women's long-term dyadic adjustment. None of the variables of either gender were related in a significant way to their own long-term dyadic adjustment.

TABLE II
PARTIAL CORRELATIONS BETWEEN TIME-1 VARIABLES AND TIME-2 DYADIC ADJUSTMENT, CONTROLLING FOR TIME-1 DYADIC ADJUSTMENT

	Women's T2 DAS		Men's T2 DAS	
Time-1 variables	Women's	Men's	Women's	Men's
Neo-FFI variables				
Neuroticism	-.14	-.16	-.19	-.07
Extraversion	.01	.03	.17	.06
Openness	-.05	-.07	-.07	-.10
Agreeableness	.08	-.11	.24*	-.02
Conscientiousness	.14	.05	.26*	.09
Behavioral variables				
Withdrawal	.13	.15	.30**	.16
Dominance	-.09	.23*	-.24*	-.04
Criticism	.00	.03	-.13	-.05
Support	-.03	-.16	-.02	-.04
Problem solving	-.09	-.03	.019	.05

Note: DAS = Dyadic Adjustment Scale score.
* p < .05, ** p < .01. All p values for 2-tailed tests

Personality as a moderator of the relationship between communication behaviors and time-2 dyadic adjustment

We verified if and how a stable characteristic like one's personality moderated the relations between one's partner communication behaviors and one's long-term dyadic adjustment. For each personality factor of partner A, we performed hierarchical linear regressions of time-2 dyadic adjustment of partner A on time-1 dyadic adjustment of partner A as the first block, the z values of the personality factor score of partner A and of the communication behavior score of partner B as the second block, and the product of the z values of the personality factor of partner A and communication behavior of partner B as the third block, following the procedure suggested in [28]. Results are presented in Tables III to VI.

TABLE III
LINEAR REGRESSION ANALYSIS OF WOMEN'S LONG-TERM DYADIC ADJUSTMENT ON THE INTERACTION BETWEEN WOMEN'S OPENNESS AND MEN'S DOMINANCE

Predictor	B	*SE* B	*t*	*p*
Constant	24.45	10.02	2.44	.02
Women's time-1 DAS	.767	.09	8.54	.00
Women's openness	-1.40	1.46	-.96	.34
Men's dominance	2.67	1.47	1.82	.07
Women's openness × men's dominance	2.70	1.29	2.09	.04

NB: Model's F = 18.60, df = 4, p = .00. Interaction term's ΔR^2 = .023.

TABLE IV
LINEAR REGRESSION ANALYSIS OF WOMEN'S LONG-TERM DYADIC ADJUSTMENT ON THE INTERACTION BETWEEN WOMEN'S OPENNESS AND MEN'S SUPPORT

Predictor	B	*SE* B	*t*	*p*
Constant	27.25	10.05	2.71	.008
Women's time-1 DAS	.741	.09	8.24	.00
Women's openness	-.930	1.46	-.64	.53
Men's support	-2.37	1.49	-1.60	.11
Women's openness × men's support	-3.36	1.51	-2.23	.03

Note: Model's F = 17.79, df = 4, p = .00. Interaction term's ΔR^2 = .028.

TABLE V
LINEAR REGRESSION ANALYSIS OF MEN'S LONG-TERM DYADIC ADJUSTMENT ON THE INTERACTION BETWEEN MEN'S EXTRAVERSION AND WOMEN'S DOMINANCE

Predictor	B	*SE* B	*t*	*p*
Constant	54.35	12.21	4.85	.00
Men's time-1 DAS	.51	.10	5.18	.00
Men's extraversion	.58	1.54	.38	.71
Women's dominance	-3.57	1.48	-2.41	.02
Men's extraversion × women's dominance	-3.40	1.40	-2.43	.02

Note: Model's $F = 12.54$, $df = 4$, $p = .00$. Interaction term's $\Delta R^2 = .04$.

TABLE VI
LINEAR REGRESSION ANALYSIS OF MEN'S LONG-TERM DYADIC ADJUSTMENT ON THE INTERACTION BETWEEN MEN'S EXTRAVERSION AND WOMEN'S CRITICISM

Predictor	B	*SE* B	*t*	*p*
Constant	48.54	11.50	4.22	.00
Men's time-1 DAS	.56	.10	5.55	.00
Men's extraversion	-.15	1.60	-.09	.93
Women's criticism	-2.54	1.57	-1.62	.11
Men's extraversion × women's criticism	-4.82	1.80	-2.68	.009

Note: Model's $F = 11.62$, $df = 4$, $p = .00$. Interaction term's $\Delta R^2 = .05$

To help better understand the results, significant interactions were plotted at three levels of the moderator ($z = -1$, $z = 0$, and $z = 1$), labeled « low », « moderate », and « high », respectively. For each of the three levels of the moderator, we calculated the value of the regression equation at two levels of the predictor ($z = -1$ and $z = 1$), giving us three lines representing the interaction. We also calculated the region of significance of the regression, i.e., for what values of the moderator was the relationship between the predictor and the dependant variable significant. We tested for significance up to +/- 3 *SD*. Those graphical representations of the results are presented in Figures 1 through 4.

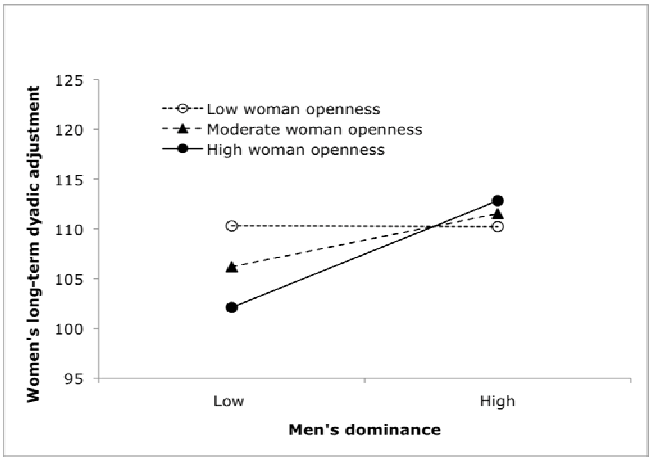


Fig. 1. Relationship between men's dominance and women's long-term dyadic adjustment according to women's openness level

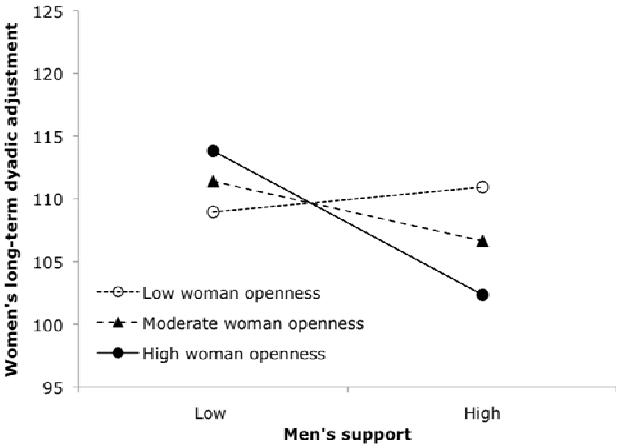


Fig. 2. Relationship between men's support and women's long-term dyadic adjustment according to women's openness level.

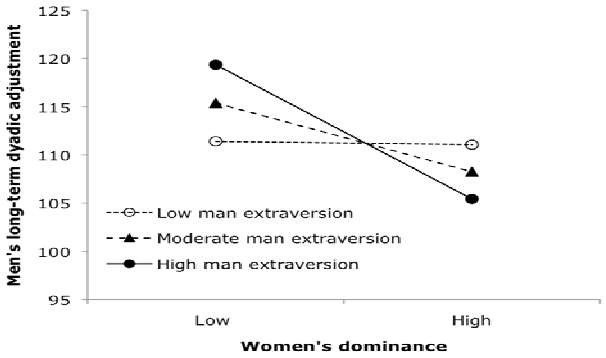


Fig. 3. Relationship between women's dominance and men's long-term dyadic adjustment according to men's extraversion.

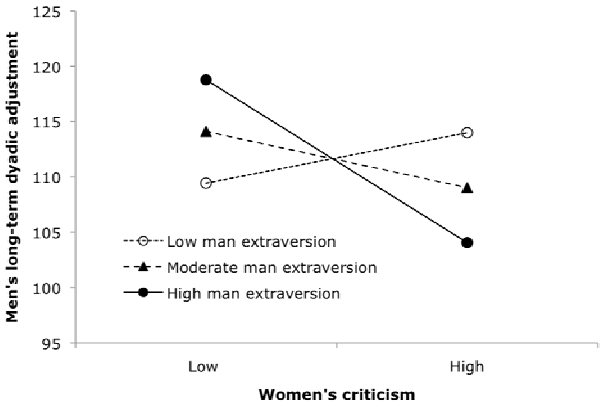


Fig. 4. Relationship between women's criticism and men's long-term dyadic adjustment according to men's extraversion.

Fig. 1 (and associated results in Table 3) shows that women's openness seems to be positively associated with the correlation between men's dominance and women's time-2

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dyadic adjustment, i.e. the higher the level of women's openness, the more positively their partner's dominance correlates with women's long-term dyadic adjustment. When women's openness was higher than 0.1 *SD* above the mean, the relationship between men's dominance and women's long-term dyadic adjustment was significant, but it was not when women's openness was lower than 0.1 *SD* above the mean. In Figure 2 and Table 4, we see that increased women's openness also interacts with men's support in predicting women's time-2 dyadic adjustment. When women's openness was higher than 0.2 *SD* above the mean, the relationship between men's support and women's long-term dyadic adjustment was significant, but not for lower values of women's openness. It seems that for low levels of women's openness, high levels of men's support does not have much impact, but that the more open women are, the more negative the correlation between high levels of men's support and women's long-term dyadic adjustment becomes.

Men's extraversion interacts with both women's dominance (Figure 3 and Table 5) and criticism (Figure 4 and Table 6) in the prediction of men's time-2 dyadic adjustment. When men's extraversion was higher than 0.2 *SD* below the mean, the relationship between women's dominance and men's long-term dyadic adjustment was significant, but not for lower values of men's extraversion. Women's dominance does not seem to affect men's time-2 dyadic adjustment either way when men's extraversion is low, but as men's extraversion increases, the correlation between women's dominance and men's long-term adjustment becomes increasingly negative.

When men's extraversion was lower than 1.9 *SD* below the mean or higher than 0.2 *SD* above the mean, the relationship between women's criticism and men's long-term dyadic adjustment was significant, but not for intermediate values. The same pattern applies to the interaction between women's criticism and men's extraversion, except for the fact that the impact of women's high criticism is slightly positive with low-extraversion men.

IV. DISCUSSION

In this research, communications behaviors generally did not directly relate to long-term dyadic adjustment of either gender. This could be a clue that this relationship is moderated by some other variable, which we postulated to be personality. Our results show that personality does moderate the relationship between some of these behaviors and time-2 dyadic adjustment.

Women's openness moderates the link between men's dominance and women's time-2 dyadic adjustment, such that men's dominance is more positively correlated with women's time-2 dyadic adjustment for women with a high openness score than for those with a low or moderate openness score. More simply put, it seems that high-openness women are happier with dominant men than other women are. Dominance, in our coding system, is a category that includes talking significantly more than the partner, refusing to give in to interruptions, giving advice and commands, etc., which are behaviors compatible with the male gender stereotype. It is possible that during problem solving, this kind of dominant behavior in men is perceived as appropriate or at least nonaversive by their partners, given the expectations created by gender stereotypes. For more open women, it could be even more positively perceived as they may feel that their partner is actively participating in their discussing the relationship, as opposed to a man who would get involved less intensely in the interaction.

Surprisingly, the more women's openness increases, the more men's support is negatively associated to women's time-2 dyadic adjustment. A negative association between support and dyadic adjustment is not generally found in the existing literature and is counterintuitive. According to [29], openness is the most difficult of the Big Five traits to understand, and the study of the links between openness and marital satisfaction has often given contradictory results. The result we have found confirms that the function of openness in marital relationship still has to be understood. One way we could interpret this result is that, contrary to men's dominance, men's support (summarizing what the partner said, expressing warmth, humor, empathy) could be perceived by their partners as a lack of engagement in discussing the topic at hand. Support not combined with another, more active, form of involvement in the discussion could create frustration in a partner who wishes to discuss an issue in an interactive way. Together with the result that for open women, there is a positive relationship between men's dominance and long-term marital adjustment, this finding outlines an image of open women as faring better with a partner that does not give in easily to their ideas but who rather discusses them energetically.

As for the factors of men's personality that moderate the relationship between communication behaviors and long-term dyadic adjustment, male extraversion is the only factor who had a significant moderator role. It moderates both the relationship between women's dominance and men's time-2 dyadic adjustment, and that between women's criticism and men's time-2 dyadic adjustment.

Whereas the relationship between women's dominance and men's long-term dyadic adjustment is neutral for low-extraversion men, it is negative for the moderate- and high-extraversion men. It is possible that low-extraverted men are happy with a dominant partner who leads the conversation and takes the floor most of the time, while moderately and highly extraverted men, who tend to be more interpersonally dominant [30], may feel that they have to fight to take their place. This could cause frictions, each of the members fighting to take more place in the interaction. It is conceivable that the more extraverted the male partner is, the more problematic this fight can become for him. This result can be interpreted as an example of how a given behavior, conceptualized as negative (women's dominance), is not functionally negative if the partner's characteristics can accommodate for it. In this case, women's dominance does not seem to cause a problem if their partner is low in extraversion and, seemingly, has an easier time accepting their behavior than his moderate- or high-extraversion counterparts. Complementarity of behaviors and personality is maybe more important than behaviors per se in determining long-term dyadic adjustment.

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Men's extraversion also moderates the link between women's criticism and men's time-2 dyadic adjustment, such that this relationship goes from positive for low-extraverted men to negative for high-extraverted men. This result is surprising in light of research by Swann et al. [19], who used a measure of verbal inhibition, related mainly to the assertiveness facet of the Extraversion scale of the NEO-PI-R [13], and concluded that couples with a verbally inhibited man and a critical, verbally disinhibited woman were especially low on intimacy. Intimacy is a different concept than dyadic adjustment, but it is unexpected that a combination of personality and behavior that predicts low intimacy would predict relatively high long-term dyadic adjustment. It is possible that our result is explained by the influence of the five other facets of the Extraversion scale (warmth, gregariousness, activity level, excitement seeking, and positive emotions), but more research is warranted to shed light on this issue.

It is interesting that the personality traits whose influence was hardest to predict, namely openness and extraversion, are the ones for which an interaction has been found. Perhaps these traits exert their influence in a fashion more sensitive to interpersonal context than other traits that are more clearly positive or negative. This would explain both why previous research on these traits (which was mostly considering them out of their context) has given inconsistent results, as stated earlier, and why these traits are the ones we have found to be interacting with partner's behaviors. This also leads us to think that neuroticism, agreeableness and conscientiousness do not appear to have a moderator role because they exert their influence in a more straightforward way.

Complementarity of behaviors and needs, i.e. the way behaviors from one partner fulfill or clash with needs from the other partner, seems to be important in determining which behaviors are likely to cause problems in a couple and which are not [31], [18], [32]. In this study, we have found results showing that a given behavior, deemed "negative" in observational systems, can actually be neutral or even positive if it does not clash with the needs of the partner. Conversely, so-called "positive" behaviors can have detrimental effects when they are perceived as stepping on relationship boundaries or are otherwise unwanted by the partner. This leads us to think that models accounting for the effect of communication behavior on dyadic adjustment need to be complex enough to take into account various factors such as personality likely to affect this relationship, as would also seem to be implied in [33], as simpler models, while easier to test, do not allow for sufficient discrimination in analyses.

Clinically, this study underscores the importance of an evaluation that takes into account the cultural and personal characteristics that the individuals bring with them in the couple relationship. As this study suggests, clinicians should be aware that personality influences how one perceives the behavior of one's partner, and a proper evaluation must take this influence into account in order to pinpoint with more accuracy those aspects of the conjugal relationship that create distress.

Limitations

In this study, couples were not selected according to their age or the length of their relationship, two factors that could play a role in the effect of communication behaviors on dyadic adjustment. We have used only one measure for personality, and this measure was a self-report questionnaire. While measures from different sources would perhaps give us a more complete picture, it is nonetheless encouraging to have found several moderating relationships with the observational measure of communication behaviors, with which the instruments used do not share measure variance.

Couples discussed for only 15 minutes, whereas the coding system used was designed for 30-minute discussions. It is possible that a longer discussion would have allowed for more diverse behaviors. In particular, the "problem-solving" category comprises eight different behavioral subcategories, spanning the entire problem-solving procedure as described, for example, in [34]. However, we can safely assume that most participants in our study did not know formal problem-solving strategies. They did not receive any specific instruction regarding how to go about problem solving, and even if they did, in the limited time couples had, it was very unlikely that they would succeed at reaching the later stages of the procedure. The codes for these stages were virtually never used and thus limit the range of results that could be obtained.

Due to the exploratory nature of our research, we performed a fair amount of analyses, since there was no theoretically sound argument for cutting off specific analyses. However, we chose to use the standard alpha level throughout the study, thus decreasing the risk of type-II errors. This standard alpha level, namely $p = .05$, is a compromise between the risk of type-I errors (i.e. the risk of finding false positives, or false significant results) and the risk of type-II errors (i.e. the risk of finding false negatives, or false null results). In the context of a foray into uncharted territory, such as this study, it makes sense to tilt the balance towards a lower risk of making type-II errors. Imposing an overly demanding alpha level, at this stage of research, could have the effect of eliminating potentially interesting research avenues. We have thus chosen to favor exploration of new avenues at the expense of a more conservative alpha level. Now that we have made a first reconnaissance study, it will be possible to be more selective in future hypotheses, for example by testing hypotheses pertaining to women's openness and men's extraversion, since these seem to be the personality traits that have the greater potential of interacting with partners' behaviors.

V. Conclusion

Few studies about the role of interaction behaviors on couple outcomes have used more complex models that take into account the interplay of different variables in the prediction of these outcomes. Perhaps the most important conclusion to be drawn from this study, beyond the specific results reported, is that simpler models do not capture adequately the complexity of the interaction between different factors that combine to predict long-term dyadic adjustment. The current study is an effort to go a step beyond the usual one-predictor models. Assuredly, there are numerous other

factors that play a role in the determination of couple outcomes and would need to be studied. For instance, attachment (which shares with personality its stable and intrapersonal characteristics) could very well be another moderating variable in the relationship between communication behaviors and long-term dyadic adjustment. It is easily conceivable that criticism, for example, would have a different impact according to whether the partner's attachment style is secure, avoidant or ambivalent.

The current study was largely exploratory and presents results that are promising but would need replication to be confirmed..

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