Dyadic Investigations of Past Traumatic Events and Affectionate Touch Frequency in Couples

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Abstract

Past traumatic events negatively affect romantic relationships, yet their impact on affectionate touch, an important predictor of psychological and relational well-being, remains unknown. In two preregistered studies with non-clinical samples, we hypothesized that traumatic events are negatively associated with affectionate touch frequency for both the victim (i.e., actor effect) and their romantic partner (i.e., partner effect). We also expected this negative link to be stronger for the people perceiving relatively low responsiveness and/or high insensitivity in their partner. We used secondary data from 70 Swiss couples in Study 1 and collected data online from 441 couples living in the US or UK in Study 2. All couples were heterosexual, and both studies were dyadic and cross-sectional. Unlike our hypotheses, analyses with Actor-Partner Interdependence Models revealed no negative associations between past traumatic events and affectionate touch. In Study 1, we found no significant actor effects but small-sized positive partner effects of men's traumatic events on women's affectionate touch frequency. In Study 2, however, two out of three actor effects and one partner effect were positive with negligible to small sizes. Neither perceived partner responsiveness nor insensitivity had a moderating role. The association between past traumatic experiences and affectionate touch was inconsistently non-significant or positive but consistently non-negative across our two studies. Our research demonstrated that past traumatic events did not inhibit individuals from expressing love and care to their partner through affectionate touch in our sample, even for varying levels of perceived partner responsiveness (insensitivity).

Keywords: traumatic events, affectionate touch, romantic couples, responsiveness, dyadic analysis

Dyadic Investigations of Past Traumatic Events and Affectionate Touch Frequency in Couples

Traumatic events are common and can have adverse outcomes for the victims, such as increased risk of depression (Fitzgerald et al., 2020) and post-traumatic stress disorder (PTSD; Widom, 1999). Additionally, past traumatic events threaten the victim's romantic relationships. For instance, previous studies demonstrated that the experience of a traumatic event is positively associated with the frequency of negative exchanges between partners (Whisman, 2014) and the likelihood of marital dissolution (Whisman, 2006).

The Dyadic Responses to Trauma Model (Marshall & Kuijer, 2017) suggests that traumatic events can harm the victim's and the partner's functioning at both individual (e.g., depression) and couple levels (e.g., relationship satisfaction). The Model argues that people's evaluations of their relationship depend on how both partners respond to traumatic events. In turn, partners' evaluations of their relationship can influence their interpretation of the traumatic event and their coping mechanisms for better or worse. Overall, the suggestion is that the negative impact of traumatic events can spill over to the victim's partner and disrupt both partners' romantic relationships.

In this research, we seek to investigate whether traumatic events' harm to romantic relationships extends to one of the most common daily behaviors in romantic relationships, namely affectionate touch. Affectionate touch is defined as touch aiming to provoke feelings of love in both the receiver and the provider (Gulledge et al., 2003). In this study, we focus on affectionate touch behaviors, such as holding hands and hugging, which may or may not have a sexual purpose. Abundant research confirmed the positive outcomes of affectionate touch within romantic relationships (for a review, see Jakubiak & Feeney, 2017), such as enhancing relationship satisfaction and feelings of intimacy (Masked for review; Masked for review; Jakubiak & Feeney, 2016). What is more, affectionate touch was shown to serve as a

vital non-verbal behavior eliciting a psychological feeling of security in partners (Jakubiak & Feeney, 2016, 2017; Murray, 2023), a feeling that is especially sought by the people whose perception of safety and comfort were damaged due to past insecure environments (Mikulincer & Shaver, 2009). Considering that affectionate touch has such an essential role in the maintenance of psychological and relational well-being, the factors that are associated with affectionate touch deserve close attention and could provide valuable input for future intervention programs.

In this study, we argue that one overlooked factor predicting affectionate touch frequency[1] could be past traumatic experiences. Below, we detail how traumatic life events could disrupt affectionate touch exchanges within romantic relationships and whether perceiving a partner as responsive can have a moderating role in this association.

Traumatic Events and Affectionate Touch of Victims and Their Partner

From the Attachment Theory perspective, environments lacking safety, such as traumatic situations, may trigger feelings of insecurity and lead individuals to perceive others as unreliable and themselves as shameful and unworthy (Mikulincer et al., 2003). Such feelings might lead victims of traumatic events to refrain from getting psychologically intimate with their partner (Mullen et al., 1994) and engaging in physical contact with them (Lukacena & Mark, 2021). Furthermore, people exposed to a traumatic event are more likely to develop mental health problems, such as symptoms of depression, anxiety, and PTSD (e.g., Fitzgerald et al., 2020), all of which harm relationship functioning (Whisman et al., 2004). Considering these possible mechanisms, we hypothesize that exposure to past traumatic events is negatively associated with the frequency of touch behaviors towards the partner. Traumatic events are associated with victims' sexual avoidance and problems in sexual

[1] Affectionate touch frequency refers to the reciprocal exchanges of affectionate touch behaviors in the relationship (for further explanation, see the "Measures" section of Study 2).

functioning (Vaillancourt-Morel et al., 2015). Similarly, sexually traumatized people can perceive their partner's affectionate touch as threatening to their physical boundaries (Lukacena & Mark, 2021).

Research has shown that the victim's partner may also be subject to indirect exposure and experience trauma-related symptoms (i.e., secondary traumatization; Figley, 1983). Thus, they may accordingly show affectionate behaviors less often. Alternatively, partners may also track each other's decreased desire for affectionate touch after traumatic events and adjust their affectionate touch frequency in line with their partners' low preference. Considering these, we expect that people's exposure to past traumatic events is negatively associated with their and their partner's affectionate touch frequency.

Moderation by Perceived Partner Responsiveness

Perceived partner responsiveness — the extent to which individuals believe that their romantic partner cares about, understands, and validates their thoughts, feelings, and behaviors — is central in romantic relationships (Reis et al., 2004). It is associated with relationship well-being indicators such as investment, satisfaction, and intimacy (Masked for review; Jolink et al., 2022; Segal & Fraley, 2016) and buffers relationships against external stressors (e.g., Balzarini et al., 2022).

Past traumatic experiences might be related to less frequent affectionate touch, especially if the partner is low in responsiveness. The victim of a past traumatic experience may refrain from touching their partner if the partner does not display acceptance, care, or understanding to the victim. Recently, Crasta and colleagues (2021) showed that perceived partner responsiveness is best conceptualized as having two dimensions: responsiveness and insensitivity. While interactions entailing care, understanding, and validation promote responsiveness (perceived partner responsiveness), those that lack them elicit perceptions of detachment and insensitivity (perceived partner insensitivity). Feeling understood, accepted,

and validated might be particularly pertinent for individuals who have experienced traumatic events, as it could allow them to feel safe to share and process their traumatic events and perceive themselves as not being judged by their partner (Jakubiak & Feeney, 2016). Therefore, we hypothesize that less frequent affectionate touch behaviors as a function of traumatic events are particularly likely if perceived partner responsiveness is low and/or perceived partner insensitivity is high.

The Role of Gender

Would the expected negative association of traumatic events with affectionate touch frequency vary across men and women? Previous studies investigating the role of gender in responses to traumatic events revealed inconsistent findings. Some studies suggested that women are more vulnerable to developing PTSD and avoidance in response to experiencing a traumatic event than men (Breslau et al., 1997; Ditlevsen & Elklit, 2012; Holbrook et al., 2002; Tolin & Foa, 2006). Therefore, women may be less likely to affectionately touch their partner frequently after experiencing a traumatic event compared to men. Nevertheless, other studies have reported that men report more difficulties with intimacy after a traumatic event than women (Repic, 2007). For example, Hanley and colleagues (2013) found that PTSD symptoms were negatively associated with engagement in acts, such as providing support, only for men. Therefore, we will also explore if the impact of traumatic events on affectionate touch frequency differs across genders.

Different Operationalizations of Traumatic Events

The consequences of traumatic events depend on the total number of events (i.e., frequency; Breslau et al., 1999; Hagenaars et al., 2011) and the number of traumatic event types (e.g., sexual abuse, natural disasters). Herman (1992) argued that repeated traumatic events have more severe consequences for the victims, such as experiencing dissociations from the real world, than a single-time exposure. Repeated traumatic events elevate the

victim's allostatic load, referring to the body's wear and tear in response to chronic stress (Scheuer et al., 2018). Regarding the number of event types, the association between traumatic events and PTSD was stronger when experiencing more than one traumatic event type than a single type of event (Green et al., 2000; Suliman et al., 2009). Furthermore, only one (severe) past traumatic event (e.g., sexual abuse) versus none might lead to more intimacy problems in the current relationship (Rothman et al., 2021). Therefore, we used the presence of a traumatic variable (i.e., whether the participant has experienced any traumatic event at least once or not) as another variable. We expect negative associations between all these trauma operationalizations (total traumatic event frequency, number of traumatic event types, and presence of any traumatic event) and affectionate touch frequency.

Initially, we aimed to examine the differential associations of interpersonal (i.e., family violence) and non-interpersonal trauma (i.e., natural disasters) with affectionate touch among our main results as well. However, we deviated from our preregistration considering the inability of our scale (see the Method section) to accurately capture whether a traumatic event is solely (non-)interpersonal. For example, non-interpersonal (e.g., natural disasters) and interpersonal (e.g., interpersonal violence) trauma may take place simultaneously (i.e., interpersonal violence during a natural disaster). The deviation decision was also based on the strong correlation between total traumatic event frequency and interpersonal trauma frequency in our datasets (please see the Supplemental Materials), casting doubt on using both variables in our paper. Still, for transparency purposes, we reported explanations and results regarding interpersonal and non-interpersonal trauma in the Supplemental Materials.

The Present Study

In this research, our aim was to investigate whether past traumatic experiences are negatively related to affectionate touch frequency toward the current partner across two cross-sectional dyadic studies. The second study also aimed to examine the moderating role

of perceived partner responsiveness/insensitivity on the association between past traumatic experiences and affectionate touch. We proposed that the expected negative effect of traumatic experiences on affectionate touch is stronger for people perceiving lower (higher) partner responsiveness (insensitivity). Due to the mixed results on the role of gender in responses to traumatic events (Hanley, 2013; Tolin & Foa, 2006), we did not have any hypothesis for gender differences but exploratorily tested them.

Study 1

Method

Participants and Procedure

We used a secondary dataset collected by XXX (Masked for review). Participants were recruited from colleges in Switzerland. Couples were eligible if a) they had a heterosexual relationship for more than three months, b) they were between 18-40 years old, and c) they were at least high school graduates. Exclusion criteria were a) having a child, b) being diagnosed with an impairing disease or any mental disorder, and c) using any psychoactive drugs. We used the data of 70 couples (N = 140) from a cross-sectional survey. Couples were asked to attend a lab session together with their partners and fill out a cross-sectional survey separately before completing an experiment. For further details of the study procedure, please see Masked for Review. Most participants were Swiss (70%), university students (80%), and native German speakers (81%). On average, women and men were 22.16 (*SD*=2.14) and 24.01 (*SD*=3.14) years old, respectively. The average relationship length was 2.41 years (*SD*=2.05). The study was approved by the Research Ethics Committee of the County where the last author resides. Participants provided informed consent at the beginning of the study.

Measures

Traumatic Events. The Traumatic Life Events Questionnaire (Kubany et al., 2000) assessed the frequency of several past traumatic events using a 7-point Likert scale (0=never, to 3=three times, to 6=more than five times). The scale included 16 potentially traumatic events, such as natural disasters and sexual assault during childhood. The number of traumatic event types ranged from 0 to 16, indicating the number of different types of traumatic events that the participants experienced at least once in their lives (Green et al., 2000). The total traumatic event frequency was the sum of each item's frequency (Breslau et al., 1999). For example, if the participant experienced a natural disaster four times and the loss of a loved one three times, the total traumatic event frequency was seven. The *presence of any traumatic events* was a dummy-coded variable (0=no traumatic event experience, 1=at least one traumatic event experience).[2]

Affectionate Touch Frequency. The Physical Affection Scale (Light et al., 2005; adapted from Diamond, 2000) was used to assess affectionate touch frequency. This scale is frequently used in relationship science (e.g., Jolink et al., 2022). Participants were asked to report how frequently they engage in five affectionate touch behaviors with their romantic partner (e.g., "hugging") on a 6-point Likert scale (0=*never or almost never* to 5=*more than once a day*). We calculated the affectionate touch frequency using a composite mean score. Reliability was high for all participants identifying themselves as either a woman or man[3] (α_{Women}=.87, α_{Men}=.90). Please see the Supplemental Materials for the scale items.

Strategy of Analysis

We conducted Actor-Partner Interdependence Models (APIM; Cook & Kenny, 2005) to analyze the association between traumatic event variables (number of traumatic event types, total traumatic event frequency, presence of traumatic events) and affectionate touch

[2] The reliability of the Traumatic Life Events Questionnaire could not be computed due to the nature of the scale measuring the frequency of separate and independent events.
[3] Gender was assessed in a binary manner.

frequency. Each operationalization of traumatic events was analyzed in separate models as independent variables. The associations of traumatic events with one's own and one's partner's affectionate touch are called actor and partner effects, respectively (Figure 1a). Residuals and independent variables were allowed to correlate, accounting for the interdependence between partners. The equalities of effects across men and women were tested using Wald tests. Relationship length was considered as a covariate because some studies found a fluctuation in affectionate touch frequency as a function of relationship length (e.g., Guerrero & Andersen, 1991). Analyses were conducted using the full information maximum likelihood method with robust standard errors (MLR) to deal with missing data.

We conducted a posteriori power analysis using APIMPowerR (Ackerman et al., 2016). Due to a lack of previous research on the impact of traumatic events on affectionate touch, we expected medium actor and partner effects (β=.30). Our power analysis revealed that a sample of 77 couples was needed for .80 statistical power, with *r*=.20 between actors' and partners' traumatic events (Vaillancourt-Morel et al., 2019) and *r*=.30 between actor and partner errors. Thus, our sample of 70 couples allowed us a statistical power of .76, which was barely sufficient for medium, but not small, effects.

Transparency and Openness

We report the details of our power analysis and all data exclusions. The analysis code is available here (https://osf.io/9cqw6/?view_only=a42184a016744553ac3a32b483cf8715). The data and research materials are available upon request. We preregistered our expectations and analytic strategy before running the analyses using the secondary data (https://osf.io/az36v/?view_only=3df1e8c3ff95443099457b8301b453a0). Any deviations from the preregistration are reported in the manuscript. The analyses were conducted using Mplus 8.4 (Muthén & Muthén, 1998-2019). The manuscript was prepared in line with JARS – Structural Equation Modeling guidelines (Appelbaum et al., 2018) for both Studies 1 and 2.

Results

In the sample, around 36% of men and 41% of women did not experience any traumatic event (for the frequency of each traumatic event operationalization, please see the Supplemental Materials). The variable means did not vary by gender (t-test *p*s=.192-.699; see Supplemental Materials). The presence of traumatic events did not differ by gender ($\chi^2(1, N=140)=0.48$, $p=.487$). None of the study variables had missing data for men or women.

Descriptive statistics of and correlations between the study variables are presented in Table 1. The correlations did not reveal significant associations between traumatic events and affectionate touch frequency. Table 2 presents the APIM results. While there was no gender difference for the actor effect, there were significant gender differences for partner effects in traumatic event variables except for the presence of traumatic events. We did not find significant actor effects for any of the operationalization of traumatic events. Unexpectedly, we found positive partner effects of men's total traumatic event frequency and the number of traumatic event types. Thus, women reported more affectionate touch if their partner showed higher levels of traumatic events in the mentioned operationalizations. Nevertheless, these standardized effects were small (βs=.10-.26; Cohen, 1988). We did not control for the relationship length because study variables were not correlated with it (*p*s= .107-.832 for women, .112-.935 for men). We also reported the changes in results after the exclusion of outliers in the Supplemental Materials.

Study 2

Despite Study 1 providing valuable information regarding the association between traumatic life events and affectionate touch, we wanted to see whether we could replicate those unexpected non-negative findings or if they were due to some methodological or theoretical shortcomings. First, the sample size in Study 1 was small, introducing the possibility of power limitations to detect small to medium effects. Second, participants rated

the frequency of affectionate touch in their relationship, which prevented us from differentiating the frequency of enacted touch for each partner. Third, participants were determined based on strict exclusion criteria (e.g., no mental disorder) that might have limited the variance of traumatic experiences in our data. Fourth, perhaps, the negative impact of traumatic events occurs if the partner is not perceived as responsive, which was not tested in Study 1. Thus, in this second study, we aimed to investigate whether Study 1's findings could be replicated with a larger sample size and new instructions for affectionate touch assessment (see the Measures section below) and without strict exclusion criteria. We also tested whether perceived partner responsiveness and insensitivity moderated the link between traumatic events and affectionate touch.

Method

Participants and Procedure

Participants were recruited via Prolific, an online data collection company. Online platforms are deemed appropriate means of recruitment for trauma research (Engle et al., 2020). The inclusion criteria for couples were a) having an ongoing heterosexual relationship for at least three months, b) being a native-English speaker living in the US or the UK, and c) being at least 18 years old. After excluding 61 couples (see Supplemental Materials for exclusion list), our sample consisted of 441 couples. On average, women and men were 36.5 (*SD*=10.3) and 38.5 (*SD*=11.3) years old, respectively. The average relationship length was 11.8 years (*SD*=9.1). The majority were married (53%). The most reported ethnicity was White (86%), and the most common education level was a bachelor's degree (41%). We paid each participant GBP 1.61. Participants provided informed consent at the beginning of the online questionnaire. The study was approved by the Research Ethics Council of the XXX University (Masked for review). Please see Supplemental Materials for further explanation of the dyadic data collection procedure.

Measures

Traumatic Events and Affectionate Touch Frequency. Our measures to assess the traumatic events and affectionate touch frequency were identical to the ones in Study 1, except for two differences. We added two illness-related items from the original Traumatic Life Events Questionnaire that were not used due to Study 1's exclusion criteria. We also modified the instructions for assessing affectionate touch frequency to capture how often each partner engages in affectionate touch towards their partner. While we asked how frequently they engaged in affectionate touch behaviors "*with* their partner" in Study 1, we changed the wording to "*towards* their partner" to clarify the provider and receiver of the behavior in Study 2. The affectionate touch scale's reliability was high for all participants identifying themselves as either a woman or man (α_{Women}=.85, α_{Men}=.84).

Perceived Partner Responsiveness and Insensitivity. We used the short version of the Perceived Partner Responsiveness and Insensitivity Scale (Crasta et al., 2021) to assess perceived partner responsiveness (e.g., "My partner really listens to me") and insensitivity (e.g., "My partner dismisses my concerns too easily"), each of which was measured using four items on a 6-point Likert scale (0=*not at all*, 5=*completely*). The composite mean score of items was used for the variable. Reliability levels of responsiveness (α_{Women}=.91, α_{Men}=.90) and insensitivity (α_{Women}=.91, α_{Men}=.91) scales were high for both genders.

Strategy of Analysis

In the first step, we conducted APIMs in an identical manner to Study 1 (Figure 1a). Next, we added participants' perceived partner responsiveness and insensitivity variables as well as their interactions with corresponding traumatic event operationalization in separate models (Figure 1b). We included only the actor interactions (the interaction between actor's trauma and actor's perceived partner responsiveness/insensitivity). Residuals and independent variables were again allowed to correlate as in Study 1. To determine gender

differences, we first created a model in which each path constraint was tested individually by Wald tests. Then, we compared fully constrained and free models with this semi-constrained model (based on Wald test results) using chi-square difference tests. We selected the most parsimonious model. Analyses were conducted using the full information maximum likelihood method with robust standard errors to account for missing data. Relationship length was again considered as a covariate even though it showed no significant correlations in Study 1 for consistency.

To our knowledge, there is no perfect method to evaluate statistical power for an APIM moderation analysis. We first conducted an a priori power analysis for an APIM without moderators to estimate small actor and partner effects (β=.15) based on the first study's non-significant or small results using APIMPowerR (Ackerman et al., 2016). The suggested sample size was 167 couples to achieve .80 power at α=.05. We also estimated power for a non-dyadic moderation model using InteractionPoweR (Baranger et al., 2022; Finsaas et al., 2021). The suggested sample size was 340 individuals to achieve .80 power at α=.05 when the correlations between the variables were set to *r*=.15. Our sample of 441 couples exceeded the required sample sizes computed using both methods.

Transparency and Openness

We report the details of our power analysis and all data exclusions. Analysis code is provided here (https://osf.io/9cqw6/?view_only=a42184a016744553ac3a32b483cf8715). Data and research materials are available upon request. We preregistered our hypotheses and strategy of analysis before the data collection (https://osf.io/vwg7f/?view_only=0cf34c2cd62342ec94f0960924d08d62). Any deviations from the preregistration are reported in the manuscript. We conducted all analyses in RStudio version 2021.09.2 build 382 (R Core Team, 2021) using the lavaan package version 0.6-12

(Rosseel, 2012), and then conducted the same analyses using Mplus 8.4 (Muthén & Muthén, 1998-2019), and confirmed the identical results.

Results

Considering the Perceived Partner Responsiveness and Insensitivity Scale's novelty, we first confirmed that a two-factor model showed a better fit compared to a single-factor model ($\Delta\chi^2$=544.96, p<.001). Since responsiveness and insensitivity subscales were strongly correlated (r_{men}=-.707, r_{women}=-.763, ps<.001), we used them in separate models to avoid multicollinearity. Regarding the trauma variables, we found out that around 12% of men and 9% of women in the sample did not experience any traumatic events (see Supplemental Materials for details). Total traumatic event frequency and type of traumatic event for both genders had one missing value (0.23%), and the other variables of interest had none.

Descriptive statistics of and correlations between variables are presented in Table 1. Affectionate touch correlated with all variables for both women and men. Examinations of gender differences revealed that, except for affectionate touch and perceived partner responsiveness being significantly higher in women than men, other continuous variables did not vary across genders (see Supplemental Materials). Similarly, the presence of traumatic events did not differ by gender (χ^2(1, N=882)=2.03, p=.154).

APIM Results

In the APIM analyses, contrary to our hypotheses, the results yielded *positive* actor effects except for the presence of any traumatic events, which only showed a *positive* partner effect. Other partner effects were non-significant (Table 2). There were no gender differences in any actor or partner effects. The effect sizes of significant effects, however, were almost negligible or small (β=.06-.11; Cohen, 1988). The partner effect of the presence of traumatic events was no longer significant after statistically accounting for relationship length (p=.079). For the slight changes in results after excluding the outliers, see the Supplemental Materials.

APIM Results with Moderators

In the second step of APIM analyses with the moderators, in total, we checked six interactions with perceived partner responsiveness/insensitivity[4]. Contrary to our hypotheses, none of the six interaction effects of traumatic event variables with perceived partner responsiveness or insensitivity was significant (*p*s>.071; see Supplemental Materials). Controlling for relationship length did not change the results for interactions. For results without outliers, please see the Supplemental Materials. Thus, our hypothesis that perceived partner responsiveness/insensitivity would moderate the effect of traumatic events on affectionate touch frequency was not supported.

Deviations from the Preregistration

Although we preregistered a plan to investigate the associations of interpersonal (i.e., family violence) and non-interpersonal trauma (i.e., natural disasters) with affectionate touch, we deviated from our preregistration for theoretical and statistical reasons. As explained in the Introduction, our scale was not developed to differentiate interpersonal and non-interpersonal trauma. Although a previous paper used the same scale to assess interpersonal trauma, non-interpersonal trauma items were not included in that study (Lilly & Valdez, 2012). Furthermore, the correlations between interpersonal trauma frequency and total trauma frequency were almost perfect in the studies (S1 r_{men}/r_{women} = .95/.98; S2 r_{men}/r_{women} = .92/.93), showing the redundancy of using both in our analysis. Results of the analyses with interpersonal and non-interpersonal trauma are reported in the Supplemental Materials.

[4] We did not interpret the traumatic event variables' main effects in the interaction models because they were showing the effects specifically at average levels of perceived partner responsiveness/insensitivity (i.e., 0 in our standardized variables) and, thus, not representing the main effects in the whole sample with a larger range of perceived responsiveness/insensitivity. The average perceived partner responsiveness (insensitivity) levels were high (low) in our data (see Table 1 for the averages), meaning that the traumatic event variables' main effects in the interaction models represented the *responsive* partners' touch behaviors as a function of the actor's traumatic events. To prevent a misinterpretation of the main effects in the interaction models and also considering the non-significant interaction results and space limitations, we presented the detailed results of the interaction models in the Supplemental Materials and summarized only the interaction results in the main text.

Discussion

Relying on two dyadic studies, this research aimed to investigate the association between past traumatic events and affectionate touch frequency in heterosexual couples. Contrary to our hypotheses, we did not find any negative association between past traumatic events and affectionate touch frequency. The associations were inconsistently positive or non-significant but consistently non-negative. In Study 1, none of the actor effects of traumatic events were significant, and only the partner effects of men's traumatic events on women's affectionate touch frequency were positive with small sizes. In Study 2, two out of three actor effects and one partner effect of traumatic events were significant but with negligible to small sizes. Some results slightly changed after controlling for relationship length or excluding outliers but never became negative in any analyses using several operationalizations of traumatic events. Furthermore, contrary to our expectations, we did not have evidence for perceived partner responsiveness or insensitivity's moderating roles in these associations. This lack of moderation shows that the association between traumatic events and affectionate touch frequency is non-negative, regardless of the partner's responsiveness/insensitivity levels. Our exploration of gender effects revealed inconsistent results across two studies, with the first study showing gender differences only in partner effect, while the second study did not reveal any gender differences.

Similar to our results, a recent non-dyadic study showed a lack of direct association between women's interpersonal traumatic events and affectionate touch frequency in a master's thesis (Munson, 2022). The absence of this association reveals that past traumatic events do not disturb affectionate touch behaviors between partners, which does not align with the previous studies' finding of their detrimental effects on other physical exchanges

between partners, such as sexual frequency (e.g., Vaillancourt-Morel et al., 2015). It is possible that the overtly nurturing and caring nature of affectionate touch sets it apart from other relationship behaviors (Van Anders et al., 2013). Alternatively, our results could be explained by selection bias and the samples' characteristics. Partners' co-participation in research was shown to be a strong indicator of their relationship commitment (Park et al., 2021). Perhaps our results reflect the dynamics of couples who effectively manage insecurities and each other's stress (Arriaga et al., 2018), including the distress associated with traumatic events (March-Llanes et al., 2017). Additionally, non-clinical samples are considered to be relatively resilient to trauma (Bonanno, 2004) and have substantial potential for post-traumatic growth (Tedeschi & Calhoun, 2004), which might further explain our findings. For example, people with past trauma may engage in frequent affectionate touch behaviors toward their partner if they experience high levels of post-traumatic growth (e.g., personality change; cf. Lamarche, 2022).

Our findings regarding gender differences mirror the inconsistent findings suggested by the existing literature, as our results revealed differences across the two studies. While significant gender differences in partner effects were observed in Study 1, no such effect was found in Study 2. Potentially, this discrepancy might be attributed to variations in sample characteristics. For instance, Study 1 was conducted within a university setting, primarily consisting of young and non-cohabiting couples, whereas Study 2 featured a more diverse sample with a broader demographic representation. Factors such as age, relationship duration, relationship stage, cohabitation status, education level, and nationality may all contribute to variations in gender-related associations between traumatic life events and relational dynamics.

The lack of negative association between traumatic events and affectionate touch was found at all levels of perceived partner responsiveness and insensitivity. However,

responsiveness (insensitivity) levels in this sample were close to the highest (lowest) possible levels. Considering that the moderation was based on between-person differences, lower (higher) levels of perceived partner responsiveness (insensitivity) still corresponded to the scales' high (low) levels. Another explanation for the lack of moderation could be that people with traumatic experiences might perceive their partner as a source of belonging, hence being more accepting of their partner's relatively low responsiveness (Trujillo & Claypool, 2020).

Although there were inconsistencies across studies, we found some evidence for *positive* actor and partner effects of traumatic events on affectionate touch frequency. People with traumatic experiences may be benefiting from affectionate touch's emotion-regulation effects (Masked for review), such as reduced stress (Holt-Lunstad et al., 2008), as it promotes feelings of security (Jakubiak & Feeney, 2016) and safety (Coan et al., 2006). Moreover, within high-quality relationships, partners might be particularly motivated to provide touch if they perceive that their partner needs it (Jakubiak et al., 2021). Enhanced feelings of safety were proposed as one of the mechanisms for the effectiveness of touch-based treatments of PTSD (McGreevy & Boland, 2022).

What is more, the provision of affectionate touch to a romantic partner is postulated to have similar effects to receiving affectionate touch (Generous & Floyd, 2014). For example, a recent study demonstrated that externally prompted provision of affectionate touch is sufficient to elicit feelings of intimacy in providers (Masked for review), which might trigger perceptions that one belongs with another, and that support is available if needed (Jakubiak & Feeney, 2017). In a similar vein, the positive association could also be interpreted as a means of reaching out and soliciting support from partners (Forest et al., 2021). Unlike other types of support that greatly benefit from explicit communication of needs, affectionate touch elicits responsive haptic support due to its mutual nature (Jakubiak, 2021). However, given

the small effect sizes and inconsistencies across our studies, this finding should be interpreted cautiously until it is replicated.

Strengths, Limitations, and Future Directions

Our study has several strengths. It uses a dyadic methodology, allowing us to examine how traumatic events impact both the individual who experienced them and their partner. Additionally, our sample included participants from three different countries (UK, US, and Switzerland), adding some cultural diversity to the study sample even though all participants were from Western countries. In conjunction with the significant variance in relationship length in our sample, this increases the generalizability of our findings across cultures and relationship stages. Finally, the non-negative results were consistent across different operationalizations of traumatic events.

A major implication of our study is that it demonstrates that not all relationship processes need to be impacted similarly and adversely by past traumatic experiences. This underlines the necessity of a personalized approach when working with individuals who have experienced traumatic events and careful consideration of relationship interactions that could function as a valuable resource. Our study suggests, though tentatively, that affectionate touch exchanges might be one of the more resilient relationship maintenance behaviors. If replicated, our findings raise the possibility that touch functions as a relationship resource that could be targeted in interventions to increase post-trauma relationship satisfaction.

Next, the sample characteristics of our studies limit the generalizability of our findings to non-western cultures and clinical populations. Furthermore, we were not able to measure trauma-related characteristics, such as the time since the traumatic events and the events' severity (Marshall & Frazier, 2019). Similarly, the traumatic events' past or current psychological impact on the participants (e.g., PTSD, depression, anxiety symptoms) was unknown. Indeed, a recent thesis showed a mediating role of post-traumatic stress symptoms

in the association between past traumatic events and affectionate touch frequency despite the lack of a direct effect (Munson, 2022). The psychological impact of the traumatic events could also play a moderating role in the association between traumatic event frequency and affectionate touch. Future research should investigate our research question and the mediating and moderating roles of mental health in clinical and sub-clinical samples.

Another limitation is the cross-sectional nature of our studies. Investigations into the impact of traumatic events on affectionate touch would benefit from an intensive longitudinal design, where the daily emotion regulation processes through affectionate touch after the emergence of trauma-related cognitions and affect could be examined. Furthermore, longitudinal investigations of how the association between traumatic events and affectionate touch unfolds in new relationships and whether there is a difference between relationships that persist or dissolve would further our understanding. For example, a qualitative study indicated that affectionate touch from a responsive partner could have a healing function in victims of former intimate partner violence (Masked for review).

We also would like to underline that there was a discrepancy between the correlations of women's and men's affectionate touch frequency across Study 1 and Study 2, with the correlation in Study 1 being lower than in Study 2. This may be because of our differential instructions across studies. However, it is important to consider that perceptions of shared experiences (like Study 1) can be subjective and influenced by individual biases (Fletcher & Kerr, 2010), a topic that has not yet been explored in the context of affectionate touch perception between couples. Future research could explore the accuracy and bias in affectionate touch perception and investigate the factors that influence it.

Investigations into other possible contextual moderators can also be informative. Future research should focus on whether different relationship constructs, such as relationship quality, closeness, or trust, might moderate the association between traumatic life events and

affectionate touch frequency. Additionally, individual constructs such as attachment style might also moderate the association. Following the appearance of trauma-related distress, it is possible that anxiously attached people seek the comfort of the partner's physical proximity, while avoidantly attached people refrain from the closeness elicited by affectionate touch (Jakubiak et al., 2021). Moreover, future research is needed to investigate if the impact of traumatic events depends on whether both partners of a couple experienced traumatic events (i.e., dual-trauma couples). In addition, constructs related to traumatic events, such as time since the trauma, the traumatic event's severity and centrality, and the existence of stress-related growth following the event, could be considered as potential variables moderating the association between traumatic events and affectionate touch behaviors (cf. Berntsen & Rubin, 2006; Marshall & Frazier, 2019). Similarly, future research with measurements of both affectionate touch and sexual activity frequency is necessary to see if the impact of traumatic events is indeed different for affectionate touch compared to other physical relationship interactions, such as sexual frequency. Finally, future research with scales adequately separating interpersonal and non-interpersonal trauma is awaited.

Conclusion

The current study demonstrated a lack of negative association between past traumatic events and affectionate touch frequency, contrary to our hypotheses. Furthermore, this result did not depend on perceived partner responsiveness or insensitivity. Our findings signal that affectionate touch behaviors could be considered as a potential target for intervention programs for couples with a partner having past traumatic experiences.

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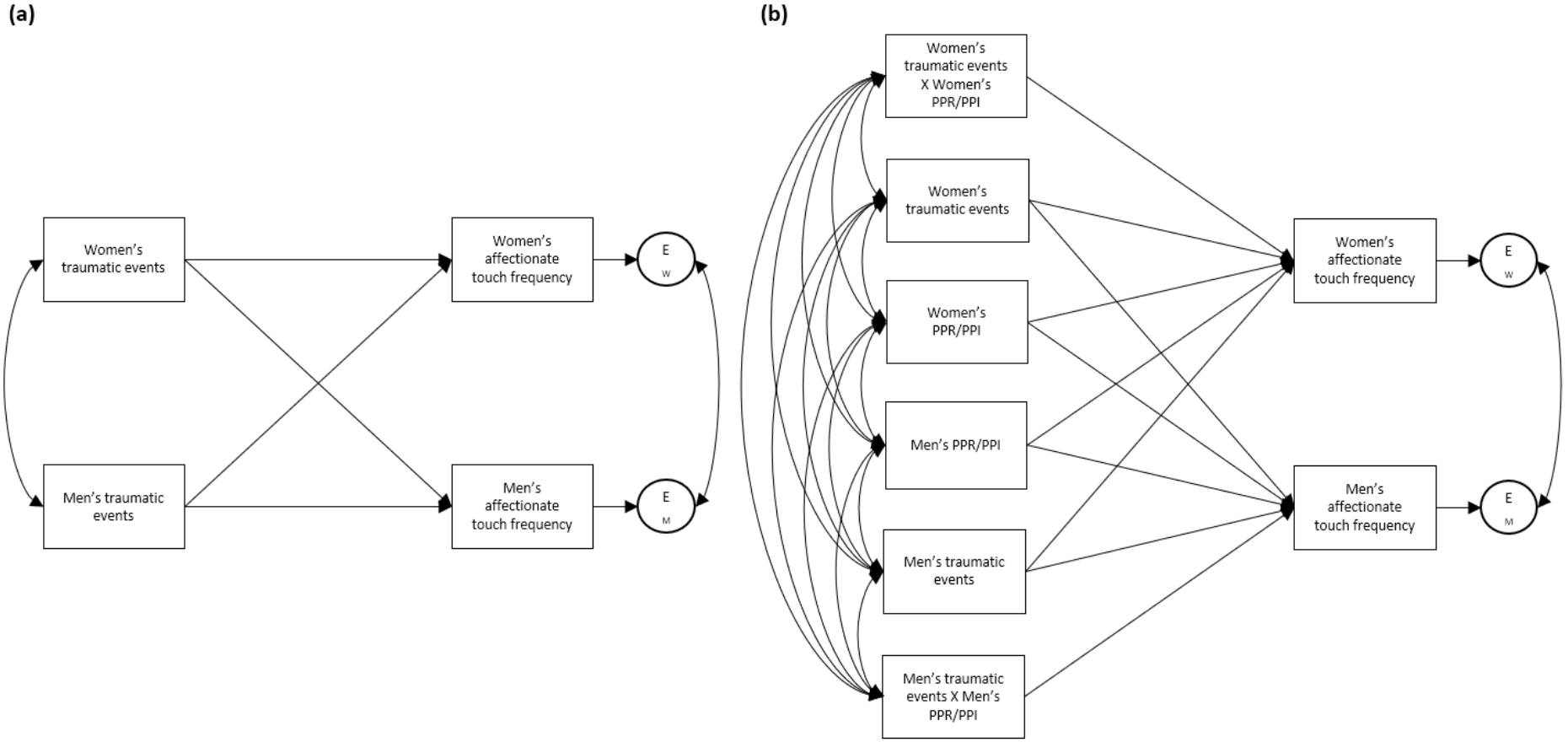
Figure 1

The APIM of Traumatic Events and Affectionate Touch and Moderated APIM of PPR/PPI



Note. APIM=Actor Partner Interdependence Model, PPR=Perceived partner responsiveness, PPI=Perceived partner insensitivity. Separate analyses were conducted for each traumatic event variable (e.g., frequency, presence) and moderator (i.e., PPR and PPI) in the analyses.

Table 1

Descriptives and Correlations

	M (SD) for men	Affectionate Touch	Total frequency	Type	PPR	PPI
Study 1 (*N*=70 couples)						
M (*SD*) for women		4.1 (1.0)	2.5 (5.1)	1.2 (1.7)		
Affectionate touch	4.0 (1.0)	**.45** **	.11	-.00		
Total frequency	1.7 (3.5)	.05	**-.01**	.86 **		
Type	1.6 (1.9)	.04	.83 **	**.03**		
Study 2 (*N*=441 couples)						
M (SD) for women		3.4 (1.2)	9.3 (8.2)	3.6 (2.9)	3.9 (0.9)	0.9 (1.1)
Affectionate touch	3.5 (1.1)	**.69** **	.12 *	.12 *	.46 **	-.40 **
Total frequency	8.9 (8.1)	.13 **	**.24** **	.87 **	-.08	.15 **
Type	3.4 (2.7)	.10 *	.86 **	**.31** **	-.09	.16 **
PPR	4.1 (0.9)	.35 **	-.06	-.12 *	**.41** **	-.76 **
PPI	0.9 (1.1)	-.24 **	.09	.15 **	-.71 **	**.43** **

Note. Total frequency=Total traumatic event frequency, Type=Number of traumatic event types, PPR=Perceived partner responsiveness, PPI=Perceived partner insensitivity. The bolded diagonal represents the correlations between men's and women's variables. Above the diagonal (right corner) are the correlations for women; below the diagonal (left corner) are the correlations for men. The descriptives of and correlations with interpersonal and non-interpersonal trauma variables are provided in Supplemental Materials. * $p < .05$, ** $p < .01$.

Table 2

APIM Results for the Association Between Past Traumatic Events and Affectionate Touch Frequency in Study 1 & Study 2

	Total Frequency				Type				Presence			
Variable	*b*	β	95% CI	*p*	*b*	β	95% CI	*p*	*b*	β	95% CI	*p*
Study 1												
Actor Effect	0.01	.07, .09	[-0.00, 0.03]	.070	0.01	.02, .02	[-0.06, 0.08]	.790	-0.12	-.13, -.13	[-0.43, 0.20]	.460
Partner Effect	**0.05**	**.25**	**[0.02, 0.07]**	**.003**	**0.11**	**.21**	**[0.02, 0.20]**	**.019**	-0.20	-.21, -.21	[-0.51, 0.12]	.219
	0.00	.02	[-0.01, 0.02]	.588	-0.06	-.10	[-0.15, 0.04]	.254				
Study 2												
Actor Effect	**0.02**	**.11, .11**	**[0.01, 0.02]**	**.001**	**0.04**	**.09, .10**	**[0.01, 0.06]**	**.003**	0.15	.05, .04	[-0.07, 0.37]	.169
Partner Effect	0.01	.04, .04	[-0.00, 0.02]	.235	0.02	.05, .04	[-0.01, 0.05]	.147	**0.23**	**.06, .07**	**[0.01, 0.45]**	**.044**

Note. Total frequency=Total traumatic event frequency, Type=Number of traumatic event types, Presence=The presence of traumatic events, CI = Confidence interval. For Study 1, Wald test revealed no gender differences (*p*s = .188-.727) unless two rows of results are reported, the first row is for men and second row is for women. For study 2, gender differences were determined by comparing the model where constraints were determined by separate Wald tests with fully constrained models and free models, then continued with the most parsimonious model. Bold values represent significant results. For the β, the first and second values show the standardized coefficients for men and women, respectively. Additional results with interpersonal and non-interpersonal trauma variables can be found in the Supplemental Materials.