Supplemental Material

Is Touch in Romantic Relationships Universally Beneficial for Psychological Well-Being? The Role of Attachment Avoidance

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Supplemental Material A: Stimulus Material

Study 1

Attachment style. Experiences in Close Relationships Scale (Brennan et al., 1998)

Please indicate how well each statement describes your typical feelings in a romantic relationship.

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.

Items were rated on a 7-point scale: 1 = *disagree strongly,* 2=*disagree,* 3=*somewhat disagree,* 4=*neither agree or disagree,* 5=*somewhat agree,* 6=*agree,* 7 = *agree strongly.*

Well-Being

Satisfaction with life. Satisfaction with Life Scale (Diener et al., 1985).

Please indicate your agreement with each item. Please be open and honest in your responding.

1. In most ways, my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Items were rated on a 7-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*somewhat disagree,* 4=*neither agree or disagree,* 5=*somewhat agree,* 6=*agree,* 7 = *strongly agree.*

Psychological Well-Being. Ryff's Scales of Psychological Well-Being (Ryff, 1989), shortened version (van Dierendonck, 2004).

Please indicate your degree of agreement to the following sentences.

1. When I look at the story of my life, I am pleased with how things have turned out.
2. In general, I feel confident and positive about myself.
3. Given the opportunity, there are many things about myself that I would change.
4. I like most aspects of my personality.
5. In many ways, I feel disappointed about my achievements in life.
6. For the most part, I am proud of who I am and the life I lead.
7. I often feel lonely because I have few close friends with whom to share my concerns.
8. I don't have many people who want to listen when I need to talk.
9. I feel like I get a lot out of my friendships.
10. It seems to me that most other people have more friends than I do.
11. I have not experienced many warm and trusting relationships with others.
12. I know that I can trust my friends, and they know they can trust me.
13. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.
14. I tend to worry about what other people think of me.
15. I tend to be influenced by people with strong opinions.
16. I have confidence in my opinions, even if they are contrary to the general consensus.
17. It's difficult for me to voice my own opinions on controversial matters.
18. I often change my mind about decisions if my friends or family disagree.
19. I am concerned about how other people evaluate the choices I have made in my life.
20. I judge myself by what I think is important, not by the values of what others think is important.
21. In general, I feel I am in charge of the situation in which I live.
22. The demands of everyday life often get me down.
23. I am quite good at managing the many responsibilities of my daily life.
24. If I were unhappy with my living situation, I would take effective steps to change it.
25. I have difficulty arranging my life in a way that is satisfying to me.

26. I have been able to build a home and a lifestyle for myself that is much to my liking.
27. I feel good when I think of what I've done in the past and what I hope to do in the future.
28. I have a sense of direction and purpose in life.
29. I don't have a good sense of what it is I'm trying to accomplish in life.
30. I enjoy making plans for the future and working to make them a reality.
31. I am an active person in carrying out the plans I set for myself.
32. My aims in life have been more a source of satisfaction than frustration to me.
33. In general, I feel that I continue to learn more about myself as time goes by.
34. I don't want to try new ways of doing things--my life is fine the way it is.
35. I think it is important to have new experiences that challenge how you think about yourself and the world.
36. When I think about it, I haven't really improved much as a person over the years.
37. I have the sense that I have developed a lot as a person over time.
38. For me, life has been a continuous process of learning, changing, and growth.
39. I gave up trying to make big improvements or changes in my life a long time ago.

Items were rated on a 7-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*somewhat disagree,* 4=*neither agree or disagree,* 5=*somewhat agree,* 6=*agree,* 7 = *strongly agree.*

Positive and Negative Affect. The PANAS Scales (Watson et al., 1988).

This scale consists of a number of words that describe different feelings and emotions. Indicate to what extent you felt that way in the last past weeks.

1. Enthusiastic
2. Interested
3. Determined
4. Excited
5. Inspired
6. Alert
7. Active
8. Strong
9. Proud
10. Attentive
11. Scared
12. Afraid
13. Upset
14. Distressed
15. Jittery
16. Nervous
17. Ashamed
18. Guilty
19. Irritable
20. Hostile

Items were rated on a 7-point scale: 1 = *not at all,* 4 = *neutral,* 7 = *extremely.*

Touch behaviors.

When you are together, how often do you as a couple do the following behaviors.

1. Caressing
2. Massaging
3. Back rubbing
4. Cuddling
5. Kissing
6. Holding hands
7. Interlocking arms
8. Hugging
9. Sitting on lap
10. Playing footsie
11. Leaning/laying on each other
12. Tickling
13. Stroking hair/petting head
14. Making out
15. Spooning
16. Sleep touching/cuddling with my partner

Items were rated on two 9-point scales: a) I do it to my partner; b) My partner does it to me.

1=*never,* 2=*less than 1 per month*, 3=*1 or 2 per month,* 4=*1 per week,* 5=*2 or 3 per week,* 6=*4 to 6 per week,* 7=*1 per day,* 8=*2 or 3 per day,* 9=*4 or more per day*.

Study 2 – Baseline Data

Attachment style. Experiences in Close Relationships Scale (Brennan et al., 1998).

The following statements concern how you feel in romantic relationships IN GENERAL (not just your current romantic relationship). Please click on the box that indicates the extent to which you agree or disagree with each statement.

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me, I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.

11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares people away.
13. I am nervous when partners get too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to romantic partners.
24. If I can't get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything.
26. I find that my partner(s) don't want to get as close as I would like.
27. I usually discuss problems and concerns with my partner.
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
29. I feel comfortable depending on romantic partners.
30. I get frustrated when my partner is not around as much as I would like.
31. I don't mind asking romantic partners for comfort, advice, or help.
32. I get frustrated if romantic partners are not available when I need them.
33. It helps to turn to my romantic partner in times of need.
34. When romantic partners disapprove of me, I feel really bad about myself.
35. I turn to my partner for many things, including comfort and reassurance.
36. I resent it when my partner spends time away from me.

Items were rated on a 5-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*neutral,* 4= *agree,* 5= *strongly agree.*

Well-Being

Satisfaction with life. Satisfaction with Life Scale (Diener et al., 1985).

Please indicate your agreement with each item. Please be open and honest in your responding.

1. In most ways, my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in life.
5. If I could live my life over, I would change almost nothing.

Items were rated on a 5-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*neutral,* 4= *agree,* 5= *strongly agree.*

Positive emotions. The Dispositional Positive Emotion Scale (Shiota et al., 2006)

The scale ranged from 1 = *strongly disagree* to 5 = *strongly agree*.

1. I often feel bursts of joy.
2. I am generally a contented person.
3. Other people are generally trustworthy.
4. It's important to take care of people who are vulnerable.
5. I feel good about myself.
6. I find humor in almost everything.
7. I often feel awe.
8. I am an intensely cheerful person.
9. I am at peace with my life.
10. I develop strong feelings of closeness to people easily.
11. When I see someone hurt or in need, I feel a powerful urge to take care of them.
12. I am proud of myself and my accomplishments.
13. I really enjoy teasing people I care about.
14. I see beauty all around me.
15. I am often completely overjoyed when something good happens.
16. When I think about my life I experience a deep feeling of contentment.
17. I find it easy to trust others.
18. Taking care of others gives me a warm feeling inside.
19. Many people respect me.
20. I am very easily amused.
21. I feel wonder almost every day.
22. On a typical day, many events make me happy.
23. I feel satisfied more often than most people.
24. I can depend on people when I need help.
25. I often notice people who need help.
26. I always stand up for what I believe.
27. The people around me make a lot of jokes.
28. I often look for patterns in the objects around me.
29. Good things happen to me all the time.
30. My life is very fulfilling.
31. People are usually considerate of my needs and feelings.
32. I am a very compassionate person.
33. People usually recognize my authority.
34. I make jokes about everything.
35. I have many opportunities to see the beauty of nature.
36. My life is always improving.
37. I love many people.
38. I seek out experiences that challenge my understanding of the world.

Items were rated on a 5-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*neutral,* 4= *agree,* 5= *strongly agree.*

Touch frequency. Physical Affection Scale (Light et al., 2005), adapted from (Diamond, 2000).

How frequently do you engage in these different affectionate touching behaviors with your romantic partner?

1. holding hands
2. sitting close or laying down close together
3. giving each other neck or back massages (or similar warm touches)
4. hugging
5. kissing

Items were rated on a 5-point scale: 1 = *never or almost never,* 2 = *at least once a month,* 3 = *at least once a week,* 4 = *at least two days a week,* 5 = *once a day,* to 6 = *more than once a day*

Study 2 – Lab Conversations
Self-related positive affect. How are you feeling RIGHT NOW?

1. Happy, pleased, joyful
2. Proud, good about myself
3. Interested, attentive
4. Amused, having fun

Items were rated on a 5-point scale: 1=*not at all*, 5=*extremely*.

Observer ratings of touch.
General instruction to the coders: You will find the videos on our drive. You will each receive a spreadsheet to fill in, indicating which videos to code. You can code the videos from your own computer. Using the software VLC is recommended (https://www.videolan.org/vlc/). **Please respect the participants' anonymity:**

a) **do not watch the videos in a public place**
b) **Delete the videos after the coding round is done**

Turn the sound off. Code each 30-second segment of the videos separately. Begin with the time spent touching, and then code the remaining variables in a second turn. Try to remain as **objective** as possible throughout the process, and to treat each segment independently for the previous ones, as well as each variable. Please be as precise and thoughtful as you can. Don't let your attention go as you code several videos. Don't hesitate to take some breaks if you notice that you are getting less vigilant.

Time with physical contact between the two partners: Indicate during how many seconds the partners were touching each other within one 30-second segment. If due to the position of the participants and the camera, you can't determine whether the partners are

touching each other or not, please insert an "x" in the spreadsheet (for all variables of the segment).

Reliability determination of the touch measure in the lab conversation of Study 2

To determine the reliability of the coding scheme, in a first round, we used a fully-crossed design (Hallgren, 2012). Nine coders rated 20% of the suffering condition videos (27 videos with 215 30-second segments). Inter-rater reliability was computed for the time spent touching; single measure average ICC was very good, .97. Next, three randomly assigned coders among the pool of nine coders coded the remaining videos. The entire sample reliability was very good (average measure ICC was .96). The last segments that were shorter than 30 seconds were removed (*N*=244 segments) to avoid length imbalance across the segments. Next, to compute the time spent touching during the conversation, we calculated the three coders mean for each 30-second segment, and then computed an average per video.

Study 3

Baseline Measure

Attachment style. Participants completed the Experiences in Close Relationships Short (ECR-S) measure (Wei et al., 2007).

Please indicate how well each statement describes your typical feelings in a romantic relationship.

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner doesn't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner.
8. I often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if my romantic partner is not available when I need him/her.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them.

Items were rated on a 7-point scale: 1 = *strongly disagree,* 2=*disagree,* 3=*somewhat disagree,* 4=*neither agree or disagree,* 5=*somewhat agree,* 6=*agree,* 7 = *strongly agree.*

Daily Diary Measures
Positive affect.

Please indicate how you felt today...

1. Happy, pleased, joyful
2. Interested, attentive

Items were rated on a 7-point scale: 1 = *not at all* to 7 = *extremely*.

Touch behaviors.

Please indicate whether you and your partner engaged in each of the following physical contact behaviors listed below TODAY.

1. Caressing or stroking
2. Massaging
3. Cuddling or spooning
4. Kissing
5. Holding hands
6. Hugging
7. Leaning or laying on each other
8. Making out

Items were rated on a 7-point scale: 1 = *not at all,* 4=*somewhat*, 7 = *extremely*.

Supplemental Material B: Syntax of the Analyses

Study 1: SPSS Syntax.

Hypothesis 1

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT WB
  /METHOD=ENTER tot_touc.
```

Hypothesis 2

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT WB
  /METHOD=ENTER att_avoi att_anx.
```

Hypothesis 3

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT tot_touc
  /METHOD=ENTER att_avoi att_anx.
```

Hypothesis 4 PROCESS OUTPUT

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 2
    Y = WB
    X = tot_touc
    M = att_avoi
```

W = att_anx

Sample size
1377

****
Outcome: WB

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5806	.3371	.6313	139.4270	5.0000	1371.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.9943	.0220	227.2084	.0000	4.9512	5.0374
att_avoi	-.1963	.0220	-8.9414	.0000	-.2394	-.1533
tot_touc	.0916	.0142	6.4577	.0000	.0638	.1194
int_1	.0080	.0122	.6545	.5129	-.0159	.0319
att_anx	-.2756	.0168	-16.3918	.0000	-.3086	-.2426
int_2	.0091	.0099	.9154	.3601	-.0104	.0285

Product terms key:

int_1	tot_touc	X	att_avoi
int_2	tot_touc	X	att_anx

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	.0002	.4283	1.0000	1371.0000	.5129
int_2	.0004	.8380	1.0000	1371.0000	.3601
Both	.0010	1.0627	2.0000	1371.0000	.3458

****

Conditional effect of X on Y at values of the moderator(s):

att_anx	att_avoi	Effect	se	t	p	LLCI	ULCI
-1.4200	-1.1397	.0696	.0217	3.2119	.0013	.0271	.1121
-1.4200	.0000	.0787	.0207	3.7997	.0002	.0381	.1193
-1.4200	1.1397	.0878	.0278	3.1555	.0016	.0332	.1424
.0000	-1.1397	.0825	.0201	4.1076	.0000	.0431	.1219
.0000	.0000	.0916	.0142	6.4577	.0000	.0638	.1194
.0000	1.1397	.1007	.0196	5.1320	.0000	.0622	.1391
1.4200	-1.1397	.0953	.0270	3.5255	.0004	.0423	.1484
1.4200	.0000	.1044	.0192	5.4452	.0000	.0668	.1420
1.4200	1.1397	.1135	.0197	5.7478	.0000	.0748	.1523

Values for quantitative moderators are the mean and plus/minus one SD from mean.
Values for dichotomous moderators are the two values of the moderator.

********** ANALYSIS NOTES AND WARNINGS **********

Level of confidence for all confidence intervals in output:
95.00

NOTE: The following variables were mean centered prior to analysis:
tot_touc att_avoi att_anx

NOTE: Some cases were deleted due to missing data. The number of such cases was:
227

------ END MATRIX -----

Hypothesis 5 PROCESS OUTPUT

Run MATRIX procedure:

********** PROCESS Procedure for SPSS Release 2.16.3 **********

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2013). www.guilford.com/p/hayes3

****
Model = 4
Y = WB (=well-being)
X = att_avoi (= attachment avoidance)
M = tot_touc (= total touch in the couple – given and received)

Statistical Controls:
CONTROL= att_anx (= attachment anxiety)

Sample size
1377

****
Outcome: tot_touc

Model Summary

R	R-sq	MSE	F	df1	df2	p
.251	.063	2.307	46.091	2.000	1374.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.903	.111	53.124	.000	5.685	6.121
att_avoi	-.363	.039	-9.227	.000	-.440	-.286
att_anx	.042	.032	1.323	.186	-.020	.104

****

Outcome: WB

Model Summary

R	R-sq	MSE	F	df1	df2	p
.580	.336	.631	231.649	3.000	1373.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.810	.102	57.200	.000	5.611	6.009
tot_touc	.094	.014	6.629	.000	.066	.121
att_avoi	-.197	.021	-9.282	.000	-.238	-.155
att_anx	-.274	.017	-16.612	.000	-.307	-.242

********** TOTAL EFFECT MODEL **********

Outcome: WB

Model Summary

R	R-sq	MSE	F	df1	df2	p
.561	.315	.651	315.640	2.000	1374.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.362	.059	107.788	.000	6.246	6.478
att_avoi	-.231	.021	-11.044	.000	-.272	-.190
att_anx	-.271	.017	-16.136	.000	-.303	-.238

********** TOTAL, DIRECT, AND INDIRECT EFFECTS **********

Total effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.231	.021	-11.044	.000	-.272	-.190

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
-.197	.021	-9.282	.000	-.238	-.155

Indirect effect of X on Y

Effect	Boot SE	BootLLCI	BootULCI

```
tot_touc    -.034     .006    -.048    -.023

Partially standardized indirect effect of X on Y
         Effect   Boot SE  BootLLCI  BootULCI
tot_touc    -.040     .008    -.056    -.027

Completely standardized indirect effect of X on Y
         Effect   Boot SE  BootLLCI  BootULCI
tot_touc    -.042     .008    -.059    -.028

Ratio of indirect to total effect of X on Y
         Effect   Boot SE  BootLLCI  BootULCI
tot_touc     .147     .030     .096     .215

Ratio of indirect to direct effect of X on Y
         Effect   Boot SE  BootLLCI  BootULCI
tot_touc     .172     .042     .106     .274

Normal theory tests for indirect effect
   Effect       se        Z        p
    -.034     .006    -5.363     .000

********************* ANALYSIS NOTES AND WARNINGS ************************

Number of bootstrap samples for bias corrected bootstrap confidence intervals:
    5000

Level of confidence for all confidence intervals in output:
   95.00

NOTE: Some cases were deleted due to missing data.  The number of such cases was:
  227

------ END MATRIX -----
```

Study 2 – Baseline Data: Mplus Syntax

Hypothesis 1

```
DATA:
  FILE IS  "Touch_attach_study2_backgr_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDM AAgeM ARellenM ASWLM AAnxM AAvoidM ATouchM ADPASM WBM
PartIDF AAgeF ARellenF ASWLF  AAnxF AAvoidF ATouchF ADPASF WBF
ASatisfM ASatisfF ATouchC;
```

```
USEVARIABLES ARE
WBM WBF ATouchC ;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  WBM ON ATouchC (2);
       WBF ON ATouchC (2);

      WBM WITH WBF;

OUTPUT: stand; !for standardized estimation
       cinterval(hpd); !for confidence intervals
```

Hypothesis 2

```
DATA:
  FILE IS  "Touch_attach_study2_backgr_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDM AAgeM ARellenM ASWLM AAnxM AAvoidM ATouchM ADPASM WBM
   PartIDF AAgeF ARellenF ASWLF  AAnxF AAvoidF ATouchF ADPASF WBF
   ASatisfM ASatisfF ATouchC;



USEVARIABLES ARE
AAvoidM AAvoidF WBM WBF AAnxM AAnxF;


MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  WBM ON AAvoidM (3);
       WBF ON AAvoidF (3);

       WBM ON AAnxM (4);
       WBF ON AAnxF (4);

       WBM ON AAvoidF (7);
```

```
      WBF ON AAvoidM (7);

      WBM ON AAnxF (8);
      WBF ON AAnxM (8);

      AAvoidM WITH AAvoidF;
      WBM WITH WBF;
      AAnxM WITH AAnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Hypothesis 3

```
DATA:
  FILE IS  "Touch_attach_study2_backgr_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDM AAgeM ARellenM ASWLM AAnxM AAvoidM ATouchM ADPASM WBM
   PartIDF AAgeF ARellenF ASWLF  AAnxF AAvoidF ATouchF ADPASF WBF
   ASatisfM ASatisfF ATouchC;


USEVARIABLES ARE
ATouchC AAvoidM AAvoidF AAnxM AAnxF;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  ATouchC ON AAvoidM  (1);
      ATouchC ON AAvoidF  (1);

      ATouchC ON AAnxM (4);
      ATouchC ON AAnxF (4);

     AAvoidM WITH AAvoidF;
     AAnxM WITH AAnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Hypothesis 4

```
DATA:
```

```
  FILE IS  "Touch_attach_study2_backgr_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDM AAgeM ARellenM ASWLM AAnxM AAvoidM ATouchM ADPASM WBM
   PartIDF AAgeF ARellenF ASWLF  AAnxF AAvoidF ATouchF ADPASF WBF
   ASatisfM ASatisfF ATouchC;


USEVARIABLES ARE
WBM WBF ATouchC AAvoidM AAvoidF AAnxM AAnxF
IntTAvM IntTAvF; ! IntTAnxM IntTAnxF;

MISSING ARE ALL (-99);

DEFINE:    CENTER AAvoidM AAvoidF ATouchC (GRANDMEAN);

        IntTAvM = ATouchC * AAvoidM;
        !IntTAnxM = ATouchC * AAnxM;
        IntTAvF = ATouchC * AAvoidF;
        !IntTAnxF = ATouchC * AAnxF;

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 20000;

MODEL:  WBM ON ATouchC (2);
     WBF ON ATouchC (2);

     WBM ON AAvoidM (3);
     WBF ON AAvoidF (3);

     WBM ON AAnxM (4);
     WBF ON AAnxF (4);

     WBM ON IntTAvM (6);
     WBF ON IntTAvF (6);

     !WBM ON IntTAnxM (1);
     !WBF ON IntTAnxF (1);

     AAvoidM WITH AAvoidF;
     WBM WITH WBF;
     AAnxM WITH AAnxF;
     IntTAvM WITH IntTAvF;
     !IntTAnxM WITH IntTAnxF;
```

```
OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Hypothesis 5

```
DATA:
  FILE IS  "Touch_attach_study2_backgr_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDM AAgeM ARellenM ASWLM AAnxM AAvoidM ATouchM ADPASM WBM
   PartIDF AAgeF ARellenF ASWLF  AAnxF AAvoidF ATouchF ADPASF WBF
   ASatisfM ASatisfF ATouchC;

USEVARIABLES ARE
ATouchC AAvoidM AAvoidF WBM WBF AAnxM AAnxF;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 20000;

MODEL:  ATouchC ON AAvoidM (at);
      ATouchC ON AAvoidF (at);

      WBM ON ATouchC (t);
      WBF ON ATouchC (t);

      WBM ON AAvoidM (3);
      WBF ON AAvoidF (3);

      WBM ON AAnxM (4);
      WBF ON AAnxF (4);

      WBM ON AAvoidF (6);
      WBF ON AAvoidM (6);

      ATouchC ON AAnxM (1);
      ATouchC ON AAnxF (1);

      AAvoidM WITH AAvoidF;
      WBM WITH WBF;
      AAnxM WITH AAnxF;

MODEL CONSTRAINT:
new(indM);
```

```
indM=at*t;

OUTPUT: stand; !for standardized estimation
      cinterval; !for confidence intervals
```

Study 2 – Lab Conversations: Mplus Syntax

Preliminary Analyses: Pre- and Post-Conversation Differences in Positive Affect

Love conversation

```
DATA:
  FILE IS  "181108BerkeleyConvosHeterohomoDyad.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF
TimeTS2F TimeTS3F PtimeT2F PtimeT3F PrePAalF PrePAotF PrePAseF PreNAalF
LoOPAalF LoOPAotF LoOPAseF LoONAalF LoPPAalF LoPPAotF LoPPAseF LoPNAalF
SuOPAalF SuOPAotF SuOPAseF SuONAalF SuPPAalF SuPPAotF SuPPAseF SuPNAalF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M PtimeT2M PtimeT3M
PrePAalM PrePAotM PrePAseM PreNAalM
LoOPAalM LoOPAotM LoOPAseM LoONAalM LoPPAalM LoPPAotM LoPPAseM LoPNAalM
SuOPAalM SuOPAotM SuOPAseM SuONAalM SuPPAalM SuPPAotM SuPPAseM SuPNAalM
TimeTS2 TimeTS3 PtimeT2 PtimeT3;

USEVARIABLES ARE
LoOPAseM  PrePAseM   LoOPAseF PrePAseF ;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 10000;
```

```
        ALGORITHM= MH;

MODEL:  LoOPAseM WITH PrePAseM (1);
      LoOPAseF WITH PrePAseF (1);

      LoOPAseM WITH LoOPAseF ; !control for interdependance DV
      PrePAseM WITH PrePAseF ; ! control for interdependance IV

      [LoOPAseM] (m1);
      [LoOPAseF] (m1);

      [PrePAseM] (m3);
      [PrePAseF] (m3);

model constraint:
      new diffM;
      diffM = m1 - m3;

OUTPUT: stand; !for standardized estimation
      cinterval (hpd); !for confidence intervals
```

Suffering conversation

```
DATA:
  FILE IS  "181108BerkeleyConvosHeterohomoDyad.csv";

   VARIABLE:
   NAMES ARE
```

```
  CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F PtimeT2F PtimeT3F
PrePAalF PrePAotF PrePAseF PreNAalF
LoOPAalF LoOPAotF LoOPAseF LoONAalF LoPPAalF LoPPAotF LoPPAseF LoPNAalF
SuOPAalF SuOPAotF SuOPAseF SuONAalF SuPPAalF SuPPAotF SuPPAseF SuPNAalF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M PtimeT2M PtimeT3M
PrePAalM PrePAotM PrePAseM PreNAalM
LoOPAalM LoOPAotM LoOPAseM LoONAalM LoPPAalM LoPPAotM LoPPAseM LoPNAalM
SuOPAalM SuOPAotM SuOPAseM SuONAalM SuPPAalM SuPPAotM SuPPAseM SuPNAalM
TimeTS2 TimeTS3 PtimeT2 PtimeT3;

USEVARIABLES ARE
SuOPAseM  PrePAseM   SuOPAseF PrePAseF ;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 10000;
        ALGORITHM= MH;

MODEL:  SuOPAseM WITH PrePAseM (1);
     SuOPAseF WITH PrePAseF (1);

     SuOPAseM WITH SuOPAseF ; !control for interdependance DV
     PrePAseM WITH PrePAseF ; ! control for interdependance IV

     [SuOPAseM] (m1);
     [SuOPAseF] (m1);
```

```
    [PrePAseM] (m3);
    [PrePAseF] (m3);

model constraint:
    new diffM;
    diffM = m1 - m3;

OUTPUT: stand; !for standardized estimation
    cinterval (hpd); !for confidence intervals
```

Hypothesis 1

Love conversation

With continuous touch variable:

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
 LoOPAseM  PrePAseM   LoOPAseF PrePAseF PtimeT2;

 MISSING ARE ALL (-99);

 ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 10000;

 MODEL:  LoOPAseM ON PrePAseM (1);
       LoOPAseF ON PrePAseF (1);

       LoOPAseM ON PtimeT2 (2);
       LoOPAseF ON PtimeT2 (2);
```

```
        LoOPAseM WITH LoOPAseF;
        PrePAseM WITH PrePAseF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

With binary touch variable

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
LoOPAseM  PrePAseM   LoOPAseF PrePAseF Touchbi ;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT2 EQ 0 THEN Touchbi = 0;
        IF PtimeT2 > 0 THEN Touchbi = 1;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  LoOPAseM ON PrePAseM (1);
      LoOPAseF ON PrePAseF (1);

      LoOPAseM ON Touchbi (2);
      LoOPAseF ON Touchbi (2);

      LoOPAseM WITH LoOPAseF;
      PrePAseM WITH PrePAseF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Suffering conversation

With continuous touch variable

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;


USEVARIABLES ARE
SuOPAseM  PrePAseM   SuOPAseF PrePAseF PtimeT3;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 20000;

MODEL:  SuOPAseM ON PrePAseM (1);
      SuOPAseF ON PrePAseF (1);

      SuOPAseM ON PtimeT3 (2);
      SuOPAseF ON PtimeT3 (2);

      SuOPAseM WITH SuOPAseF;
      PrePAseM WITH PrePAseF;

OUTPUT: stand; !for standardized estimation
      cinterval; !for confidence intervals
```

With binary touch variable

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;
```

```
USEVARIABLES ARE
SuOPAseM  PrePAseM   SuOPAseF PrePAseF Touchbi;


MISSING ARE ALL (-99);

DEFINE:    IF PtimeT3 EQ 0 THEN Touchbi = 0;
        IF PtimeT3 > 0 THEN Touchbi = 1;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  SuOPAseM ON PrePAseM (1);
      SuOPAseF ON PrePAseF (1);

      SuOPAseM ON Touchbi (2);
      SuOPAseF ON Touchbi (2);

      SuOPAseM WITH SuOPAseF;
      PrePAseM WITH PrePAseF;

OUTPUT: stand;
      cinterval(hpd); !for confidence intervals
```

Hypothesis 2

Love conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
LoOPAseM  PrePAseM   LoOPAseF PrePAseF   AvoidM AvoidF AnxM AnxF;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
```

```
        FBITERATIONS= 20000;

MODEL:  LoOPAseM ON PrePAseM (b);
      LoOPAseF ON PrePAseF (b);

      LoOPAseM ON AvoidM (av);
      LoOPAseF ON AvoidF (av);

      LoOPAseM ON AnxM (an);
      LoOPAseF ON AnxF (an);

      LoOPAseM WITH LoOPAseF;
      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Suffering conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
SuOPAseM  PrePAseM   SuOPAseF PrePAseF AvoidM AvoidF AnxM AnxF;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 20000;

MODEL:  SuOPAseM ON PrePAseM (3);
      SuOPAseF ON PrePAseF (3);

      SuOPAseM ON AvoidM (1);
      SuOPAseF ON AvoidF (1);
```

```
      SuOPAseM ON AnxM (2);
      SuOPAseF ON AnxF (2);

      !SuOPAseM ON AvoidF (4);
      !SuOPAseF ON AvoidM (4);

      !SuOPAseM ON AnxF (5);
      !SuOPAseF ON AnxM (5);

      SuOPAseM WITH SuOPAseF;
      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Pre-conversation positive affect as an outcome

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
AnxM  AvoidM          AnxF AvoidF PrePAseM    PrePAseF ;

MISSING ARE ALL (-99);

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  PrePAseM ON AvoidM (1);
      PrePAseF ON AvoidF (1);

      PrePAseM ON AnxM (2);
      PrePAseF ON AnxF (2);

      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
```

```
      AnxF WITH AnxM;

OUTPUT: stand; !for standardized estimation
      cinterval (hpd); !for confidence intervals
```

Hypothesis 3

Love conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
AvoidM AvoidF AnxM AnxF Touchbi;

categorical = Touchbi;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT2 EQ 0 THEN Touchbi = 0;
        IF PtimeT2 > 0 THEN Touchbi = 1;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  Touchbi ON AvoidM (av);
      Touchbi ON AvoidF (av);

      Touchbi ON AnxM (an);
      Touchbi ON AnxF (an);

      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Suffering conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
AvoidM AvoidF AnxM AnxF Touchbi;

categorical = Touchbi;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT3 EQ 0 THEN Touchbi = 0;
        IF PtimeT3 > 0 THEN Touchbi = 1;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  Touchbi ON AvoidM (av);
      Touchbi ON AvoidF (av);

      Touchbi ON AnxM (an);
      Touchbi ON AnxF (an);

      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Hypothesis 4

Love conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
```

```
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
LoOPAseM  PrePAseM   LoOPAseF PrePAseF
AvoidM AvoidF AnxM AnxF
Touchbi AvoidXTM AvoidXTF  AnxXTM AnxXTF;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT2 EQ 0 THEN Touchbi = 0;
        IF PtimeT2 > 0 THEN Touchbi = 1;

        CENTER AvoidM AvoidF  (GRANDMEAN);

        AvoidXTM =AvoidM*Touchbi;
        AvoidXTF =AvoidF*Touchbi;
        AnxXTM =AnxM*Touchbi;
        AnxXTF =AnxF*Touchbi;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  LoOPAseM ON PrePAseM (b);
      LoOPAseF ON PrePAseF (b);

      LoOPAseM ON Touchbi (t);
      LoOPAseF ON Touchbi (t);

      LoOPAseM ON AvoidM (av) ;
      LoOPAseF ON AvoidF (av);

      LoOPAseM ON AnxM (an);
      LoOPAseF ON AnxF (an);

      LoOPAseM ON AvoidXTM (1);
      LoOPAseF ON AvoidXTF (1);

      LoOPAseM ON AnxXTM (2);
      LoOPAseF ON AnxXTF (2);

      LoOPAseM WITH LoOPAseF;
      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
```

```
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Suffering conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
SuOPAseM  PrePAseM   SuOPAseF PrePAseF
AvoidM AvoidF AnxM AnxF
Touchbi AvoidXTM AvoidXTF  AnxXTM AnxXTF;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT3 EQ 0 THEN Touchbi = 0;
        IF PtimeT3 > 0 THEN Touchbi = 1;

        CENTER AvoidM AvoidF (GRANDMEAN);

        AvoidXTM =AvoidM*Touchbi;
        AvoidXTF =AvoidF*Touchbi;
        AnxXTM =AnxM*Touchbi;
        AnxXTF =AnxF*Touchbi;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  SuOPAseM ON PrePAseM ;
      SuOPAseF ON PrePAseF ;

      SuOPAseM ON Touchbi (t);
      SuOPAseF ON Touchbi (t);
```

```
      SuOPAseM ON AvoidM (av) ;
      SuOPAseF ON AvoidF (av);

      SuOPAseM ON AnxM (an);
      SuOPAseF ON AnxF (an);

      SuOPAseM ON AvoidXTM (1);
      SuOPAseF ON AvoidXTF (1);

      SuOPAseM ON AnxXTM (2);
      SuOPAseF ON AnxXTF (2);

      SuOPAseM WITH SuOPAseF;
      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Hypothesis 5

Love conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
LoOPAseM  PrePAseM   LoOPAseF PrePAseF
AvoidM AvoidF AnxM AnxF Touchbi ;

categorical = Touchbi;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT2 EQ 0 THEN Touchbi = 0;
        IF PtimeT2 > 0 THEN Touchbi = 1;
```

```
ANALYSIS:   ESTIMATOR = BAYES;
        FBITERATIONS= 20000;

MODEL:  LoOPAseM ON PrePAseM (b);
      LoOPAseF ON PrePAseF (b);

      LoOPAseM ON Touchbi (t);
      LoOPAseF ON Touchbi (t);

      LoOPAseM ON AvoidM (av) ;
      LoOPAseF ON AvoidF (av);

      LoOPAseM ON AnxM (an);
      LoOPAseF ON AnxF (an);

      Touchbi ON AvoidM (at);
      Touchbi ON AvoidF (at);

      LoOPAseM WITH LoOPAseF;
      PrePAseM WITH PrePAseF;
      AvoidM WITH AvoidF;
      AnxM WITH AnxF;


MODEL CONSTRAINT:
      new(ind);
      ind=at*t;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Suffering conversation

```
DATA:
  FILE IS  "Touch_attach_study2_lab_data.csv";

   VARIABLE:
   NAMES ARE
   CoupleID PartIDF AgeF RellengF AnxF AvoidF TimeTS2F TimeTS3F
PtimeT2F  PtimeT3F PrePAseF LoOPAseF SuOPAseF
PartIDM AgeM RellengM AnxM AvoidM TimeTS2M TimeTS3M
PtimeT2M PtimeT3M PrePAseM LoOPAseM SuOPAseM TimeTS2 TimeTS3 PtimeT2
PtimeT3;

USEVARIABLES ARE
```

```
SuOPAseM  SuOPAseF AvoidM AvoidF AnxM AnxF Touchbi;

categorical = Touchbi;

MISSING ARE ALL (-99);

DEFINE:    IF PtimeT3 EQ 0 THEN Touchbi = 0;
        IF PtimeT3 > 0 THEN Touchbi = 1;

ANALYSIS:   ESTIMATOR = BAYES;
         FBITERATIONS= 20000;

MODEL:  SuOPAseM ON Touchbi (t);
      SuOPAseF ON Touchbi (t);

      SuOPAseM ON AvoidM (av);
      SuOPAseF ON AvoidF (av);

      SuOPAseM ON AnxM (an);
      SuOPAseF ON AnxF (an);

      Touchbi ON AvoidM (at);
      Touchbi ON AvoidF (at);

      SuOPAseM WITH SuOPAseF;
      AvoidM WITH AvoidF;
      AnxM WITH AnxF;

MODEL CONSTRAINT:
      new(ind);
      ind=at*t;

OUTPUT: stand; !for standardized estimation
      cinterval(hpd); !for confidence intervals
```

Study 3: Mplus Syntax

Hypothesis 1

```
DATA:
 FILE IS  "Touch_Attach_Study3_data.csv";

    VARIABLE:
    NAMES = CoupleID Day PartID1 Age1 Gender1 PA1 relsat1 touchB1
    Brelsta1 BrelID1 BAAnx1 BAAvo1 BSWL1 BPWB1 BPRQCM1 PartID2 Age2
    Gender2 PA2 relsat2 touchB2 Brelsta2 BrelID2 BAAnx2 BAAvo2 BSWL2
    BPWB2 BPRQCM2 PA1c relsa1c toucB1c PA2c relsa2c toucB2c PA1cb
    relsa1cb toucB1cb PA2cb relsa2cb toucB2cb PA1cw relsa1cw toucB1cw
    PA2cw relsa2cw toucB2cw touchBC toucBcwC toucBcbC ToBcwClg RS2cwlg
    PA2cwlg RS1cwlg PA1cwlg RelStat1 Relleng1 RelStat2 Relleng2  ;

USEVARIABLES ARE
 PA1 PA2 toucBcbC toucBcwC Day PA1cwlg PA2cwlg;

 MISSING ARE ALL (-99);

 CLUSTER = CoupleID;

 BETWEEN = toucBcbC ;

 WITHIN = toucBcwC Day PA1cwlg PA2cwlg;

 DEFINE:
 CENTER Day(GROUPMEAN);

 ANALYSIS:   TYPE = twolevel random;
         ESTIMATOR=mlr;

 MODEL:
 %WITHIN%

  sta1 | PA1 ON toucBcwC (1); !slope touch on partner 1
  sta2 | PA2 ON toucBcwC (1); !slope touch on partner 2

 PA1 ON Day (4);
 PA2 ON Day (4);

 PA1 ON PA1cwlg (5);
 PA2 ON PA2cwlg (5);

  PA1 WITH PA2;
```

```
 %BETWEEN%

  [toucBcbC@0];
  toucBcbC@0;

  [sta1] (3);
  [sta2] (3);

 PA1 ON toucBcbC (2);
 PA2 ON toucBcbC (2);

 PA1 WITH sta1 sta2;

  PA1 WITH PA2 (covint);
  sta1 WITH sta2 (covslp);

  PA1 (PA1);
  PA2 (PA2);

  sta1 (sta1);
  sta2 (sta2);

MODEL CONSTRAINT:

NEW rint; rint = covint/sqrt(PA1 * PA2);

NEW rslp; rslp = covslp/sqrt(sta1 * sta2);

OUTPUT: sampstat cinterval ;
```

Hypothesis 2

```
DATA:
 FILE IS  "Touch_Attach_Study3_data.csv";

    VARIABLE:
    NAMES = CoupleID Day PartID1 Age1 Gender1 PA1 relsat1 touchB1
    Brelsta1 BrelID1 BAAnx1 BAAvo1 BSWL1 BPWB1 BPRQCM1 PartID2 Age2
    Gender2 PA2 relsat2 touchB2 Brelsta2 BrelID2 BAAnx2 BAAvo2 BSWL2
    BPWB2 BPRQCM2 PA1c relsa1c toucB1c PA2c relsa2c toucB2c PA1cb
    relsa1cb toucB1cb PA2cb relsa2cb toucB2cb PA1cw relsa1cw toucB1cw
    PA2cw relsa2cw toucB2cw touchBC toucBcwC toucBcbC ToBcwClg RS2cwlg
    PA2cwlg RS1cwlg PA1cwlg RelStat1 Relleng1 RelStat2 Relleng2  ;

USEVARIABLES ARE
```

```
PA1 PA2 BAAnx1 BAAvo1 BAAnx2 BAAvo2 Day PA1cwlg PA2cwlg;

MISSING ARE ALL (-99);

CLUSTER = CoupleID;

BETWEEN = BAAnx1 BAAvo1 BAAnx2 BAAvo2  ;

WITHIN = Day PA1cwlg PA2cwlg;

DEFINE:
CENTER BAAnx1 BAAvo1 BAAnx2 BAAvo2 (GRANDMEAN);
CENTER Day(GROUPMEAN);

ANALYSIS:   TYPE = twolevel;
        ESTIMATOR=mlr;

MODEL:
%WITHIN%

PA1 PA2 ON Day;

   PA1 ON PA1cwlg (5);
   PA2 ON PA2cwlg (5);

 PA1 WITH PA2;

%BETWEEN%

PA1 ON BAAvo1 (1);
PA2 ON BAAvo2 (1);
PA1 ON BAAvo2 (2);
PA2 ON BAAvo1 (2);

PA1 ON BAAnx1 (3);
PA2 ON BAAnx2 (3);
PA1 ON BAAnx2 (4);
PA2 ON BAAnx1 (4);

 PA1 WITH PA2 (covint);

 PA1 (PA1);
 PA2 (PA2);

MODEL CONSTRAINT:
```

```
NEW rint; rint = covint/sqrt(PA1 * PA2);

OUTPUT: stand;
      sampstat cinterval ;
```

Hypothesis 3

```
DATA:
  FILE IS  "Touch_Attach_Study3_data.csv";

     VARIABLE:
     NAMES = CoupleID Day PartID1 Age1 Gender1 PA1 relsat1 touchB1
     Brelsta1 BrelID1 BAAnx1 BAAvo1 BSWL1 BPWB1 BPRQCM1 PartID2 Age2
     Gender2 PA2 relsat2 touchB2 Brelsta2 BrelID2 BAAnx2 BAAvo2 BSWL2
     BPWB2 BPRQCM2 PA1c relsa1c toucB1c PA2c relsa2c toucB2c PA1cb
     relsa1cb toucB1cb PA2cb relsa2cb toucB2cb PA1cw relsa1cw toucB1cw
     PA2cw relsa2cw toucB2cw touchBC toucBcwC toucBcbC ToBcwClg RS2cwlg
     PA2cwlg RS1cwlg PA1cwlg RelStat1 Relleng1 RelStat2 Relleng2  ;


USEVARIABLES ARE
touchBC BAAnx1 BAAvo1 BAAnx2 BAAvo2 Day ;

MISSING ARE ALL (-99);

CLUSTER = CoupleID;

BETWEEN = BAAnx1 BAAvo1 BAAnx2 BAAvo2  ;

WITHIN = Day;

DEFINE:
CENTER BAAnx1 BAAvo1 BAAnx2 BAAvo2 (GRANDMEAN);
CENTER Day(GROUPMEAN);

ANALYSIS:   TYPE = twolevel;
          ESTIMATOR=mlr;

MODEL:
%WITHIN%

touchBC ON Day;

%BETWEEN%
```

```
touchBC ON BAAvo1 (1);
touchBC ON BAAvo2 (1);

touchBC ON BAAnx1 (3);
touchBC ON BAAnx2 (3);

 touchBC (touchBC);

OUTPUT: stand;
      sampstat cinterval ;
```

Hypothesis 4

```
DATA:
  FILE IS  "Touch_Attach_Study3_data.csv";

     VARIABLE:
     NAMES = CoupleID Day PartID1 Age1 Gender1 PA1 relsat1 touchB1
     Brelsta1 BrelID1 BAAnx1 BAAvo1 BSWL1 BPWB1 BPRQCM1 PartID2 Age2
     Gender2 PA2 relsat2 touchB2 Brelsta2 BrelID2 BAAnx2 BAAvo2 BSWL2
     BPWB2 BPRQCM2 PA1c relsa1c toucB1c PA2c relsa2c toucB2c PA1cb
     relsa1cb toucB1cb PA2cb relsa2cb toucB2cb PA1cw relsa1cw toucB1cw
     PA2cw relsa2cw toucB2cw touchBC toucBcwC toucBcbC ToBcwClg RS2cwlg
     PA2cwlg RS1cwlg PA1cwlg RelStat1 Relleng1 RelStat2 Relleng2  ;

USEVARIABLES ARE
  PA1 PA2 toucBcbC toucBcwC BAAnx1 BAAvo1 BAAnx2 BAAvo2 Day PA1cwlg PA2cwlg;

MISSING ARE ALL (-99);

CLUSTER = CoupleID;

BETWEEN = toucBcbC BAAnx1 BAAvo1 BAAnx2 BAAvo2 ;

WITHIN = toucBcwC Day PA1cwlg PA2cwlg;

DEFINE:
CENTER BAAnx1 BAAvo1 BAAnx2 BAAvo2 (GRANDMEAN);
CENTER toucBcwC Day(GROUPMEAN);

ANALYSIS: TYPE = twolevel random;
ESTIMATOR=mlr;

MODEL:
%WITHIN%
```

```
   sta1 | PA1 ON toucBcwC (1); !slope touch on partner 1
   sta2 | PA2 ON toucBcwC (1); !slope touch on partner 2

PA1 ON Day (2);
PA2 ON Day (2);

   PA1 ON PA1cwlg (15);
   PA2 ON PA2cwlg (15);

 PA1 WITH PA2;

%BETWEEN%

   [toucBcbC@0]
   toucBcbC@0

   [sta1] (3);
   [sta2] (3);

  PA1 ON toucBcbC (4);
  PA2 ON toucBcbC (4);

   PA1 ON BAAvo1 (5);
   PA2 ON BAAvo2 (5);
   PA1 ON BAAvo2 (6);
   PA2 ON BAAvo1 (6);

   PA1 ON BAAnx1 (7);
   PA2 ON BAAnx2 (7);
   PA1 ON BAAnx2 (8);
   PA2 ON BAAnx1 (8);

   !toucBcbC ON BAAvo1 (9);
   !toucBcbC ON BAAvo2 (9);

   !toucBcbC ON BAAnx1 (10);
   !toucBcbC ON BAAnx2 (10);

   sta1 ON BAAvo1 (11);
   sta2 ON BAAvo2 (11);

   sta1 ON BAAnx1 (12);
   sta2 ON BAAnx1 (12);

   PA1 WITH sta1 (13);
   PA1 WITH sta2 (14);
```

```
   PA2 WITH sta1 (14);
   PA2 WITH sta2 (13);

 PA1 WITH PA2 (covint);
 sta1 WITH sta2 (covslp);

 PA1 (PA1);
 PA2 (PA2);

 sta1 (sta1);
 sta2 (sta2);

MODEL CONSTRAINT:

NEW rint; rint = covint/sqrt(PA1 * PA2);

NEW rslp; rslp = covslp/sqrt(sta1 * sta2);

OUTPUT: sampstat cinterval ;
```

Hypothesis 5

```
DATA:
DATA:
  FILE IS  "Touch_Attach_Study3_data.csv";

     VARIABLE:
     NAMES = CoupleID Day PartID1 Age1 Gender1 PA1 relsat1 touchB1
     Brelsta1 BrelID1 BAAnx1 BAAvo1 BSWL1 BPWB1 BPRQCM1 PartID2 Age2
     Gender2 PA2 relsat2 touchB2 Brelsta2 BrelID2 BAAnx2 BAAvo2 BSWL2
     BPWB2 BPRQCM2 PA1c relsa1c toucB1c PA2c relsa2c toucB2c PA1cb
     relsa1cb toucB1cb PA2cb relsa2cb toucB2cb PA1cw relsa1cw toucB1cw
     PA2cw relsa2cw toucB2cw touchBC toucBcwC toucBcbC ToBcwClg RS2cwlg
     PA2cwlg RS1cwlg PA1cwlg RelStat1 Relleng1 RelStat2 Relleng2  ;

USEVARIABLES ARE
PA1 PA2 toucBcbC
BAAnx1 BAAvo1 BAAnx2 BAAvo2
touchBC toucBcwC Day PA1cwlg PA2cwlg;

MISSING ARE ALL (-99);

CLUSTER = CoupleID;
```

```
BETWEEN = toucBcbC BAAnx1 BAAvo1 BAAnx2 BAAvo2 ;

WITHIN = toucBcwC Day PA1cwlg PA2cwlg;

DEFINE:

CENTER BAAnx1 BAAvo1 BAAnx2 BAAvo2 (GRANDMEAN);
CENTER toucBcwC Day(GROUPMEAN);

ANALYSIS: TYPE = twolevel ;
ESTIMATOR=mlr;

MODEL:

%WITHIN%

 PA1 ON ToucBcwC (b);
 PA2 ON ToucBcwC (b);

   PA1 ON Day (1);
   PA2 ON Day (1);

  PA1 ON PA1cwlg (6);
  PA2 ON PA2cwlg (6);

   TouchBC ON Day ;
   TouchBC ON PA1cwlg (7);
   TouchBC ON PA2cwlg (7);

   PA1 WITH PA2;

   TouchBC WITH PA1@0; !set to zero because n.s.
   TouchBC WITH PA2@0; !set to zero because n.s.
   Day WITH PA1@0; !set to zero because n.s.
   Day WITH PA2@0; !set to zero because n.s.

   [Day@0]; !set to zero because mean centered

%BETWEEN%

   [ToucBcbC@0]; !set to zero because mean centered
   ToucBcbC@0;
   [BAAnx1@0]; !set to zero because mean centered
   [BAAnx2@0]; !set to zero because mean centered
   [BAAvo1@0]; !set to zero because mean centered
   [BAAvo2@0]; !set to zero because mean centered
```

```
  PA1 ON ToucBcbC(2);
  PA2 ON ToucBcbC(2);

  PA1 ON BAAvo1 (cA); !c' Actor path
  PA2 ON BAAvo2 (cA);
  PA1 ON BAAvo2 (cP);! c' Partner path on partner 1
  PA2 ON BAAvo1 (cP);! c' Partner path on partner 2

  PA1 ON BAAnx1 (3);
  PA2 ON BAAnx2 (3);

  TouchBC ON BAAvo1 (a);
  TouchBC ON BAAvo2 (a);

  TouchBC ON BAAnx1 (4);
  TouchBC ON BAAnx2 (4);

  TouchBC WITH PA1@0;
  TouchBC WITH PA2@0;

  BAAvo1 WITH BAAvo2;
  BAAnx1 WITH BAAnx2;

  PA1 WITH PA2 (covint);

[PA1] (5);
[PA2] (5);
[TouchBC];

PA1 (PA1);
PA2 (PA2);
TouchBC (TouchBC);

MODEL CONSTRAINT:

NEW rint; rint = covint/sqrt(PA1 * PA2);

!mediation
NEW med; med = a * b;

OUTPUT: sampstat stand cinterval ;
```

Supplemental Material C: Additional Model Parameters

Study 2

Hypothesis 5

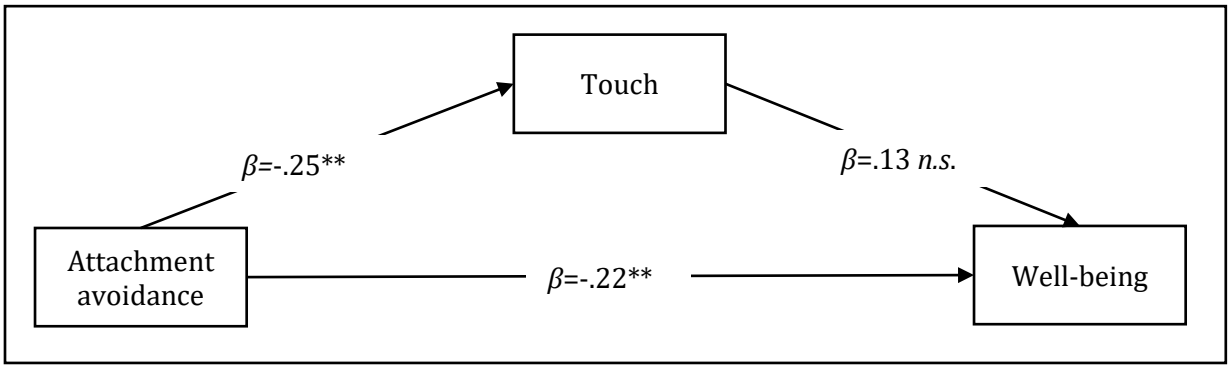

Figure C1. Standardized results of the mediation model for the baseline data of Study 2. *n.s.*: non-significant, † $p<.10$, ** $p<.01$. The indirect effect was not significant, b=-.03, *PSD*=.03, p=.13.

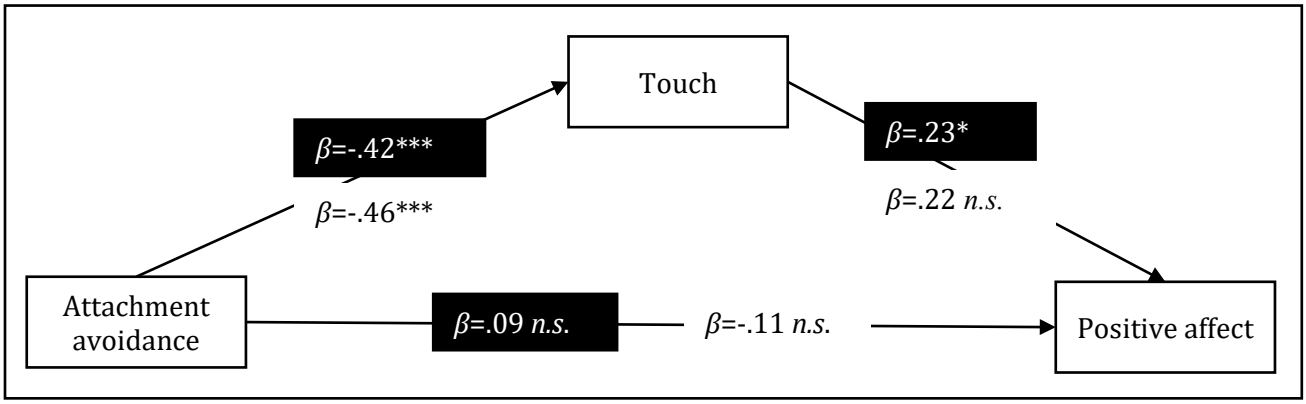

Figure C2. Standardized results of the mediation model in the lab-conversations in Study 2. *n.s.*: non-significant, † $p<.10$, * $p<.05$, *** $p<.001$. The black boxes report the parameters for the "love" conversations, whereas the other parameters are from the "suffering" conversations. The indirect effect was, b=-.21, PSD=.11* / b=-.21, *PSD*=.14 *n.s.*.

Study 3

Hypothesis 5

This model additionally controlled for actor attachment anxiety (on positive affect, β=.07, *SE*=.08, p=.37, and on touch, β=.01, *SE*=.08, p=.92), elapsed time (on positive affect, β=-.02, *SE*=.02, p=.46, and on touch, β=-.16, *SE*=.03, p<.001) and between-level touch in the couple on positive affect, β=.26, *SE*=.02, p<.001.

Table C1.
Summary of the Studies Results for Main Effects, Moderations and Mediation Hypotheses.

Studies:	1. Cross-sectional N=1604 individuals		2. Cross-sectional – dyadic N=81 couples		2. In lab, objective touch - dyadic N=66 couples			3. Daily diary – dyadic N=98 couples
Hypotheses:					Conversation			
1. Touch → WB	*β*=.24, *t*(1377)=9.00***		*β*=.21, *PSD*=.09**		*love*	*β*=.13, *PSD*=.07†		*b*=.29, *SE*=.03***
					suffering	*β*=.15, *PSD*=.09†		
2. Avoid. att. → WB	*β*=-.28, *t*(1599)=-12.35***	AE	*β*=-.27, *PSD*=.07***		*love*	*β*=.07, *PSD*=.08, *n.s.*	AE	*β*=-.20, *SE*=.07**
		PE	*β*=-.25, *PSD*=.09**		*suffering*	*β*=-.09, *PSD*=.09, *n.s.*	PE	*β*=-.20, *SE*=.08**
Anx. att. → WB	*β*=-.39, *t*(1599)=-17.18***	AE	*β*=-.16, *PSD*=.08*		*love*	*β*=-.06, *PSD*=.08, *n.s.*	AE	*β*=.02, *SE*=.08, *n.s.*
		PE	*β*=.07, *PSD*=.09, *n.s.*		*suffering*	*β*=.04, *PSD*=.09, *n.s.*	PE	*β*=-.11, *SE*=.09, *n.s.*
3. Avoid. att. → touch	*β*=-.26, *t*(1374)=-9.23***		*β*=-.25, *PSD*=.07***		*love*	*β*=-.25, *PSD*=.12*		*β*=-.20, *SE*=.06**
					suffering	*β*=-.34, *PSD*=.11**		
Anx. att. → touch	*β*=.04, *t*(1374)=1.32, *n.s.*		*β*=.17, *PSD*=.08*		*love*	*β*=.02, *PSD*=.12, *n.s.*		*β*=.01, *SE*=.08, *n.s.*
					suffering	*β*=-.02, *PSD*=.11, *n.s.*		
4. Avoid. att. moderates touch → WB	*b*=.01, *SE*=.01, n.s.		*β*=-.04, *PSD*=.06, *n.s.*		*love*	*β*=.07, *PSD*=.10, *n.s.*		*b*=.006, *SE*=.02, *n.s.*
					suffering	*β*=.03, *PSD*=.12, *n.s.*		
Anx. att.moderates touch → WB	*b*=.01, *SE*=.01, *n.s.*		-		*love*	*β*=.37, *PSD*=.28, *n.s.*		*b*=.05, *SE*=.03*.
					suffering	*β*=.24, *PSD*=.33, *n.s.*		
5. Indirect effect: Avoid. att. → touch → WB	*β*=-.04, *SE*=.008***		*b*=-.03, *PSD*=.03, *n.s.*		*love*	*b*=-.18, *PSD*=.10*		*b*=-.06, *SE*=.02**
					suffering	*b*=-.21, PSD=.14, n.s.		

Note: anx.=anxious; attach.=attachment; avoid.=avoidant; *PSD*=Posterior Standard Deviation; AE=actor effect; PE=partner effect; WB=well-being; →=predicts; †=*p*<.10; * *p*<.05; ** *p*<.01; *** *p*<.001; *n.s.*=non-significant.

Supplemental Material D: Reversing the Association between Touch and Psychological Well-Being

We tested the alternative hypothesis that low levels of psychological well-being would explain why more avoidantly attached individuals exchange less frequently touch in their relationship. In the data that was assessed at multiple time points (Laboratory Data in Study 2 and in Study 3), before testing the alternative mediation hypothesis, we first tested whether positive affect would predict couples' touch behaviors. We report the results below.

Study 1

We tested the alternative mediation hypothesis that lower well-being accounts for the association between attachment avoidance and touch. In this cross-sectional dataset, the results confirmed this hypothesis. The indirect effect of attachment avoidance on touch was significantly mediated by well-being, β=-.05, SE=.01, p<.001, *95% Bootstrap CI* [-.07; -.03], when controlling for the association between attachment anxiety and well-being, b=-.27, SE=.02, p<.001 and attachment anxiety and touch, b=.13, SE=.03, p<.001. Figure D1 provides more details about the model.

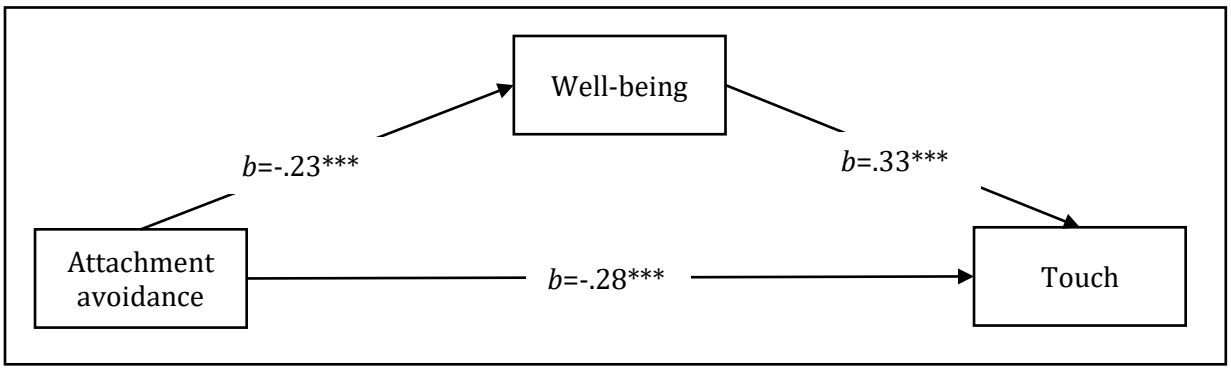

Figure D1. Standardized results of the alternative mediation model for the cross-sectional data of Study 2. † p<.10, **p<.01, ***p<.001.

Study 2

Baseline Data

We tested the alternative mediation hypothesis that lower well-being accounts for the association between attachment avoidance and touch. In this cross-sectional dataset, the indirect effect of attachment avoidance on touch as mediated by well-being was not significant, b=-.02, *PSD*=.02, p=.16, *95% CI* [-.07; .01], controlling for the association between attachement anxiety and well-being, β=-.22, *PSD*=.08, p=.006 and attachment anxiety and touch, β=.18, *PSD*=.08, p=.02. Figure D2 provides more details about the model.

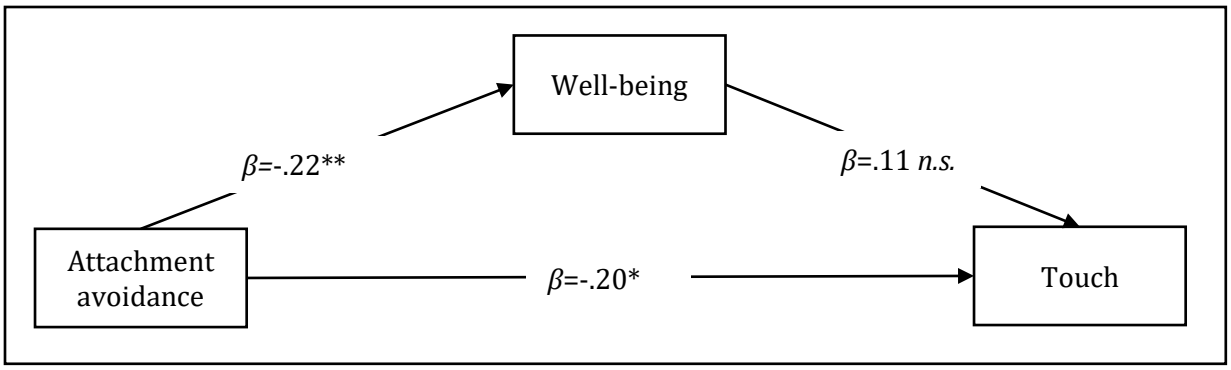

Figure D2. Standardized results of the alternative mediation model for the cross-sectional data of Study 2. *n.s.*: non-significant, * $p<.05$, ** $p<.01$.

Lab Conversations

Reversed Hypothesis 1: Positive Affect Predicts Touch

We tested the alternative hypothesis that positive affect would predict touch during the conversation. We thus used the pre-conversation positive affect as a predictor of whether partners would touch or not during the love and suffering conversations respectively.

Pre-conversation positive affect did not significantly predict whether couples touched during the love conversations, β=.14, *PSD*=.08, p=.12, *95% CI* [-.03; .29]. In the suffering conversations, this association was significant, β=.18, *PSD*=.08, p=.03, *95% CI* [.02; .33].

Alternative Mediation Hypothesis

We tested the alternative mediation hypothesis that lower pre-conversation positive affect accounts for the association between attachment avoidance and touch during the conversations. In the love-conversations, the indirect effect of attachment avoidance on touch as mediated by pre-conversation positive affect was not significant, b=-.04, SE=.04, p=.18, *95% CI* [-.12; .02], controlling for the association between attachement anxiety and touch, β=.04, *PSD*=.12, p=.74. In the suffering-conversations, the indirect effect of attachment avoidance on touch as mediated by pre-conversations positive affect was marginally significant, b=-.06, SE=.05, p=.07, *95% CI* [-.16; .007], controlling for the association between attachement anxiety and touch, β=.001, *PSD*=.11, p=.99. Figure D3 provides more details about the models.

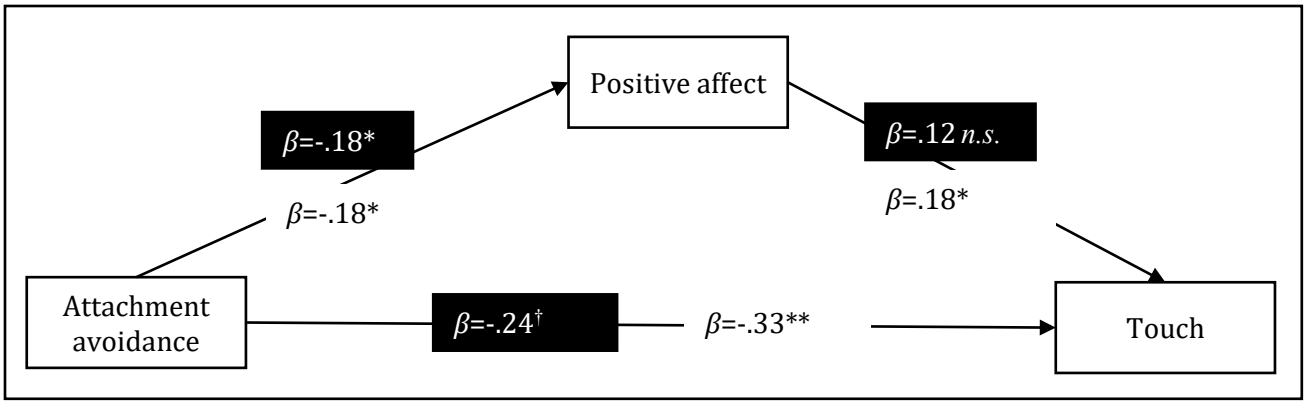

Figure D3. Standardized results of the mediation model in the lab-conversations in Study 2. *n.s.*: non-significant, † $p<.10$*$p<.05$, ** $p<.01$. The black boxes report the parameters for the "love" conversations, whereas the other parameters are from the "suffering" conversations.

Study 3 – Daily Diary Data

Reversed Hypothesis 1: Positive Affect Predicts Touch

We tested the alternative hypothesis, that, controlling for previous day touch, same-day positive affect would predict touch. This hypothesis was confirmed, $b=.18$, SE=.02, $p<.001$, *95% CI* [.15; .21].

Alternative Mediation Hypothesis

We tested the alternative mediation hypothesis that lower daily positive affect would accounts for the negative association between attachment avoidance and touch in daily life, controlling for previous day touch. In this model, we tested for both the path from actor's attachment avoidance through actor's positive affect on couple's touch (indirect actor effect) as the path from actor's attachment avoidance through partner's positive affect on couple's touch (indirect partner effect). The indirect actor effect was not significant, $b=-.04$, SE=.04, $p=.41$, *95% CI* [-.11; .05], nor was the partner effect, $b=-.04$, SE=.04, $p=.38$, *95% CI* [-.12; .05].

Discussion D

The results were less conclusive than our original ones: even though the results supported the alternative mediation hypothesis in Study 1 (which does not come as a surprise given the cross-sectional nature of the data), this indirect effect was not significant in the cross-sectional data of Study 2, as was the originally tested mediation. In the lab-conversation data of Study 2, the indirect effect of attachment avoidance on touch as mediated by pre-conversation positive affect was not significant in the love conversations (while it was significant in the originally tested mediation) and was also marginally significant in the suffering-conversations, as it was in the originally tested mediation. However, the best test

of this alternative hypothesis can be done in Study 3, as the daily diary data allowed us to control for the outcome at the previous day in the models, and thus to test the order of the processes. The results did not confirm this alternative mediation hypothesis, while the original mediation hypothesis was confirmed. Thus, these series of results predominantly support our initial hypothesis that lower touch mediates the association between attachment avoidance and well-being over the alternative hypothesis that lower well-being mediates the negative association between attachment avoidance and lower touch.

Supplemental Material E: Analyses with Relational Well-Being as an Outcome

Because the studied processes of this paper might also have important consequences for relational well-being, we tested our hypothesis with relational instead of psychological well-being as an outcome.

First, given the known association between psychological and relational well-being (e.g. Robles et al., 2014), we tested whether they would also be significantly associated in our samples. In Study 1, we measured relationship quality with the Perceived Relationship Quality Component (PRQC; Fletcher, Simpson, & Thomas, 2000). Our composite measure of psychological well-being was positively and significantly correlated with the PRQC, r=.45, p<.001. In Study 2, we measured relationship satisfaction with the Relationship Satisfaction Subscale of the Investment Model Scale (Rusbult, Martz, & Agnew, 1998). It was positively and significantly correlated with our measure of psychological well-being, r=.34, p<.001. In Study 3, we measured daily relationship quality with five items corresponding with the five scales of the PRQC (*Today, with regard to my relationship, I felt: a) satisfied, b) committed, c) connected, d) love for my partner, e) that I could count on my partner.).* The mean of these five items was positively and significantly correlated with our measure of daily positive affect, r=.40, p<.001.

Next, we report the results of the newly tested hypotheses with relational instead of psychological well-being as an outcome in Table E1. Note that we did not test Hypothesis 3 as it did not include well-being. Moreover, there was no momentary measure of relational well-being in the in-lab data of Study 2, so that we did not test these new hypotheses in this dataset.

Even though some results showed a similar pattern with relational well-being as in our original hypotheses with psychological well-being, the analyses with relational well-being as an outcome were less conclusive. In Study 1, attachment avoidance did moderate the association between touch and relational well-being. Results of the simple slopes showed that the association between touch and relational well-being was positive and significant at all levels of attachment avoidance , however, this association was stronger at high levels of attachment avoidance (1 SD above the mean, b=.27, SE=.02, p<.001) than at low levels of attachment avoidance (1 SD below the mean, b=.20, SE=.02, p<.001). However, we did not replicate this moderation in Study 2 nor in Study 3. Moreover, in Study 2, there was no association between touch and relational well-being, and touch did not mediate the association between attachment avoidance and relational well-being.
Thus, the results are somewhat less clear when considering relational well-being as the outcome. Further research would be required to clarify whether the association between touch and relational well-being is indeed stronger at higher levels of attachment avoidance.

Table E1.

Summary of the Three Studies Results with Relational Well-Being as an Outcome.

Studies:	1. Cross-sectional N=1604 individuals		2. Cross-sectional – dyadic N=81 couples		3. Daily diary – dyadic N=98 couples	
Hypotheses:						
1. Touch → WB	*β*=.50, *t*(1367)=21.42***		*β*=.08, *PSD*=.09 *n.s.*		*b*=.30, *SE*=.03***	
2. Avoid. att. → WB	*β*=-.49, *t*(1587)=-20.80***	AE	*β*=-.27, *PSD*=.08***	AE	*β*=-.34, *SE*=.08***	
		PE	*β*=-.18, *PSD*=.09*	PE	*β*=-.32, *SE*=.07***	
Anx. att. → WB	*β*=-.09, *t*(1587)=-3.91***	*AE*	*β*=-.01, *PSD*=.08, *n.s.*	*AE*	*β*=.05, *SE*=.06, *n.s.*	
		PE	*β*=.06, *PSD*=.09, *n.s.*	*PE*	*β*=-.09, *SE*=.07, *n.s.*	
4. Avoid. att. moderates touch → WB	*b*=.03, *SE*=.01**		*β*=.09, *PSD*=.06, *n.s.*		*b*=-.002, *SE*=.02, *n.s.*	
Anx. att. moderates touch → WB	*b*=.03, *SE*=.01***		*β*=-.006, *PSD*=.29, *n.s.*		*b*=.05, *SE*=.02*.	
5. Avoid. att. → touch → WB	*β*=-.10, *SE*=.01***		*b*=-.02, *PSD*=.04, *n.s.*		*b*=-.06, *SE*=.02**	

Note: anx.=anxious; attach.=attachment; avoid.=avoidant; *PSD*=Posterior Standard Deviation; AE=actor effect; PE=partner effect; WB=well-being; →=predicts; †=*p*<.10; * *p*<.05; ** *p*<.01; *** *p*<.001; *n.s.*=non-significant.

Supplemental Material F: Controlling for Age and Relationship Length

Given that in all our samples, participants comprised a wide range of ages and relationship lengths, we controlled for these variables and tested whether the results held in all studies. Moreover, we tested whether they moderated the hypothesized associations in Studies 1 and 3, which are more highly powered than Study 2.

Study 1

In Study 1, regarding Hypothesis 1, even though age was significantly associated with well-being, b=.02, SE=.003, p<.001, the association between touch and well-being remained significant when controlling for age. However, age did not moderate the association between touch and well-being, b=.001, SE=.002, p=.63. The same pattern of results was found with relationship length: the association between touch and well-being held when controlling for the relationship length, even though relationship length was significantly associated with well-being, b=.001, SE=.0003, p<.001. However, relationship length did not moderate the association between touch and well-being, β=-.00004, SE=.0002, p=.80.

Regarding our second hypothesis that attachment avoidance is associated with lower well-being, results showed that the main effect of age was not significant, b=.002, SE=.002, p=.22, and that attachment avoidance was still negatively associated with well-being, b=-.24, SE=.02, p<.001. Moreover, age significantly interacted with attachment avoidance , b=-.004, SE=.002, p<.01, such that the older the participants, the stronger the negative association between attachment avoidance and well-being. A similar pattern emerged when controlling for relationship length: its main effect was only marginally significant, b=.0004, SE=.0002, p=.051, and attachment avoidance was still significantly associated with well-being, b=-.25, SE=.02, p<.001. Moreover, relationship length significantly interacted with attachment avoidance , b=-.0005, SE=.0002, p=.02, such that the longer the relationship, the stronger the negative association between attachment avoidance and well-being.

Next, regarding our third hypothesis that attachment avoidance is associated with less touch in the relationship, we found that the association between attachement avoidance and touch held when controlling for age, b=-.35, SE=.04, p<.001, even though the latter was associated with touch, b=-.04, SE=.004, p<.001. Age moderated the association between attachment avoidance and touch, b=-.009, SE=.003, p=.01, such that the older the participants, the more negative the association between attachment avoidance and touch. Again, a similar pattern emerged for relationship length: the association between attachment avoidance and touch held when controlling for relationship length, b=-.40, SE=.04, p<.001, even though the latter was associated with touch, b=-.005, SE=.0004, p<.001. Relationship length moderated the association between attachment avoidance and touch, b=-.0009, SE=.0004, p=.02, such that the longer the relationship, the more negative the association between attachment avoidance and touch.

Next, we tested whether age or relationship length would moderate the interaction between attachment avoidance and touch in predicting well-being, so that we computed a three-way interaction between touch, attachment avoidance and age (or relationship length). Results indicated that this three-way interaction was neither significant with age, *b*=-.001, *SE*=.001, *p*=.43, nor with relationship length *b*=.00005, *SE*=.0001, *p*=.67.

Finally, we tested our mediation hypothesis controlling for age and relationship length respectively. Results showed that the mediation held even when controlling for age, *β*=-.03, *SE*=.006, *p*<.001, and relationship length, *β*=-.04, *SE*=.008, *p*<.001.

Brief Discussion

To sum-up, in Study 1, all the hypotheses held when controlling for both age and relationship length, even though these control variables accentuated some of the results, namely that the negative association of attachment avoidance with well-being and with touch was stronger the older the participants and the longer their relationship.

Study 2

In Study 2, given the smaller sample size, we only controlled for age and relationship length in our models.

Baseline Data

Regarding our first hypothesis, we showed that the association between touch and well-being became marginally significant, *β*=.16, *PSD*=.09, *p*=.09, when controlling for age, *β*=-.18, *PSD*=.11, *p*=.13. This association was not significant, *β*=.15, *PSD*=.10, *p*=.13, when controlling for relationship length, *β*=-.18, *PSD*=.10, *p*=.08.

Regarding our second hypothesis, we found that the association between attachment avoidance and well-being remained significant for the actor, *β*=-.25, *PSD*=.08, *p*=.002, and for the partner, *β*=-.18, *PSD*=.09, *p*=.05, when controlling for age, *β*=-.22, *PSD*=.10, *p*=.04. The same pattern emerged when controlling for relationship length: the association between attachment avoidance and well-being remained significant for the actor, *β*=-.26, *PSD*=.08, *p*=.002, and for the partner, *β*=-.21, *PSD*=.09, *p*=.02, even though relationship length was significantly and negatively associated with well-being, *β*=-.24, *PSD*=.09, *p*=.01.

Regarding our third hypothesis, we found that the association between attachment avoidance and touch remained significant, *β*=-.20, *PSD*=.08, *p*=.02, when controlling for age, *β*=-.18, *PSD*=.08, *p*=.03. The same held when controlling for relationship length: the association between attachment avoidance and touch remained significant, *β*=-.23, *PSD*=.08, *p*=.01, even though relationship length was significantly and negatively associated with touch in the couple, *β*=-.15, *PSD*=.06, *p*=.01.

The results regarding our fourth moderation hypothesis held when controlling for age; the interaction between attachment avoidance and touch on well-being was still not significant, *β*=-.03, *PSD*=.07, *p*=.65, even though age was significantly associated with well-being, *β*=-.24,

PSD=.11, *p*=.04. Regarding relationship length: the interaction between attachment avoidance and touch on well-being was still not significant, *β*=-.01, *PSD*=.07, *p*=.90, even if relationship length was significantly associated with well-being, *β*=-.23, *PSD*=.10, *p*=.02.

Finally, regarding our fifth mediation hypothesis, we found that the mediation was still not significant, neither when controlling for age, *b*=-.02, *SE*=.02, *p*=.24 (the association between age and well-being was, *β*=-.20, *PSD*=.11, *p*=.07), nor when controlling for relationship length, *b*=-.02, *SE*=.02, *p*=.42 (the association between relationship length and well-being was, *β*=-.22, *PSD*=.09, *p*=.02).

Laboratory Data

Next, we turned to the laboratory data. Regarding our first hypothesis, in the love conversations, the association between touch and post-conversation positive affect remained marginally significant, *β*=.12, *PSD*=.07, *p*=.07, when controlling for age, *β*=-.04, *PSD*=.08, *p*=.46. The same pattern was found when controlling for relationship length, *β*=-.12, *PSD*=.07, *p*=.10: the association between touch and post-conversation positive affect was still marginally significant, *β*=.13, *PSD*=.07, *p*=.06. We found similar results in the suffering conversations: the association between touch and post-conversation positive affect was marginally significant, *β*=.15, *PSD*=.09, *p*=.09, when controlling for age, *β*=-.03, *PSD*=.10, *p*=.81. Moreover, controlling for relationship length, *β*=.04, *PSD*=.10, *p*=.71, did not affect the significance level of the association between touch and post-conversation positive affect, which was still marginally significant, *β*=.15, *PSD*=.09, *p*=.09.

Regarding our second hypothesis, in the love conversations, we found that the association between attachment avoidance and post-conversation positive affect remained non-significant, *β*=.02, *PSD*=.08, *p*=.75, when controlling for age, *β*=-.01, *PSD*=.08, *p*=.88. The same was found in the model controlling for relationship length, *β*=-.10, *PSD*=.07, *p*=.18: the association between attachment avoidance and post-conversation positive affect remained non-significant, *β*=.03, *PSD*=.08, *p*=.75. We found the same pattern for the suffering conversations: the association between attachment avoidance and post-conversation positive affect remained non-significant, *β*=-.07, *PSD*=.09, *p*=.41, when controlling for age, *β*=.02, *PSD*=.10, *p*=.81. In the model controlling for relationship length, *β*=-.009, *PSD*=.09, *p*=.92, the association between attachment avoidance and post-conversation positive affect remained non-significant, *β*=-.07, *PSD*=.08, *p*=.43. As in our main analyses, we tested whether attachment avoidance would predict pre-conversation positive affect. As in the original model, we found that this association was marginally significant, *β*=-.15, *PSD*=.09, *p*=.08, when controlling for age, *β*=-.08, *PSD*=.08, *p*=.32. When controlling for relationship length, *β*=-.14, *PSD*=.09, *p*=.14, attachment avoidance marginally predicted pre-conversation positive affect, *β*=-.16, *PSD*=.09, *p*=.06.

Regarding our third hypothesis, we found that, in the love conversations, the association between attachment avoidance and touch remained significant, *β*=-.28, *PSD*=.13, *p*=.049, when controlling for age, *β*=.06, *PSD*= .09, *p*=.57, as well as when controlling for relationship

length, β<.001, *PSD*=.08, p=.99. In this latter model, the association between attachment avoidance and touch was, β=-.25, *PSD*=.12, p=.048. In the suffering conversations, the association between attachment avoidance and touch remained significant, β=-.29, *PSD*=.13, p=.03, when controlling for age, β=-.06, *PSD*=.08, p=.51. When controlling for relationship length, β=-.12, *PSD*=.07, p=.08, the association between attachment avoidance and touch was significant, β=-.31, *PSD*=.11, p=.008.

Regarding our fourth moderation hypothesis, in the love conversations, the interaction between attachment avoidance and touch on well-being was still not significant, β=.07, *PSD*=.10, p=.52, when controlling for age, β=-.001, *PSD*=.06, p=.99. The same pattern was found when controlling for relationship length, β=.04, *PSD*=.09, p=.62; the interaction between attachment avoidance and touch on well-being was still not significant, β=-.04, *PSD*=.12, p=.77. We found a similar pattern in the suffering conversations; when controlling for age, β=.03, *PSD*=.08, p=.65: the interaction between attachment avoidance and touch on well-being was still not significant, β=-.03, *PSD*=.12, p=.84. The same results emerged when controlling for relationship length, β=.05, *PSD*=.09, p=.61; the interaction between attachment avoidance and touch on well-being was still not significant, β=-.04, *PSD*=.12, p=.76.

Finally, regarding our fifth mediation hypothesis, we found that, in the love conversations, the mediation by touch of the association between attachment avoidance and post-conversation positive affect was still significant, b=-.21, *SE*=.11, p=.04, when controlling for age, β=-.008, *SE*=.06, p=.90. The same held when controlling for relationship length, β=-.10, *SE*=.07, p=.15: the mediation was still significant, b=-.21, *SE*=.11, p=.03. In the suffering conversations, the mediation was marginally significant, b=-.28, *SE*=.16, p=.06 (as in the original model), when controlling for age, β=.06, *SE*=.07, p=.45. The same held when controlling for relationship length, β=-.01, *SE*=.09, p=.89: the mediation by touch of the association between attachment avoidance and post-conversation positive affect was still marginally significant b=-.25, *SE*=.15, p=.09.

Brief Discussion

This set of analyses showed that the vast majority of our hypotheses held when controlling for age and relationship length in our results, providing further strength to our initial hypotheses. However, in the baseline data, the association between touch and well-being became marginally significant when controlling for age, and was no longer significant when controlling for relationship length. In the lab-conversation data however, all the results reported in the original analyses held when controlling for age and relationship length.

Given the small sample size, it might be that there was not enough power to detect the hypothesized mediation effect beyond the effect of the control variables, as it was the case in Study 1. The next study, which has high power at the within-person level, should provide stronger evidence for the tested effects.

Study 3

In Study 3, we tested models in which the control variables (age and reslationship length) were included as main predictors and interaction terms with the predictors of the main effect models (Hypotheses 1-3).

First, in the model testing the association between daily touch and daily positive affect, age was not associated with positive affect, *b*=.001, *SE*=.01, *p*=.90; it did not interact with touch, *b*=-.003, *SE*=.002, *p*=.19; and the association between daily touch and daily positive affect remained significant, *b*=.39, *SE*=.09, *p*<.001. Relationship length was associated with positive affect, *b*=-.02, *SE*=.02, *p*=.34; it did not interact with the touch, *b*=.005, *SE*=.005, *p*=.32; and the association between daily touch and daily positive affect remained significant, *b*=.25, *SE*=.05, *p*<.001.

Regarding our second hypothesis, when controlling for age, we found that it was not associated with positive affect, *b*=.002, *SE*=.01, *p*=.87, it did not interact with attachment avoidance, *b*=.01, *SE*=.02, *p*=.75, and the association between attachment avoidance and daily positive affect remained significant, *β*=-.20, *SE*=.08, *p*=.006. However, in the model controlling for relationship length, the latter was significantly associated with daily positive affect, *β*=-.15, *SE*=.07, *p*=.04, but it did not interact with attachment avoidance, *b*=.01, *SE*=.02, *p*=.56, and the association between attachment avoidance and daily positive affect still remained significant, *β*=.20, *SE*=.07, *p*=.007,

Regarding our third hypothesis, we found that age was not associated with touch in the relationship, *β*=-.04, *SE*=.06, *p*=.45, but it interacted with attachment avoidance, *β* =.18, *SE*=.08, *p*=.02, such that the older the participants, the more strongly negative the association between attachment avoidance and touch. Nevertheless, the association between attachment avoidance and touch remained significant, *β*=-.21, *SE*=.08, *p*=.008. When controlling for relationship length, we found that it was marginally associated with daily positive affect, *β*=-.07, *SE*=.04, *p*=.09, and it interacted with attachment avoidance, *b*=.13, *SE*=.06, *p*=.02, such that the longer the participants had been in the romantic relationship, the more strongly negative the association between attachment avoidance and touch. Nevertheless, the association between attachment avoidance and touch remained significant, *β*=-.18, *SE*=.06, *p*=.006.

Regarding Hypothesis 4, age did not predict daily positive affect in our moderation model, *b*=.003, *SE*=.01, *p*=.78, it did not moderate the interaction between attachment avoidance and touch on well-being, *b*=-.003, *SE*=.003, *p*=.26, and attachment avoidance still did not moderate the association between daily touch and daily positive affect, *b*=.005, *SE*=.02, *p*=.84. A similar pattern emerged for relationship length: it marginally predicte daily positive affect in this moderation model, *b*=-.02, *SE*=.01, *p*=.06, it did not moderate the interaction between attachment avoidance and touch on well-being, *b*=-.007, *SE*=.004, *p*=.12, and attachment avoidance still did not moderate the association between daily touch and daily positive affect, *b*=-.002, *SE*=.02, *p*=.94.

Finally, regarding Hypothesis 5, in the mediation model, age neither directly predicted positive affect, β=.04, *SE*=.10, *p*=.67, nor touch, β=-.05, *SE*=.06 *p*=.38. Touch still significantly mediated the negative association between attachment avoidance and positive affect, *b*=-.05, *SE*=.02, *p*=.02. However, age moderated the mediation of negative association between attachment avoidance and positive affect, *b*=.007, *SE*=.003, *p*=.02, such that the older the participants, the more negative the mediation path between attachment avoidance and daily positive affect as mediated by daily touch. A similar pattern emerged in the mediation model controlling for relationship length. Results indicate that the latter was marginally associated with positive affect, β=-.15, *SE*=.08, *p*=.07, but was not associated with touch, β=-.06, *SE*=.04, *p*=.18. The mediation by touch of the association between attachment avoidance and positive affect was still significant, *b*=-.05, *SE*=.02, *p*=.01. Moreover, relationship length moderated the mediation of negative association between attachment avoidance and positive affect, *b*=.009, *SE*=.004, *p*=.008, such that the longer the relationship, the more negative the mediation path between attachment avoidance and daily positive affect as mediated by daily touch.

Brief Discussion

These results mainly confirm the ones of Study 1. First, all our primary results remain confirmed when controlling for both age and relationship length. As in Study 1, age and relationship length moderated the association between attachment avoidance and touch, such that the more time was elapsed (either in age or relationship duration), the more negative was the association between attachment avoidance and well-being. However, in Study 3, contrary to Study 1, neither age nor relationship length moderated the association between attachment avoidance and daily positive affect.

General Discussion F

The results of these analyses where we controlled for age and relationship length in all our analyses widely support our initial hypotheses: most of the results remained unchanged by the addition of the control variables. However, this was not the case for some of the results in Study 2: in the baseline data, the association between touch and well-being turned only marginally significant when controlling for age, and not significant anymore when controlling for relationship length. Because the other, more highly powered studies did not replicate this pattern, we believe that this is most probably due to the smaller sample size of Study 2. Further research should investigate how attachment avoidance affects touch and its consequences in relationship across people's lifespan and relationship developments with larger samples.

Supplemental Material G: Controlling for Relationship Quality, Sexual Activity and Daily Contact with the Partner

In this Supplemental Material, we investigated whether the results held when controlling for relationship quality and sexual activity (all studies) and when controlling for whether partners had in person contact on a given day (Study 3), in order to know to what extent is touch adding unique contributions to psychological well-being beyond that of general relationship quality, sexual activity measures, and mere contact between partners.

Study 1

Measures

Relationship quality. We assessed relationship quality with the Perceived Relationship Quality Component Inventory (PRQC; Fletcher et al., 2000). The PRQC assesses the components satisfaction, commitment, intimacy, trust, passion, and love (e.g., *How satisfied are you with your relationship*) with three items each on a 7-point scale (1=*not at all* to 7=*extremely*), M=5.98, SD=.95, a=.96.

Sexual frequency was assessed with the item "*On average, how frequently do you and your partner have sex?*" on a scale ranging from 1 = *less than once a month*, to 5 = *multiple times per week, M* = 3.74, *SD* = 1.33.

Results

When controlling for relationship quality, we found the following results. The association between touch and well-being dropped to non-significance, β=.02, SE=.02, p=.47. Relationship quality was significantly associated with well-being, β=.44, SE=.03, p<.001. Attachment avoidance was still significantly associated with well-being, β=-.15, SE=.02, p<.001, but not with touch, β=-.02, SE=.04, p=.52. Relationship quality was significantly associated with touch, β=.52, SE=.05, p<.001. Attachment avoidance still did not moderate the association between touch and well-being, b<.001, SE=.01, p=.97. Finally, touch no longer mediated the association between attachment avoidance and well-being, b=-.001, SE=.002, p=.57.

When controlling for sexual frequency, however, the pattern of original results was unchanged. Touch still predicted well-being, β=.17, SE=.02, p<.001, attachment avoidance was still negatively associated with well-being, β=-.26, SE=.02, p<.001, and with touch, β=-.20, SE=.04, p<.001. Attachment avoidance still did not moderate the association between touch and well-being, b=.01, SE=.01, p=.51. Finally, touch still mediated the association between attachment avoidance and well-being, b=-.02, SE=.006, p<.001.

Study 2

Measures

Relationship satisfaction.[1] It was assessed with Rusbult et al. (1998) Investment Model Scale. Participants responded to five items assessing relationship satisfaction on a scale ranging from 1=*strongly disagree* to 7=s*trongly agree.* An exemple item is "*My relationship is close to ideal*", *M*=6.05, *SD*=.86.

Sexual frequency. It was assessed with a single item "*How often do you typically do the following with your romantic partner: have sex*." Participants could answer on a scale ranging from 1 (*never or almost never)* to 6 (*more than once a day*), *M*=3.71, *SD*=1.33.

Results

Baseline Data

When controlling for relationship satisfaction, the pattern of original results remained largely unchanged. Touch still predicted well-being, *β*=.18, *SE*=.08, *p*=.04. Attachment avoidance was still negatively associated with well-being, *β*=-.19, *SE*=.08, *p*=.01, and with touch, *β*=-.19, *SE*=.09, *p*=.03. Attachment avoidance still did not moderate the association between touch and well-being, *β*=-.04, *SE*=.07, *p*=.62. Finally, the mediation effect of touch of the association between attachment avoidance and well-being, increased to marginally significant, *b*=-.04, *SE*=.03, *p*=.06.

When controlling for sexual frequency, the pattern of original results was unchanged. Touch still predicted well-being, *β*=.19, *SE*=.09, *p*=.046, attachment avoidance was still negatively associated with well-being, *β*=-.25, *SE*=.08, *p*=.002, and with touch, *β*=-.21, *SE*=.07, *p*=.01. Attachment avoidance still did not moderate the association between touch and well-being, *b*=-.02, *SE*=.08, *p*=.76. Finally, touch still did not mediate the association between attachment avoidance and well-being, *b*=-.03, *SE*=.03, *p*=.13.

Laboratory Data

When controlling for relationship quality, we found the following results. The association between touch and well-being increased to fully significant in the love conversations, *β*=.14, *SE*=.07, *p*=.03. However, it droped to no longer significant in the suffering conversations, *β*=.13, *SE*=.09, *p*=.13. Relationship quality was significantly associated with well-being in the love conversations, *β*=.16, *SE*=.08, *p*=.06, but not in the suffering conversations, *β*=.12, *SE*=.10, *p*=.25. Attachment avoidance was still not significantly associated with well-being in the love conversations, *β*=.09, *SE*=.08, *p*=.26, as well as in the suffering conversations, *β*=-.08, *SE*=.10, *p*=.40. The prediction of touch by attachment avoidance droped to marginally significant in the love conversations, *β*=.21, *SE*=.10, *p*=.05, but it remained significant in the suffering conversations, *β*=-.29, *SE*=.09, *p*=.01. Relationship quality was not significantly associated with touch, neither in the love conversations, *β*=-.03, *SE*=.09, *p*=.79, nor in the suffering conversations, *β*=-.03, *SE*=.11, *p*=.80. Attachment avoidance still

[1] Contrary to Study 1 and 3, in Study 2, relationship quality was not assessed.

did not moderate the association between touch and well-being in the love conversations, *b*=.13, *SE*=.09, *p*=.18, nor in the suffering conversations, *β*=.03, *SE*=.12, *p*=.84. Finally, touch no longer mediated the association between attachment avoidance and well-being, neither in the love conversations, *b*=-.14, *SE*=.11, *p*=.15, nor in the suffering conversations, *b*=-.06, *SE*=.06, *p*=.15.

Study 3

Measures

***Relationship quality*.** As in Study 1, relationship quality was assessed with the PRQC (Fletcher et al., 2000). The six components (*a*=.95) were rated on a 7-point scale (*1=not at all* to *7=extremely*), *M*=5.92, *SD*=.82.

Daily sexual activity. Sexual activity was assessed on daily basis by asking "*In the last 24 hours, my partner and I engaged in sexual activity*." Participants could either respond 0=*no* or 1=*yes*. They responded in the affirmative in 21.9% of the cases.

Daily contact with the partner. Each day, we ask participants "Did you see your partner in person today?" Participants could either respond 1=*yes* or 2=*no*. They responded yes in 80.4% of the cases. Note that attachment avoidance significantly and negatively predicted contat with the partner, *β*=.26, *t*(196)=3.66, *p*<.001. For the present analyses, we use the aggregated mean of partner contact over the assessment period as a covariate.

Results

When controlling for relationship quality, we found the following results. The association between daily touch and positive affect remained significant, *b*=.28, *SE*=.03, *p*<.001. Relationship quality was significantly associated with daily positive affect, *b*=.24, *SE*=.09, *p*=.01. Actor attachment avoidance was no longer significantly associated with positive affect, *β*=-.11, *SE*=.10, *p*=.27, but partner attachment avoidance still was, *β*=-.18, *SE*=.08, *p*=.04. Attachment avoidance was no longer significantly associated with touch, *β*=-.05, *SE*=.08, *p*=.51. Relationship quality was significantly associated with daily touch, *β*=.21, *SE*=.07, *p*=.002. Attachment avoidance still did not moderate the association between touch and well-being, *b*=.01, *SE*=.02, *p*=.78. Finally, touch no longer mediated the association between attachment avoidance and well-being, *b*=-.02, *SE*=.02, *p*=.33.

When controlling for sexual activity, however, the pattern of original results was unchanged. Touch still predicted changes in positive affect, *b*=.28, *SE*=.03, *p*<.001, while sexual activity did not, *b*=.28, *SE*=.03, *p*=.48. Attachment avoidance was still negatively associated with well-being, both for the actor, *β*=-.19, *SE*=.08, *p*=.01, and the partner, *β*=-.19, *SE*=.08, *p*=.02. Attachment avoidance was also still negatively associated with touch, *β*=-.15, *SE*=.07, *p*=.03. Sexual activity was significantly associated with touch, *β*=.27, *SE*=.01, *p*<.001. Attachment avoidance still did not moderate the association between touch and well-being,

b=.01, *SE*=.02, *p*=.80. Finally, touch still mediated the association between attachment avoidance and well-being, *b*=-.06, *SE*=.02, *p*=.005.

When controlling for partner contact, the pattern of original results was unchanged. Touch still predicted changes in positive affect, *b*=.29, *SE*=.03, *p*<.001, even when partner contact also did, *b*=-1.58, *SE*=.41, *p*<.001. Attachment avoidance was still negatively associated with positive affect, both for the actor, *β*=-.16, *SE*=.07, *p*=.03, and the partner, *β*=-.17, *SE*=.07, *p*=.02. Attachment avoidance was also still negatively associated with touch, *β*=-.20, *SE*=.06, *p*=.002. Partner contact was not significantly associated with touch, *β*=.01, *SE*=.07, *p*=.93. Attachment avoidance still did not moderate the association between touch and well-being, *b*=.01, *SE*=.02, *p*=.77. Finally, touch still mediated the association between attachment avoidance and well-being, *b*=-.06, *SE*=.02, *p*=.002.

Supplemental Material H: Results with the Distinct Global Psychological Well-Being Measures

In this Supplement, we provide the results with the different well-being outcomes of our Studies (see Table H1).

In the lab conversations of Study 2, we had differerent measures of affect. For our main analyses as reported in the manuscript, we had a priori decided to take self-related positive affect as an outcome. However, we also assessed *other-related positive affect* ("Compassionate, sympathetic", "Grateful, appreciative, thankful", "Uplifted, inspired, elevated", "Awe, sense of wonder", "Affectionate, loving, caring" and "Cared about, loved, connected"; M_{pre}=4.53, SD_{pre}=1.32; $M_{post\text{-}love}$=4.88, $SD_{post\text{-}love}$=1.44; $M_{post\text{-}suffering}$=4.09, $SD_{post\text{-}suffering=}$1.36, α_{pre}=.86) and *negative affect* ("Anxious, nervous", "Lonely, isolated", "Sad, depressed, down", "Criticized, blamed", "Contempt, disgusted with partner", "Put down rejected", "Disappointed, let down", "Guilty, embarrassed, ashamed", and "Angry, irritated, hostile"; M_{pre}=1.66, SD_{pre}=.74, $M_{post\text{-}love}$=1.38, $SD_{post\text{-}love}$, α_{pre}=.57, $M_{post\text{-}suffering}$=1.86, $SD_{post\text{-}suffering}$=.91, α_{pre}=.87).

Table H1

Summary of the Results with Distinct Psychological Well-Being Measures in Study 1 and 2.

		Study 1				Study 2 Baseline Data		Lab-conversations				Study 3
Hypotheses:	Outcomes:	SWL	PWB	PA	NA	SWL	DPES	Conv.	All PA	Other-rel. PA	NA	NA
1. Touch → WB		*β*=.21***	*β*=.20***	*β*=.25***	*β*=-.12***	*β*=.14†	*β*=.28***	*Love*	*β*=.12†	*β*=.14*	*β*=.06 *n.s.*	*b*=-.11***
								Suff.	*β*=.17*	*β*=.19*	*β*=-.03 *n.s.*	
2. Att. avoid. → WB		*β*=-.21***	*β*=-.32***	*β*=-.21***	*β*=.19***	*β*=-.18*	*β*=-.36***	*Love*	*β*=.05 *n.s.*	*β*=.05 *n.s.*	*β*=.06 *n.s.*	*β*=.14†
								Suff.	*β*=-.07 *n.s.*	*β*=-.05 *n.s.*	*β*=.12 *n.s.*	
4. Att. avoid. moderates touch → WB		*β*=.01 *n.s.*	*β*<.001 *n.s.*	*b*=-.001 *n.s.*	*b*=-.002 *n.s.*	*b*=-.02 n.s.	*b*=-.009 n.s.	*Love*	*β*=.06 *n.s.*	*β*=.02 *n.s.*	*β*=.08 *n.s.*	*b*=-.01 *n.s.*
								Suff.	*β*=-.04 *n.s.*	*β*=-.004 *n.s.*	*β*=.03 *n.s.*	
5. Indirect effect: att. avoid. → touch → WB		*β* =-.04***	*b*=-.03***	*b*=-.05***	*b*=.01†	*b*=-.04 n.s.	*b*=-.03 n.s.	*Love*	*b*=-.19*	*b*=-.21*	*b*=-.06 *n.s.*	*b*=.02*
								Suff.	*b*=-.30*	*b*=-.33*	*b*=.01 *n.s.*	

Note: Att. avoid.=attachment avoidance; WB=well-being; →=predicts; SWL=Satisfaction with Life; PA = Positive Affect; NA = Negative Affect; DPAS= Dispositional Positive Emotion Scale; All PA =self- and other-related Positive Affect; Other-rel. PA=Other-related Positive Affect; conv. = conversation type; †=*p*<.10; * *p*<.05; ** *p*<.01; *** *p*<.001; *n.s.*=non-significant.

These results indicate that the vast majority of our results hold with the different well-being measures, with some exceptions. First, in Study 1, the indirect effect of Hypothesis 5 was only marginally significant with negative affect as an outcome, and in Study 2, the association between touch and satisfaction with life was also only marginally significant. In the lab conversations of Study 2, some hypotheses are fully confirmed with the other-related positive affect (Hypothesis 1 in the love conversations) and also with the other-related positive affect and with the global assessment of positive affect (Hypothesis 1 and Hypothesis 5 in the suffering conversations). However, none of the hypotheses were confirmed with negative affect. In Study 3, our hypotheses were also confirmed with negative affect, except that attachment avoidance only marginally predicted negative affect.

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