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Monitor and Acceptance among Couples in Romantic Relationships: Actor-Partner Interdependence Models Based on the Monitor and Acceptance Theory

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ABSTRACT

Communication could be an essential part of couples in their daily life. Based on Monitor and Acceptance Theory (MAT), the present study explored the mediating role of communication in the relationship between mindfulness and relationship quality among college-student couples. The research examined the dynamic relationship of monitoring and acceptance to relationship satisfaction in the Actor-Partner Interdependence Model (APIM), and the mediating effect of positive or negative communications in these relationships. A total of 96 pairs of couples in the universities in Nanjing, China participated in the research. Momentary measurements were used to measure the momentary levels of their monitor, acceptance, positive/negative communication, and relationship satisfaction. A Hierarchical Linear Model (HLM) was used to deal with the APIM. Results showed that the women's monitor facet of state mindfulness negatively predicted men's relationship satisfaction through women's negative communication, and the women's acceptance facet of state mindfulness positively predicted women's relationship satisfaction through women's positive and negative communication at the within-person level. The study highlights the importance of cooperation in monitoring and acceptance for couples to own and hold high levels of relationship satisfaction.

KEYWORDS

Romantic relationship; communication; mindfulness; monitor; acceptance

Introduction

A romantic relationship refers to the long-term, significant, intimate, and promised relationship between two people [1]. It is a kind of very important interpersonal relationship, which is a premise of a harmonious family relationship in the future. For youngsters in their early adulthood, the establishment of a good romantic relationship is a key task

and is crucial for an individual's future development [1–3]. In previous relevant research, relationship satisfaction is one of the most widely used variables in assessing the quality of a romantic relationship [4].

So, what factor promotes better romantic relationships? According to a theoretical model proposed by Karremans and his colleagues [5], mindfulness could help individuals to be aware of their inner experiences, which in turn could



affect their partner's responses that are specifically related with the romantic relationships, and finally affect their and their partner's relationship satisfaction. Research has evidence showing that mindfulness can be beneficial in enhancing romantic relationships [6–8]. At the practical level, many intervention studies have shown that mindfulness-based research can significantly improve relationship satisfaction among couples [4,6].

However, some researchers argued that mindfulness is not always beneficial for romantic relationships [9]. Karremans and his colleagues [5] thought that sometimes mindfulness may increase the awareness of overall negative feelings toward the partner, and individuals with self-compassion may be more likely to stand up for themselves [10]. Moreover, individuals high in mindfulness may possess fewer positive illusions about their romantic partners, which may lead to less relationship satisfaction [5].

One possible explanation for the above different views is that, as Karremans et al. [5] and Carson et al. [9] raised, negative association between mindfulness and relationship satisfaction only exists among couples with unhealthy romantic relationships (such as those with psychological or physical abuse). Another possible reason is that most of the previous relevant studies only assess the role of trait mindfulness [7], while there may be different results when considering the role of state mindfulness in everyday life.

Moreover, the present research proposed that mindfulness, as a concept comprising various components, may play distinct roles in romantic relationships. A recent theoretical framework known as the Monitor and Acceptance Theory (MAT) has been introduced to elucidate how different facets of mindfulness can impact an individual's emotional and cognitive outcomes [11]. According to MAT, mindfulness consists of two components: attention monitoring and acceptance. Attention monitor refers to the ongoing awareness of the present and perceptual experiences, while acceptance is defined as a mental attitude of nonjudgment, openness and receptivity, and equanimity toward experiences [11]. Based on MAT [11], attention monitoring can enhance emotional experiences. However, it may also exacerbate negative responses. Consequently, individuals with high levels of attention monitoring may amplify unpleasant details [12] in daily life, leading to negative evaluations and potentially impacting satisfaction in romantic relationships. Furthermore, acceptance can modify how one relates to experiences and regulate reactivity to affective experiences. Consequently, individuals with high acceptance may experience fewer interruptions from daily hassles [13] in romantic life, contributing to higher levels of relationship satisfaction. Despite this, previous research has rarely explored MAT in the context of romantic relationships. Thus, the present research aims to examine the relationships between attention monitoring and acceptance concerning relationship satisfaction among couples in romantic relationships. Additionally, it seeks to investigate the mediating roles of attention monitoring and acceptance in these relationships.

Whether following the classic couple communication model by Reis et al. [14] or a more recent framework, all

propose that romantic relationships are constructed through daily communication [15]. Numerous studies have demonstrated that communication plays a vital role in relationship satisfaction [16–18]. Positive and negative communication exert different effects on enhancing relationship satisfaction. Positive communication involves addressing problems or sharing feelings, while negative communication is characterized by defensiveness, contempt, alienation, and criticism [19]. Positive communication is considered a predictor of greater relationship satisfaction, supported by empirical research [20]. Conversely, negative communication is hypothesized to be linked to dissatisfaction among couples [20,21], a notion substantiated by empirical findings [19]. Moreover, prior research provides evidence that mindfulness-based interventions can enhance interpersonal communication [22]. Mindfulness is also shown to be associated with positive or constructive communication in friendships [23] and even in romantic relationships [24]. Contrary to the aforementioned studies, several other studies, such as those by Johnson et al. [21] and Kanter et al. [25], have yielded results suggesting that the role of communication in romantic relationships may not be as crucial as commonly thought. These conflicting findings will be examined in the present research.

However, it is still unclear how different facets of mindfulness are associated with communication. According to MAT, individuals with higher monitor ability may notice more experiences in daily life, particularly negative experiences rather than positive ones [11]. It can be implied that when daily hassles happen, individuals under high levels of monitoring may experience more negative responses from their partners [26], which might lead them to show more negative communication instead of positive communication with their partners. On the other hand, individuals with acceptance might be less affected by daily couple conflicts [27]. When conflicts arise between couples, those with high levels of acceptance would recognize that the conflicts are temporary [5]. To maintain the long-term quality of romantic relationships, they might exhibit more positive communication rather than negative communication. Combining the theoretical assumption and research evidence above, another purpose of the current study is to explore the mediating role of couple communication in the relationship between mindfulness facets (attention monitor and acceptance) and relationship satisfaction among individuals in a romantic relationship.

It should be additionally and repeatedly noted that the definitions of mindfulness are multiple. Researchers now have a consensus that mindfulness can be considered both a trait and a state [28]. State mindfulness is a kind of maintaining mindfulness in the current moment, which always varies with the environment [29,30]. Since communication between couples occurs in real-time, and their romantic relationship satisfaction fluctuates, the association between mindfulness and relationship satisfaction should be examined from instantaneous perspectives. To explore the role of state mindfulness in the hypothesized models, ambulatory assessment [31] was adopted to measure state mindfulness, communication, and relationship satisfaction in daily life, examining their

dynamic relationships at the within-person level. Moreover, as couples in a romantic relationship, their feelings and thoughts can have an interaction with their partners. To better understand the above model in a dyadic system, the Actor-Partner Interdependence Model (APIM) was adopted in our study [32]. It analyzes the interdependence of dyadic data and examines the actor-and partner-effect of variables between two-person relationships [33]. The actor effect refers to how the dependent variables' levels may be influenced by the independent variables of an individual. Meanwhile, the partner effect signifies that the dependent variables' levels could be influenced by the independent variables of the individual's partner [33]. APIM is recommended in the area of the study of families and close relationships [34,35]. Therefore, APIM was used to explore the relationships between mindfulness, communication, and relationship satisfaction between young couples in romantic relationships. It is important to clarify that when we mention "within-person level", we are referring to the responses of each individual at each time point on a momentary level, rather than the within-person effect in the APIM, which typically refers to how an individual's

predictor variable (e.g., their mindfulness) is related to their outcome (e.g., their relationship satisfaction).

To sum up, the current study aimed to test MAT in romantic relationships by exploring the relationship between attention monitor, acceptance, couple communication, and relationship satisfaction using APIM. Ambulatory assessment was adopted in the research to assess state variables. We hypothesized that both in the study, (a) attention monitor (abbreviated as *monitor* in the following content) is negatively associated with relationship satisfaction, (b) acceptance is positively associated with relationship satisfaction, and (c) couple communication mediates the relationship between attention monitor and acceptance to relationship satisfaction. As we adopted APIM, the above hypotheses were tested both at actor effect and partner effect levels. The hypothetical model is shown in Fig. 1. Take the first figure (the APIM of monitor) as an example. It shows the actor effect of women's monitor (women's monitor → women's positive communication, women's monitor → women's positive communication, and women's monitor → women's relationship satisfaction), the actor effect of men's monitor (men's monitor → men's

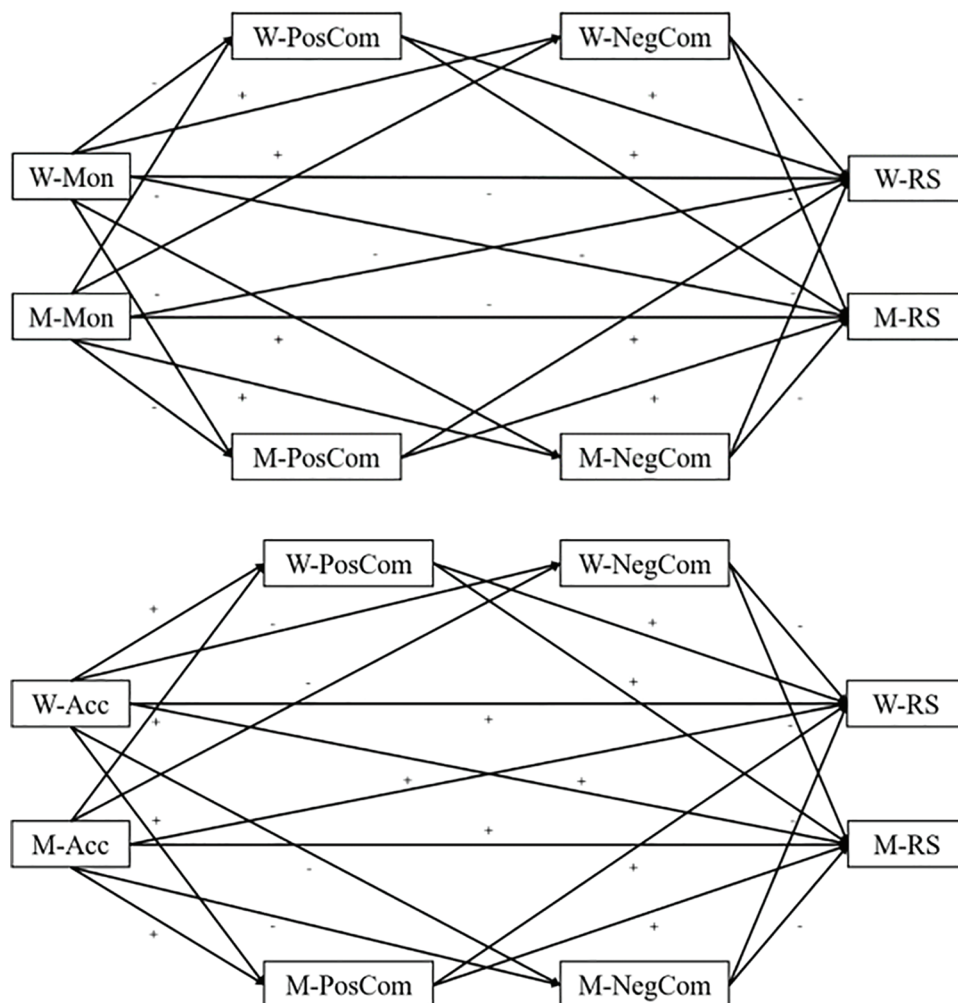


FIGURE 1. Hypothetical APIMs of the research.

Note: W-Mon = women's monitor; M-Mon = men's monitor; W-Acc = women's acceptance; M-Acc = men's acceptance; W-PosCom = women's positive communication; W-NegCom = women's negative communication; M-PosCom = men's positive communication; M-NegCom = men's negative communication; W-RS = women's relationship satisfaction; M-RS = men's relationship satisfaction.

positive communication, men's monitor→men's positive communication, and men's monitor→men's relationship satisfaction), the partner effect of women's monitor (women's monitor→men's positive communication, women's monitor→men's positive communication, and women's monitor→men's relationship satisfaction), and the partner effect of men's monitor (men's monitor→women's positive communication, men's monitor→women's positive communication, and men's monitor→women's relationship satisfaction). Communications also show actor and partner effects on relationship satisfaction, namely: the actor effect of women's positive communication (women's positive communication→women's relationship satisfaction), women's negative communication (women's negative communication→women's relationship satisfaction), men's positive communication (men's positive communication→men's relationship satisfaction), and men's negative communication (men's negative communication→men's relationship satisfaction); the partner effect of women's positive communication (women's positive communication→men's relationship satisfaction), women's negative communication (women's negative communication→men's relationship satisfaction), men's positive communication (men's positive communication→women's relationship satisfaction), and men's negative communication (men's negative communication→women's relationship satisfaction).

Method

Participants

We launched leaflets and stuck posters on the bulletin boards of the cafeterias and dormitories in several universities in Nanjing. The criteria for enrollment are as follows: (1) the subjects should be undergraduate or graduate students (over 18 years old); (2) at least one side of the couples should be in Nanjing (to make sure at least one member of the couple could take part in the orientation sessions which explained the procedure of the research); (3) the dating couples should be in intimate relationships for more than three months before the study (to make sure they have been already familiar with each other); (4) the subjects reported heterosexual; (5) the subjects reported no history of mental disease. Finally, a total of 101 eligible dating couples participated in the study. The sample size in this study was referenced from previous studies. From the perspective of the ambulatory assessment, some previous EMA research contained about 200 participants in the research (e.g., 130 participants [36]; 196 participants [37]). From the perspective of dyadic relationship, some research that used APIM also contained about 200 participants in the research (e.g., 200 participants [38]; 228 participants [39]). Kenny et al. [40] also recommended to take at least "between 80–100 couples" (*p.* 446) to estimate the APIM through SEM. Thus, the sample size in the present research could be appropriate. We distributed questionnaires to the 202 subjects. After removing invalid questionnaires, we retained a total of 3317 valid data observations from 96 pairs of couples in the data analysis section, which accounts for

82.27% of the number of observations that should have been obtained. Therefore, the final sample size for this study was 96 couples (192 participants). The average age of the participants was 20.8 years old (*SD* = 2.16), ranging from 18 to 29.

Procedure

The study was approved by the Ethics committee at the Nanjing Normal University (IRB number: 2018/012). All participants signed the informed consent in this study, and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The manuscript does not contain clinical studies or patient data. The data could be requested from the corresponding author. In the present study, before the EMA procedure, participants were asked to join in an explanatory meeting. If one of the partners failed to show up personally, he or she was asked to be present by video or telephone connection. This procedure ensures that each participant is aware of what to do in the research. The researchers introduced the procedure of the study to the subjects. All the subjects signed the informed consent forms. Afterward, participants took part in the 14-day ambulatory assessment procedure.

Participants received links to the questionnaires on their smartphones three times a day (10:00 a.m., 4:00 p.m., and 10:00 p.m.) for 14 consecutive days. They were instructed to complete the questionnaires within 30 min each time they were launched. If a questionnaire was completed after the 30-min limit, the data at that time point would be disregarded. Failure to complete the questionnaires at least 30 times resulted in the participants not receiving their subjects' fees (100 RMB per person), and the entire dataset for that participant would not be included in the analyses.

Measures

In the present research, due to the need for repeated measurements of participants over 14 consecutive days, participant fatigue might lead to inaccurate data. To minimize the risk of participant fatigue, we employed simplified measurement tools to assess mindfulness, communication, and relationship satisfaction in their daily lives. These measurement tools include some used by other scholars in EMA studies, as well as certain items with high loadings from a full questionnaire that we developed ourselves [41]. Intraclass correlation coefficient (ICC) was used to show the amount of variability in the variables attributed to each participant [42]. When ICC exceeds 0.06, the similarity of the data should not be ignored, and a Hierarchical Linear Model (HLM) should be employed to deal with the data [42].

Mindfulness

We used four items to measure mindfulness [43]. The three items measure monitor levels ("Just now, I noticed when I became lost in my thoughts, daydreams or fantasies"; "Just now, I found myself observing unpleasant feelings without getting drawn into them"; "Just now, I noticed how my mind tended to cling to certain thoughts and feelings that I was experiencing"), and the latter one measures acceptance

levels (“Just now, I was open to whatever thoughts and feelings I was experiencing”). The items were rated on a 7-point scale from 1 (not at all) to 7 (very much). They were computed as a composite score at every time point. The intra correlation coefficient (ICC) of men’s monitor, men’s acceptance, women’s monitor, and women’s acceptance were 0.421, 0.381, 0.521, and 0.442, respectively. The omega of the measurement for all the participants was 0.747.

Relationship satisfaction

We used one item to measure relationship satisfaction: “I am satisfied with the intimate relationship between me and him/her at this moment.” The item was rated on a 7-point scale from 1 (not at all) to 7 (very much). The participants valued their momentary levels of relationship satisfaction by answering the question. The moments participants reported higher values of the relationship satisfaction meant that they were more satisfied with their relationship at the specific moment. The ICCs of the men and the women’s relationship satisfaction were 0.109 and 0.237, respectively.

Communication

The positive communication scale was self-made according to the three parts of mindful communication [44]. Each dimension had one question on it, namely focus (In the past two hours, I listened to his/her words carefully), respond (In the past two hours, I expressed my feedback actively), and perceive information (In the past two hours, I could understand his/her meaning through the conversation). The measurement of negative communication was revised from the Marital Interaction Coding System-Global (MICS-G) [45]. The two dimensions are avoidance (In the past two hours, I refused to discuss some questions with him/her) and conflict (In the past two hours, I complained about him/her; In the past two hours, I used angry/cutting tones on him/her). A 7-point scale from 1 (not at all) to 7 (very much) was used to rate the items on the scale. We computed a composite score of each scale at every time point. The ICCs of men’s positive communication, men’s negative communication, women’s positive communication, and women’s negative communication were 0.434, 0.462, 0.416, and 0.357, respectively. The omegas for positive and negative communications were 0.946 and 0.868, respectively.

Data analysis

SPSS 22.0 was used to handle statistical analysis of descriptive statistics, and Mplus 7.0 was used to test the mediating models in APIMs. The HLM was used to examine the APIMs. All the indirect effects were tested in a single model. For the APIM of monitor or acceptance, a total of 16 indirect paths were tested.

Results

A total of 96 pairs of couples participated in the research (192 participants). The age of the subjects ranged from 18 to 29 years old, and the average was 20.8 years old (SD = 2.16). Each subject replied at least 30 times and at most 42 times (3 times a day for 14 days). The results of the descriptive analysis are shown in Table 1.

We examined the mediating model between mindfulness, communication, and relationship satisfaction that happened at the same time. We first assessed gender effects by comparing a saturated model (allowing free estimation of all effect parameters) with a constrained model in which actor and partner effects were constrained to be equal for both men and women, following [40]. We compared both models using χ^2 difference tests, and we accepted the more parsimonious model when $p \geq 0.20$ [39]. The more parsimonious model could be accepted when $p \geq 0.05$, $p \geq 0.20$ is considered to be a stricter standard. It turns out the p -value of the two χ^2 difference tests were all less than 0.20 ($p < 0.001$ for both monitor and accept APIMs), which means the actor and partner effects were not equal for both men and women. Therefore, the actor and partner effects were not constrained to be equal in the next analysis.

Secondly, we tested the full models of acceptance and monitor, respectively. The results of the APIMs of monitor and acceptance are shown in Table 2. Fig. 2 also shows the results. Meanwhile, we tested the significance of all the mediating paths in Table 3. The results are as follows: The results are as follows: as to the APIM of monitor, the actor effect manifested in men (men’s monitor→men’s negative communication→men’s relationship satisfaction: est. = -0.03 , 95% CI = $[-0.055, -0.011]$) and women’s (women’s monitor→women’s negative communication→women’s relationship satisfaction: est. = -0.04 , 95% CI = $[-0.054, -0.017]$) negative communication mediating the predictions

TABLE 1

Results of the descriptive analysis and mean differences between gender

Variables	Women	Men	Z	p	Correlation				
	M ± SD	M ± SD			1	2	3	4	5
1. Monitor	3.26 ± 0.13	3.09 ± 0.14	-4.48	<0.001	0.01	0.06***	-0.01	0.16***	-0.11***
2. Acceptance	5.80 ± 0.12	4.95 ± 0.13	-5.65	<0.001	0.15***	-0.04	0.20***	-0.11***	0.14***
3. Positive communication	3.68 ± 0.11	3.50 ± 0.10	-5.22	<0.001	-0.02	0.12***	0.40***	-0.09***	0.29***
4. Negative communication	4.71 ± 0.36	4.84 ± 0.31	-4.36	<0.001	0.13***	-0.08***	-0.09***	0.35***	-0.31***
5. Relationship satisfaction	1.75 ± 0.14	1.80 ± 0.13	-2.26	0.024	-0.10***	0.11***	0.32***	-0.38***	0.26***

Note: The correlation was the multilevel correlation. The lower left part of the diagonal line (shown in italics and bold) shows the correlation of each variable among women, and the upper right part of the diagonal line shows the correlation of each variable among men. The diagonal line indicates the correlation between the couple on a certain variable. *** $p < 0.001$.

TABLE 2

The path coefficients of APIMs of monitor and acceptance

APIM of monitor					APIM of acceptance				
Outcome	Predictor	Est.	S.E.	p	Outcome	Predictor	Est.	S.E.	p
Women_RS	Women_Mon	-0.041	0.021	0.049	Women_RS	Women_Acc	0.043	0.020	0.028
	Men_Mon	0.008	0.018	0.651		Men_Acc	0.045	0.027	0.096
	Women_PosCom	0.167	0.036	<0.001		Women_PosCom	0.165	0.035	<0.001
	Men_PosCom	0.032	0.024	0.193		Men_PosCom	0.025	0.023	0.284
	Women_NegCom	-0.297	0.042	<0.001		Women_NegCom	-0.298	0.041	<0.001
	Men_NegCom	-0.092	0.029	0.001		Men_NegCom	-0.084	0.029	0.003
Men_RS	Women_Mon	-0.016	0.016	0.310	Men_RS	Women_Acc	0.026	0.017	0.130
	Men_Mon	-0.049	0.018	0.008		Men_Acc	0.043	0.025	0.086
	Men_PosCom	0.162	0.025	<0.001		Women_PosCom	0.055	0.022	0.012
	Women_PosCom	0.052	0.023	0.022		Men_PosCom	0.153	0.025	<0.001
	Men_NegCom	-0.266	0.036	<0.001		Women_NegCom	-0.067	0.031	0.034
	Women_NegCom	-0.067	0.031	0.029		Men_NegCom	-0.269	0.035	<0.001
Women_PosCom	Women_Mon	-0.033	0.046	0.472	Women_PosCom	Women_Acc	0.161	0.023	<0.001
	Men_Mon	-0.105	0.042	0.012		Men_Acc	0.045	0.045	0.311
Men_PosCom	Men_Mon	-0.016	0.037	0.668	Men_PosCom	Women_Acc	0.055	0.023	0.018
	Women_Mon	-0.061	0.023	0.008		Men_Acc	0.220	0.032	<0.001
Women_NegCom	Women_Mon	0.119	0.026	<0.001	Women_NegCom	Women_Acc	-0.071	0.027	0.009
	Men_Mon	0.059	0.022	0.008		Men_Acc	-0.050	0.028	0.077
Men_NegCom	Men_Mon	0.124	0.040	0.002	Men_NegCom	Women_Acc	-0.033	0.019	0.083
	Women_Mon	0.030	0.021	0.149		Men_Acc	-0.081	0.035	0.022

Note: Mon = monitor; Acc = acceptance; PosCom = positive communication; NegCom = negative communication; RS = relationship satisfaction.

of their monitor levels on relationship levels at the same moment, separately. The partner effect manifested in men's positive communication mediating the relationship between women's monitor and men's relationship satisfaction (women's monitor→men's positive communication→men's relationship satisfaction: est. = -0.01, 95% CI = [-0.017, -0.002]), as well as women's positive (men's monitor→women's positive communication→women's relationship satisfaction: est. = -0.02, 95% CI = [-0.031, -0.004])/negative (men's monitor→women's negative communication→women's relationship satisfaction: est. = -0.02, 95% CI = [-0.031, -0.004]) communication and men's negative communication (men's monitor→men's negative communication→women's relationship satisfaction: est. = -0.01, 95% CI = [-0.019, -0.004]) mediating the relationship between men's monitor and women's relationship satisfaction. The RMSEA, CFI, and TLI of the model are 0.025, 0.990, and 0.904, respectively. The RMSEA, CFI, and TLI of the model are 0.025, 0.990, and 0.904, respectively. As to the APIM of acceptance, the relationship between women's acceptance and women's relationship satisfaction is mediated by women's positive (women's acceptance→women's positive communication→women's relationship satisfaction: est. = 0.03, 95% CI = [0.012, 0.011])/negative (women's acceptance→women's negative communication→women's relationship satisfaction: est. = 0.02, 95% CI = [0.004, 0.039]) communication; the

relationship between women's acceptance and men's relationship satisfaction is mediated by women (women's acceptance→women's positive communication→men's relationship satisfaction: est. = 0.01, 95% CI = [0.001, 0.017])/men's (women's acceptance→men's positive communication→men's relationship satisfaction: est. = 0.01, 95% CI = [0.001, 0.016]) positive communication; the relationship between men's acceptance and men's relationship satisfaction is mediated by men positive (men's acceptance→men's positive communication→men's relationship satisfaction: est. = 0.03, 95% CI = [0.019, 0.048])/negative (men's acceptance→men's negative communication→men's relationship satisfaction: est. = 0.02, 95% CI = [0.001, 0.043]) communication. The RMSEA, CFI, and TLI of the model are 0.023, 0.991, and 0.920, respectively.

Discussion

In the present research, we used ambulatory assessment to collect the dynamic data, and examined the mediation APIMs between the monitor and acceptance facets of mindfulness and relationship satisfaction. It is discovered that the negative communication levels of both men and women mediated the connection between their monitor levels and their relationship satisfaction. This finding suggests that individuals with higher monitor levels in a given moment tended to have more negative

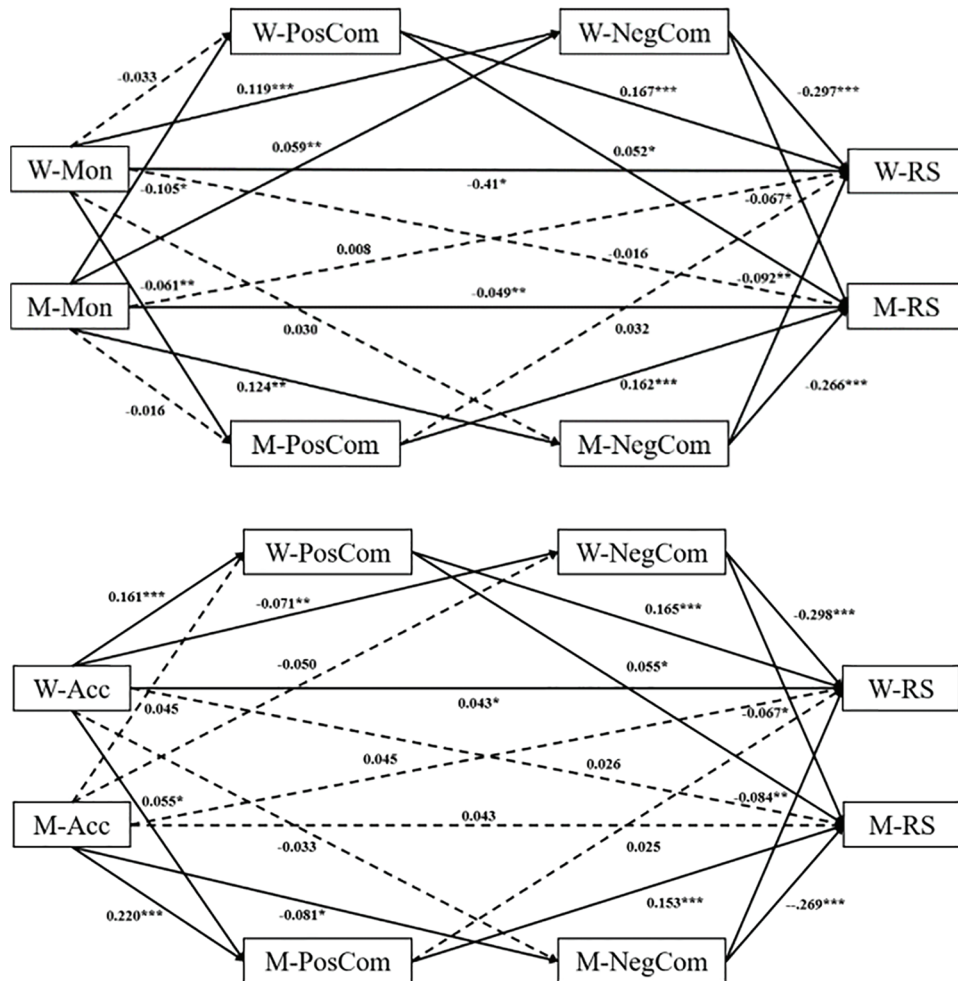


FIGURE 2. Mediating APIMs at the within-person level.

Note: W-Mon, women's monitor; W-Acc, women's acceptance; W-PosCom, women's positive communication; W-NegCom, women's negative communication; M-PosCom, men's positive communication; M-NegCom, men's negative communication; W-RS, women's relationship satisfaction; M-RS, men's relationship satisfaction. * $p < 0.1$, ** $p < 0.01$, *** $p < 0.001$.

communication with their partners, leading to increased relationship dissatisfaction. Additionally, we observed that positive communication played a mediating role in partner effects. Specifically, men's positive communication mediated the relationship between women's monitor and men's relationship satisfaction, while women's positive communication mediated the relationship between men's monitor and women's relationship satisfaction. These results showed that positive communications were like bonds between partners, mediating the association between individuals' monitor levels and their partners' relationship satisfaction.

As to the relationship between acceptance and relationship satisfaction, men's and women's positive and negative communication separately mediated the relationship between men's acceptance and men's relationship satisfaction, and the relationship between women's acceptance and men's relationship satisfaction. Despite the actor effect of the mediation model, women's and men's positive communication also mediated the relationship between women's acceptance and men's relationship satisfaction, showing the partner effect of women's acceptance. These results indicated that monitoring or acceptance, which are

the two components of mindfulness according to the MAT, play different roles in romantic relationships [11]. The monitor might enable individuals to perceive more negative communication instead of more positive communication with their partner, and thus make them or their partners less satisfied with the relationship [5]. On the other hand, the acceptance facet of mindfulness could predict higher levels of positive communication and lower levels of negative communication, and in turn, predict more satisfaction in the relationship [46]. The results highlight the importance of the acceptance facet of mindfulness in romantic relationships, especially from the momentary perspective.

The results offered guidance for the mindfulness interventions, especially for couples. Higher monitor levels momentarily raise the cognition of negative feelings or thoughts in a relationship, while higher acceptance levels can positively predict instant relationship satisfaction [11]. Accordingly, mindfulness intervention especially for couples should develop individuals' ability of being acceptable to the momentary experiences, and encourage the couples to accept, positively communicate, and finally solve problems. In this way, the couples could be happy with their relationship for every moment of the relationship.

TABLE 3

The significances of the mediating paths in the AMPIs of monitor or acceptance

APIM of monitor				APIM of acceptance			
Path	Est.	p	95% CI	Path	Est.	p	95% CI
W_Mon→W_PosCom→W_RS	-0.006	0.491	[-0.021, 0.010]	W_Acc→W_PosCoM_Acc→W_RS	0.027	0.000	[0.012, 0.041]
W_Mon→W_NegCom→W_RS	-0.035	<0.001	[-0.054, -0.017]	W_Acc→W_NegCom→W_RS	0.021	0.019	[0.004, 0.039]
W_Mon→W_PosCom→M_RS	-0.002	0.511	[-0.007, 0.003]	W_Acc→W_PosCoM_Acc→M_RS	0.009	0.031	[0.001, 0.017]
W_Mon→W_NegCom→M_RS	-0.008	0.064	[-0.017, 0.000]	W_Acc→W_NegCom→M_RS	0.005	0.105	[-0.001, 0.01]
W_Mon→M_PosCom→W_RS	-0.002	0.247	[-0.005, 0.001]	W_Acc→M_PosCoM_Acc→W_RS	0.001	0.271	[-0.001, 0.004]
W_Mon→M_NegCom→W_RS	-0.003	0.268	[-0.008, 0.002]	W_Acc→M_NegCom→W_RS	0.003	0.136	[-0.001, 0.006]
W_Mon→M_PosCom→M_RS	-0.010	0.009	[-0.017, -0.002]	W_Acc→M_PosCom→M_RS	0.008	0.027	[0.001, 0.016]
W_Mon→M_NegCom→M_RS	-0.008	0.171	[-0.019, 0.003]	W_Acc→M_NegCom→M_RS	0.009	0.107	[-0.002, 0.019]
M_Mon→W_PosCom→W_RS	-0.018	0.012	[-0.031, -0.004]	M_Acc→W_PosCom→W_RS	0.007	0.337	[-0.008, 0.023]
M_Mon→W_NegCom→W_RS	-0.017	0.012	[-0.031, -0.004]	M_Acc→W_NegCom→W_RS	0.015	0.125	[-0.004, 0.034]
M_Mon→W_PosCom→M_RS	-0.005	0.072	[-0.011, 0.000]	M_Acc→W_PosCom→M_RS	0.002	0.356	[-0.003, 0.008]
M_Mon→W_NegCom→M_RS	-0.004	0.143	[-0.009, 0.001]	M_Acc→W_NegCom→M_RS	0.003	0.110	[-0.001, 0.007]
M_Mon→M_PosCom→W_RS	-0.001	0.684	[-0.003, 0.002]	M_Acc→M_PosCom→W_RS	0.005	0.307	[-0.005, 0.016]
M_Mon→M_NegCom→W_RS	-0.011	0.004	[-0.019, -0.004]	M_Acc→M_NegCom→W_RS	0.007	0.114	[-0.002, 0.015]
M_Mon→M_PosCom→M_RS	-0.003	0.669	[-0.014, 0.009]	M_Acc→M_PosCom→M_RS	0.034	<0.001	[0.019, 0.048]
M_Mon→M_NegCom→M_RS	-0.033	0.003	[-0.055, -0.011]	M_Acc→M_NegCom→M_RS	0.022	0.045	[0.001, 0.043]

Note: W_Mon, women's monitor; W_Acc, women's acceptance; W_PosCom, women's positive communication; W_NegCom, women's negative communication; M_PosCom, men's positive communication; M_NegCom, men's negative communication; W_RS, women's relationship satisfaction; M_RS, men's relationship satisfaction.

The study also has some non-negligible limitations. Firstly, the participants in this study are undergraduate and graduate students from universities in China. Therefore, it remains doubtful whether the results of this study can be generalized to other types of intimate relationships, such as married couples or couples with psychological disorders. Secondly, although the use of ambulatory assessment assured the ecological validity of the study [47], the 42 times fulfillment of the questionnaire might evoke the weariness of the subjects and lead to the inaccuracy of the data. To minimize the aforementioned issues, we simplified the measurement tools used in the research. Although we calculated and obtained satisfactory omega coefficients for these questionnaires, the validity of these momentary surveys, as well as their consistency with the complete questionnaire in measuring certain variable levels, still requires future research validation. Moreover, self-report questionnaires may reduce the authenticity of data. Third, we did not perform mindfulness interventions in the study to investigate the short-term and long-term effects of mindfulness training on accelerating the relationship satisfaction of both men and women. Future studies could explore the effect and potential mechanisms of mindfulness intervention on romantic relationships. Fourth, to avoid overcomplicating the models, we did not examine the interaction mutual predictions of communications between partners. This may hinder our understanding of how communication patterns between partners predict each

other. On the other hand, while such results were not found in the present studies, some research suggested that the role of communication in relationship quality might not be as significant as traditionally believed [21,25]. Combining these research findings, future studies need to further consider and confirm how communication functions in romantic relationships. Fifth, the relationships between monitor or acceptance and communication and relationship satisfaction on the successive day were not examined. Nor has the theoretical models been tested from an intertemporal perspective. Future research could use the longitudinal APIM [48] to explore the relationships between variables at different moments. Sixth, this study did not explore how monitor and acceptance jointly predict relationship satisfaction, an aspect that warrants further investigation in future research. Finally, future research should take into account the potential influence of covariates on the outcomes. These include factors such as the duration of the romantic relationship, the geographical distance between couples, and immediate life events experienced by both genders.

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Availability of Data and Materials: The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics Approval: The study was approved by the Ethics committee at the Nanjing Normal University (IRB number: 2018/012). All participants signed the informed consent in this study.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

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