



# Investigating the relationship between sensory processing sensitivity and relationship satisfaction: mediating roles of negative affectivity and conflict resolution style

Melis Zorlular<sup>1</sup> · Tuğba Uzer<sup>1</sup>

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## Abstract

Very few studies have investigated the relationship between sensory processing sensitivity (SPS) and interpersonal variables; none has particularly focused on romantic relationship satisfaction. In the context of romantic relationships, this study aimed to identify whether SPS is a risk factor (hypothesizing that traits make individuals more vulnerable to the effects of adverse environments) or a susceptibility marker (hypothesizing that traits make individuals more susceptible to the effects of both nourishing and adverse environments). To understand this, we tested whether an increased level of SPS is associated with a decreased level of romantic relationship satisfaction through negative affectivity and conflict resolution styles. Furthermore, we tested whether these proposed relationships intensified when the childhood environment was negative. A total of 206 unmarried young adults who had been in a romantic relationship for at least two years completed the measures of SPS, childhood environment, negative affectivity, conflict resolution styles, and relationship satisfaction. The results indicated that negative affectivity and negative conflict resolution styles mediated the association between SPS and satisfaction in a relationship; however, childhood environment did not moderate these relationships. These findings suggest that beyond childhood factors, SPS is an independent risk factor for developing negative outcomes in romantic relationships. This study also significantly contributes to the literature by revealing the possible mechanisms between SPS and romantic relationship satisfaction.

**Keywords** Sensory processing sensitivity · Relationship satisfaction · Negative affectivity · Conflict resolution styles · Childhood environment

## Introduction

For more than seven decades, researchers have been studying personality variables as major contributors to romantic relationships. Personality-related precursors and predictors of romantic relationship satisfaction are subjects of ongoing inquiry. Relationship satisfaction is defined as the personal evaluations of partners on how satisfied or happy they are in a relationship (Collins & Read, 1990). Bradbury and Karney's Model (2004) suggests that "enduring vulnerabilities" such as past experiences, personality traits, and family of origin experiences are predictors of relationship satisfaction.

Personality traits, such as agreeableness, extraversion, and conscientiousness, have consistently been reported as predictors of increased satisfaction in relationships, whereas neuroticism and affective temperament have been reported as predictors of decreased romantic relationship satisfaction (Malouff et al., 2010) and negative clinical outcomes, such as suicidality (Baldessarini et al., 2017; Solano et al., 2016).

Sensory processing sensitivity (SPS) refers to an adult personality trait that creates individual differences in processing external events (e.g., crowds, noise) and internal stimuli (e.g., thoughts, emotions) (Aron & Aron, 1997). Individual differences in SPS include differences in both sensory threshold and depth of cognitive processing. A low sensory threshold and deeper cognitive processing define highly sensitive people (HSP) or individuals with high SPS. In contrast, a high sensory threshold and shallow cognitive processing define individuals with low SPS. Higher levels of SPS lead to increased sensitivity and responsivity to the

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✉ Melis Zorlular  
melis.zorlular@tedu.edu.tr

<sup>1</sup> Department of Psychology, TED University, Ziya Gokalp  
Blv. No:48, 06420 Ankara, Turkey

environment. In other words, HSP are more sensitive to the environment (nurture) because of their genetics (nature). They are characterized by ease of overstimulation, high emotional reactivity, and awareness of subtleties (Aron, 2010; Aron et al., 2012; Belsky & Pluess, 2009). Recent studies have suggested that HSP constitute approximately 15% of the general population, and therefore, SPS has gained substantial academic attention; however, the scientific knowledge in this area is scanty (Aron, 2010; Aron & Aron, 1997; Aron et al., 2012).

HSP are predisposed to experience negative affectivity, especially in response to novel situations, because of ease of overstimulation, awareness of subtleties, and emotional reactivity components (Aron et al., 2012; Jagiellowicz et al., 2011). Thus, they are more likely to experience shyness, anxiety, depression, fear, and stress (Ahadi & Basharpour, 2010; Aron et al., 2005; Brindle et al., 2015; Liss et al., 2005). Consequently, SPS can be confused with neuroticism and introversion (Şengül-İnal, 2014; Smolewska et al., 2006). Previous research has revealed that SPS is moderately associated with introversion and neuroticism, but it is a distinct variable (Aron & Aron, 1997; Smolewska et al., 2006). Furthermore, Aron and Aron (1997) demonstrated that SPS is more than a simple combination of neuroticism and introversion. This distinct variable has a genetic basis and is placed in the central nervous system (Aron et al., 2012). Jerome and Liss (2005) suggested that SPS could be a genetic precursor for developing personality traits such as introversion or neuroticism. If so, this important temperamental factor could have a significant role in romantic relationships, as it is known that personality traits such as neuroticism and introversion are distinguished contributors of close relationships. To date, several studies have investigated SPS and close relationships together, but from an attachment perspective. These studies demonstrated that sensory sensitivity was significantly associated with attachment anxiety and attachment avoidance (Jerome & Liss, 2005; Lee & Park, 2020; Levit-Binnun et al., 2014; Meredith et al., 2016). As attachment security has been acknowledged as a critical factor affecting close adult relationships, especially romantic relationships, and SPS has been found to be associated with insecure attachment components—as mentioned above—it is important to study SPS in the context of romantic relationships. However, to the best of our knowledge, no study has investigated the relationship between SPS and romantic relationship satisfaction. This study aimed to examine this relationship for the first time.

Negative affectivity is a predisposition to evaluate and experience the self and the outside world from a more negative perspective. Individuals with negative affectivity are more likely to be dissatisfied with themselves and their relationships. They are also more likely to develop anxiety, depression, nervousness, and general discomfort

(Watson & Clark, 1984). Previous studies have demonstrated that SPS interacts with adverse childhood events to predict increased negative affectivity (Aron et al., 2005; Liss et al., 2005). Other studies investigating the interaction between SPS and childhood environment have found that: (1) high SPS interacts with low parental care in predicting depression scores (Liss et al., 2005), and (2) high SPS interacts with adverse childhood in predicting life satisfaction (Booth et al., 2015). According to Booth et al. (2015), among those who evaluated their childhood negatively, HSP reported significantly lower life satisfaction in adulthood compared to non-HSP. Global life satisfaction is an inclusive term that comprises different elements of life, such as relationships, health, work, and family. As romantic relationship satisfaction constitutes global life satisfaction, the interaction between SPS and childhood environment could also predict romantic relationship satisfaction. Thus, the current study aimed to examine whether HSP who have experienced a negative childhood have more negative affectivity in general, and consequently, are more likely to report decreased romantic relationship satisfaction.

□ According to Bradbury and Karney's (2004) model, the manner in which couples adapt to stressful situations is a significant contributor to relationship satisfaction. Conflicts—a major source of stress in a relationship—are inevitable and part of every healthy romantic relationship. Most relationship therapies focus on how couples can better handle conflicts rather than avoiding or limiting the number of conflicts (Gottman & Krokoff, 1989). Thus, the way couples resolve conflicts is the most crucial factor affecting satisfaction in a relationship (Kurdek, 1995; Ozen et al., 2016). Conflict resolution styles are tactics for people to approach and handle conflicts in their close relationships. Compromising and employing humor as a strategy during conflicts are examples of constructive conflict resolution styles, and they enhance relationship satisfaction (Kurdek, 1995). Conversely, avoiding disagreements and being defensive during disagreements are examples of destructive conflict resolution styles that decrease relationship satisfaction (Kurdek, 1995).

Previous research suggests that personality traits and experiences of the family of origin are predictors of conflict resolution styles (Wood & Bell, 2008). For instance, constructive conflict resolution styles were negatively associated with neuroticism in a recent meta-analysis (Tehrani & Yamini, 2020). Similarly, avoiding conflict resolution is positively associated with neuroticism (Tehrani & Yamini, 2020). Furthermore, while the avoidance conflict resolution style was negatively associated with romantic relationship satisfaction, constructive conflict resolution style was positively associated with romantic relationship satisfaction (Gottman & Krokoff, 1989; Kurdek, 1995).

According to Aron (2010), because high sensitivity is characterized by ease of overstimulation and deeper processing of experiences and emotions, HSP are more likely to adopt irrational styles and avoid conflict resolution. No study has directly examined the assumptions of Aron (2010). However, SPS is positively associated with focusing less on possible solutions and more on emotions during stressful occasions (Jerome & Liss, 2005). Additionally, high awareness of emotions, low acceptance of these emotions, and low emotion regulation skills mediate the association between SPS and negative affectivity (Brindle et al., 2015). These findings suggest that, due to over-arousal and increased emotional reactivity, HSP are more likely to use negative conflict resolution strategies. The current study aimed to further examine whether HSP who experienced a negative childhood are more likely to report negative conflict resolution strategies, and therefore, are more likely to have lower levels of relationship satisfaction.

The diathesis-stress model suggests that stress triggers underlying diathesis and causes psychological symptoms (Monroe & Simons, 1991). Diathesis can be a part of genetic make-up, physiological difference, or behavioral or temperamental factors that create vulnerability to stressful environments (Belsky & Pluess, 2009). These biological, social, and psychological factors are called risk factors if they make individuals more vulnerable to developing mental health problems in a negative environment. However, if they make individuals more vulnerable to negative psychological outcomes in a negative environment, but make them benefit from nourishing environments, they are called susceptibility markers (Belsky & Pluess, 2009).

There are contradictory opinions on whether SPS is a risk factor supporting the diathesis-stress theory (Monroe & Simons, 1991) or a plasticity marker supporting the differential susceptibility framework (Belsky & Pluess, 2009). Originally, Aron and Aron (1997) proposed that SPS is a neutral factor that creates sensitivity in all environments. However, several studies have shown that SPS is associated with psychological problems such as anxiety (Ahadi & Basharpour, 2010; Brindle et al., 2015; Liss et al., 2005), depression (Brindle et al., 2015; Liss et al., 2005), stress (Gerstenberg, 2012), pessimism (Meyer & Carver, 2000), avoidant and borderline personality disorders (Meyer et al., 2005), inability to express emotions (Liss et al., 2008), neuroticism (Ahadi & Basharpour, 2010), and interpersonal difficulties (Lee & Park, 2020). Later studies have shown that SPS is a risk factor only when combined with negative contexts (Aron et al., 2015; Slagt et al., 2018) and SPS has benefits under enriching conditions (Pluess & Boniwell, 2015; Slagt et al., 2018). The present study clarifies this issue by examining whether negative childhood experiences moderate the relationship between SPS, negative affectivity, and relationship satisfaction.

In summary, we investigated whether negative affectivity and negative conflict resolution styles mediate the association between SPS and relationship satisfaction and whether

the associations between SPS and mediators were moderated by childhood environment. As the literature predominantly suggests that SPS is a risk factor rather than a susceptibility marker, the following six hypotheses were proposed:

When there is a negative childhood environment:

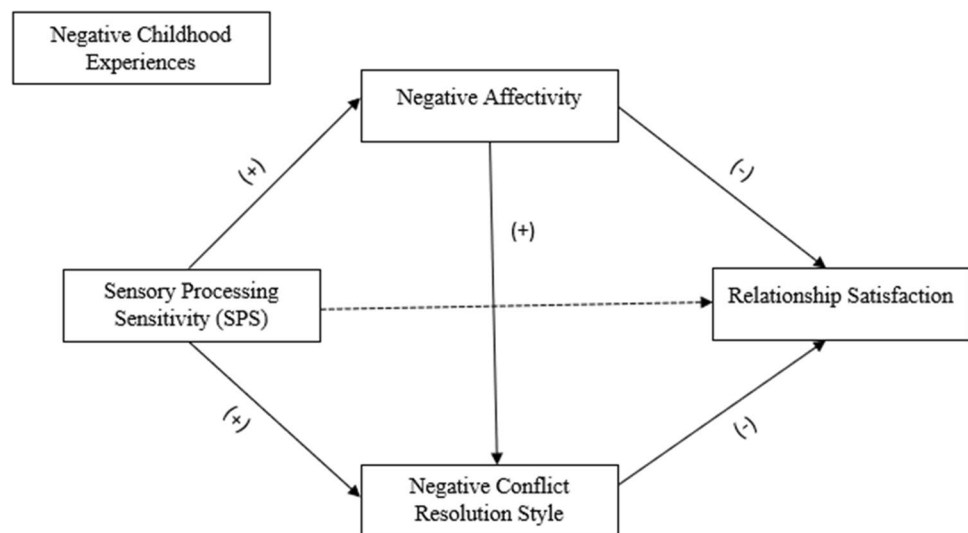
1. SPS will predict negative affectivity (+ relationship)
2. SPS will predict negative conflict resolution style (+)
3. Negative affectivity will predict relationship satisfaction (-)
4. Negative conflict resolution style will predict relationship satisfaction (-)
5. Negative affectivity will predict negative conflict resolution style (+)
6. No direct relationship will be found between SPS and relationship satisfaction, independent of affectivity or conflict resolution style. The conceptual model of this study is shown in Fig. 1.

## Method

### Participants and procedure

In total, 208 young adults participated in this study: 49 males (24%); 158 females (76%); and one participant did not specify gender. Convenience sampling was employed in this study. The inclusion criteria for participation were as follows: (1) young adults aged 18–25 years, (2) in an ongoing romantic relationship for at least 24 months, and (3) unmarried. The characteristics of the samples are listed in Table 1.

Emerging adulthood is a developmental stage that includes young adults aged 18–25 years; this stage is characterized by frequent changes and exploration (Arnett, 2000), and is considered to be between late-teenage and adulthood. Young adults at this stage have relatively less responsibility compared to adults, yet are more independent than teenagers. Additionally, life-changing adult roles—wife, husband, occupation, etc.—are not yet decided (Arnett, 2000). The target population of the current study was young adults at emerging adulthood because this developmental stage is a relatively less studied area. One of the eligibility conditions includes being in a romantic relationship for at least 24 months. In this way, couples can better know each other and the way they are dealing with conflicts, and the evaluation of romantic satisfaction could be more reliable. Another criterion for participation was “being unmarried” because in Turkish culture, most couples do not live together until they get married, which may create changes in evaluating and experiencing the romantic relationship. Exclusion criteria included the following: being diagnosed with neurological, psychotic, or personality disorders. Neurological and psychotic disorders were excluded because both are related to cognitive processing abilities. We excluded personality disorders because most of our study’s variables were associated with personality traits.

**Fig. 1** Conceptual model of the current study**Table 1** Means (M) and Standard Deviations (SD) of the Demographic Characteristics of the Sample

	Male	Female	Total
Number of Participants	49 (24%)	158 (76%)	208
Age			
Mean	23,43	23,22	23,26
SD	1,69	1,59	1,61
Range	19-25	19-25	19-25
Duration of Relationship (Month)			
Mean	46,18	46,93	46,67
SD	26,47	24,69	25,02
Range	24-120	24-125	24-125
Length in Acquaintance Before Relationship (Month)			
Mean	11,72	17,12	15,76
SD	18,32	27,75	25,72
Range	1-84	1-144	1-144
Living Status			
Together (%)	8 (16,3%)	10 (6,3%)	18 (8,7%)
Apart (%)	41 (83,7%)	148 (93,7%)	190 (91,3%)
Sexual Orientation			
Heterosexual (%)	45 (91,8%)	129 (81,6%)	175 (84,1%)
Gay/Lesbian (%)	2 (4,1%)	6 (3,8%)	8 (3,8%)
Bisexual (%)	0 (0,0%)	11 (7,0%)	11 (5,3%)

The participants were recruited through social media announcements, which specified the inclusion and exclusion criteria. Furthermore, the demographic information form contained questions about these criteria to confirm that all requirements were fulfilled. Participants completed an online survey via Qualtrics; their participation was voluntary and each of them provided an online informed consent. Thereafter, the following questionnaires were presented in a counterbalanced random order: the Highly Sensitive Person Scale (Aron & Aron,

1997); Risky Families Questionnaire (Taylor et al., 2004); Conflict Resolution Styles Scale (Ozen et al., 2016); Positive–Negative Affect Schedule (Watson et al., 1988); and Revised Dyadic Adjustments Scale (Busby et al., 1995; Spanier, 1976). At the end of the survey, a debriefing form was presented to all participants and contact information was provided.

## Measures

### Highly Sensitive Person Scale (HSPS)

The HSPS is a 27-item self-report measure that assesses sensory processing sensitivity on a 7-point Likert scale; higher scores indicated higher sensitivity. Cronbach's alpha coefficient was 0.87 in the original measure. The scale was translated to Turkish by Şengül-İnal and Sümer (2017). The internal consistency coefficient of the Turkish version is 0.73. In this study, the coefficient was 0.88.

### Risky Families Questionnaire (RF-Q)

The RF-Q is a self-report measure used to assess childhood environment; it was expanded by Taylor et al. (2004) to include both positive and negative childhood events and has 13 items. Higher scores represent more negative experiences. Cronbach's alpha coefficients were 0.86 and 0.88 in the current study.

### Conflict resolution styles scale (CRSS)

The CRSS (Ozen et al., 2016) is a 25-item self-report measure to assess negative conflict resolution styles (e.g., “I say offending things when I get angry.”), positive conflict resolution styles (e.g., “I try to find a mutual solution during conflicts”), subordination (e.g., “I try to calm my

partner to prevent amplifying the problem), and retreat (e.g., “I run away from my partner when there is a conflict.”). Cronbach’s alpha coefficients were 0.82, 0.80, 0.73, and 0.74, respectively (Ozen et al., 2016) and 0.75, 0.76, 0.83, and 0.78, respectively, in the current study.

### Positive–Negative Affect Schedule (PANAS)

The PANAS (Watson et al., 1988) is a 20-item self-report measure that assesses both positive affectivity and negative affectivity. Cronbach’s alpha coefficients were 0.90 for positive affectivity and 0.87 for negative affectivity for “in general” instruction. In the current study, the corresponding coefficient values were 0.79 and 0.84, respectively.

### Revised Dyadic Adjustments Scale (RDAS)

The RDAS (Spanier, 1976) was developed to measure relationship quality. It has 32 self-report items measuring four dimensions: consensus, satisfaction, cohesion, and affection expression. The shorter version (14 items), developed by Busby et al. (1995), was translated to Turkish by Gündoğdu (2007). Cronbach’s alpha coefficients were 0.79 for the Turkish adaptation (Gündoğdu, 2007) and 0.75 for the current study.

## Results

Moderated mediation analysis and serial multiple mediation analysis were conducted using PROCESS macro v.3.5 (Hayes, 2013) to test the proposed hypotheses. Preliminary analyses, including confirmatory factor analyses of the RF-Q, HSPS, CRSS, assumptions of linear regression (linearity, normality, multicollinearity, homoscedasticity, and independence of residuals), reliability of

measures, and correlations between measures, were examined before the main analysis. Two outliers in the relationship satisfaction measure were excluded from the data, and regression analyses were conducted on the remaining 206 participants. Bivariate correlations among the measures are presented in Table 2. The outcome variable relationship satisfaction (Y) was significantly correlated with all variables except for SPS (X) and childhood environment (W). There were weak negative relationships between X-Y and W-Y according to the scatterplots. In the opinion of Hayes (2009), it is still possible that mediators can be causally in between X and Y, even when there is no significant relationship between X and Y in conditional process analysis (Hayes, 2009, pp. 8–11). The rationale for this statement is that there might be other pathways (variables) between X and Y that are not included in the current model, but still affect the total effect. The total effect can be nullified by pathways in opposite directions (positive/negative sign). According to Hayes (2009), the precondition for a significant relationship between X and Y to test the direct and indirect effects is inaccurate.

To investigate whether SPS (X) interacts with the childhood environment (W) and indirectly predicts relationship satisfaction (Y) through negative affectivity ( $M_1$ ) and negative conflict resolution styles ( $M_2$ ), moderated mediation analysis was conducted based on Hayes’ Model 84 (Hayes, 2013). Based on 5,000 bootstrap samples, a bootstrapping approach was employed to test the significance of the current model because it has been shown to be superior to other approaches (Hayes, 2013). Results indicated that our entire model (Fig. 1) explained 13% of the variability in romantic relationship satisfaction ( $F(3, 202) = 9.73, p = 0.0000$ ). Childhood environment ( $\beta = 0.24, SE = 0.06, t = 4.05, p = 0.0001; 95\% CI [0.12, 0.36]$ ) and SPS ( $\beta = 0.04, SE = 0.01, t = 3.87, p = 0.0001; 95\% CI [0.02, 0.06]$ ) were both positively associated with negative affectivity (see Fig. 2). The interaction between SPS and childhood environment on negative affectivity was not significant, suggesting that the effect of SPS on negative affectivity was

**Table 2** Bivariate correlations among variables

Variables	1	2	3	4	5	6	7
Predictors	-						
1.HSPS	-	.30**	-.14*	.24**	.04	.15*	-.07
2.Negative affectivity	.30**	-	-.37**	.40**	-.18**	.31**	-.29**
3.Positive affectivity	-.14*	-.37**	-	-.19**	.37**	-.22**	.25**
4.Negative CRS	.24**	.40**	-.19**	-	-.19**	.26**	-.30**
5.Positive CRS	.04	-.18**	.37**	-.19**	-	-.10	.25**
6.RF-Q	.15*	.31**	-.22**	.26**	-.10	-	-.08
Outcome	-.07	-.29**	.25**	-.30**	.25**	-.08	-
7.RelationshipSatisfaction							

\*\* . Correlation is significant at the 0.01 level; \* . Correlation is significant at the 0.05 level; HSPS, Highly Sensitive Person Scale; CRS, Conflict Resolution Style; RF-Q, Risky Families Questionnaire



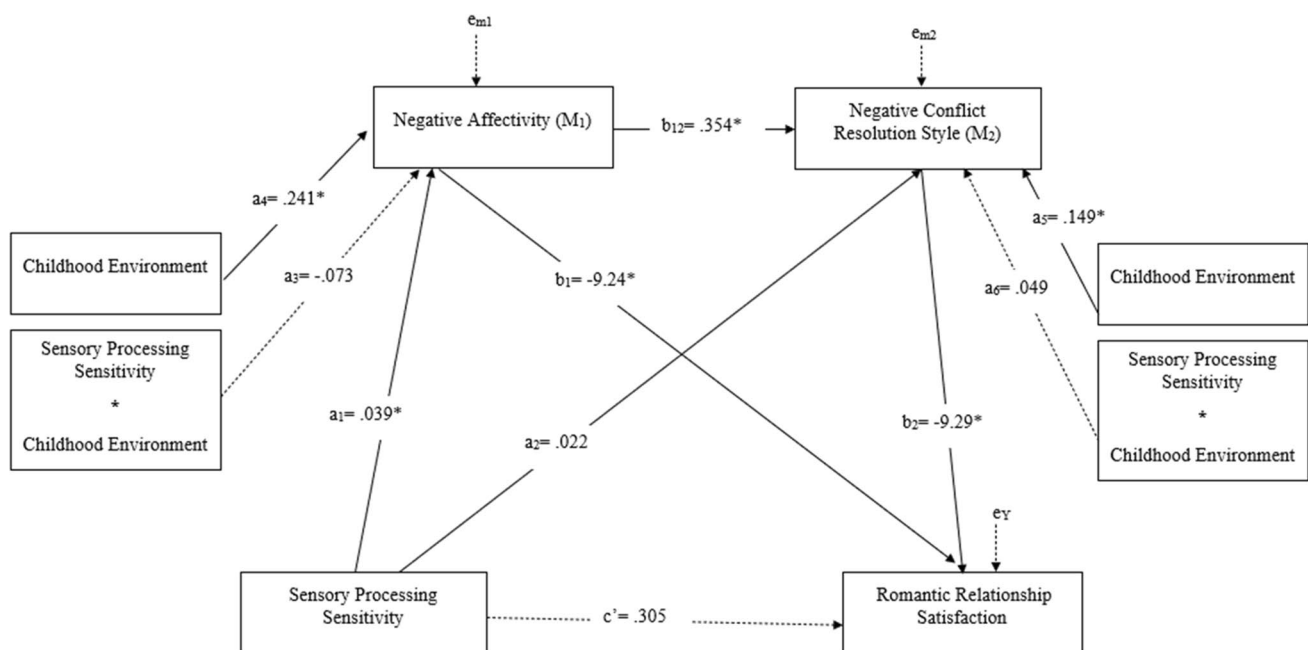
not dependent on the level of the childhood environment. Childhood environment ( $\beta = 0.15$ ,  $SE = 0.07$ ,  $t = 2.20$ ,  $p = 0.0290$ ; 95%  $CI [0.02, 0.28]$ ) and negative affectivity ( $\beta = 0.35$ ,  $SE = 0.08$ ,  $t = 4.58$ ,  $p = 0.0000$ ; 95%  $CI [0.20, 0.51]$ ) were both positively associated with negative conflict resolution style. The association between SPS and negative conflict resolution style and the interaction between SPS and childhood environment on negative affectivity were not significant either.

None of the interactions, including the moderator, was significant, but the regression coefficients that link the indirect pathways were mostly significant. The model was re-analyzed without the moderator to further examine the mediation. Thus, serial multiple mediation analysis was conducted using Hayes' Model 6 (Hayes, 2013). Total model explained 13% of the variability in romantic relationship satisfaction, suggesting that the moderator did not contribute to this percentage before. The results indicated that negative affectivity and negative conflict resolution styles significantly mediated the association between SPS and relationship satisfaction (total indirect effect =  $-0.81$ ; 95%  $CI [-1.396, -0.362]$ ). Specifically, negative affectivity mediated the association between SPS and relationship satisfaction (indirect effect =  $-0.30$ ; 95%  $CI [-0.663, -0.041]$ ), negative conflict resolution style mediated the association between SPS and relationship satisfaction (indirect effect =  $-0.39$ ; 95%  $CI [-0.865, -0.073]$ ), and the serial mediation of negative affectivity and negative conflict resolution style on the association between SPS and relationship satisfaction was also significant (indirect effect =  $-0.12$ ; 95%  $CI$

$[-0.287, -0.019]$ ). Therefore, all proposed hypotheses were confirmed independently based on the different levels of the moderator (see Fig. 3).

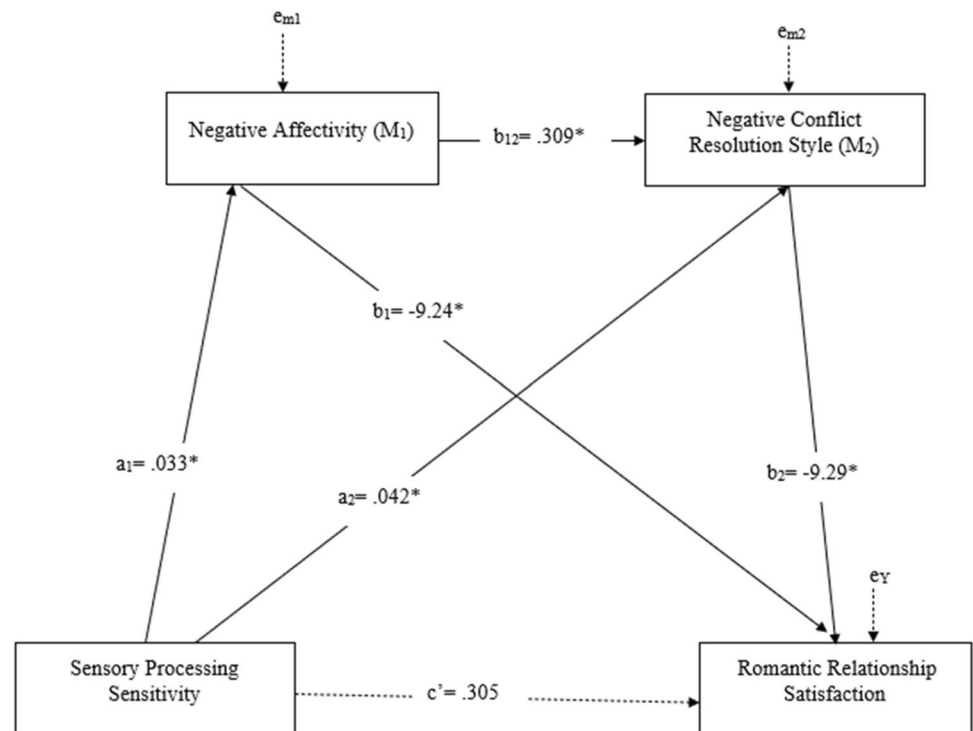
## Discussion

The results revealed that both negative affectivity and negative conflict resolution style mediated the relationship between sensory processing sensitivity and romantic relationship satisfaction, regardless of childhood environment. In particular, we found that HSP are more likely to experience negative affectivity (feeling distressed, hostile, or nervous); therefore, they are more likely to experience decreased relationship satisfaction, irrespective of their childhood experiences. Similarly, our results revealed that HSP are more likely to use negative strategies (shouting, raising the voice, confronting their partner with their weaknesses, showing physical anger, etc.) while resolving conflicts in romantic relationships; therefore, they are more likely to experience decreased relationship satisfaction, irrespective of their childhood experience. Finally, our results suggest that HSP are more likely to use negative strategies for conflict resolution because they are more likely to experience negative affectivity in general; therefore, they are more likely to report lower romantic relationship satisfaction. The proposed hypotheses were supported by the results of our study. However, unlike the proposed hypothesis, the results showed that the relationships between predictor variables and mediators were not conditional on the moderator



**Fig. 2** Statistical diagram of the model. Note.  $*p < .05$

**Fig. 3** Statistical diagram of the model without the moderator.  
*Note.* \* $p < .05$



variable childhood environment, suggesting that SPS is a risk factor beyond childhood factors.

The results of this study are partially congruent with the relevant literature. For example, the majority of the findings on SPS suggest that either directly or via indirect paths, SPS was associated with negative psychological outcomes (Brindle et al., 2015; Liss et al., 2005). However, a few studies have shown that SPS is only a risk factor when it interacts with an inadequate childhood environment (Aron et al., 2005; Booth et al., 2015; Liss et al., 2005). In the current study, we did not observe an interaction between SPS and childhood environment, even when tested as a simple moderation model. There are three possible explanations for this finding. First, scores on the RF-Q measure were positively skewed. This implies that the majority of participants scored minimum values on items involving negative content, while they scored maximum values on items involving positive content. Thus, a positivity bias may have affected the results. Second, positive and negative items on the RF-Q are not distributed evenly; there are only three positive items. Using a measure that only assesses adverse childhood events (e.g., the Childhood Trauma Questionnaire) may produce more reliable results. Third, SPS could be an independent risk factor beyond the effects of childhood, in accordance with Liss et al. (2005). The findings of the current study neither supported diathesis stress nor the differential susceptibility perspective because SPS did not interact with childhood experiences.

Our findings demonstrated that HSP differ from non-HSP in terms of their relationship satisfaction through experiencing more negative emotions and by using inconvenient conflict resolution strategies in their relationships. These findings are consistent with previous research showing that SPS is associated with insecure attachment and decreased satisfaction in relationships (Jerome & Liss, 2005; Meredith et al., 2016; Levit-Binnun et al., 2014; Lee & Park, 2020). Furthermore, in our study, HSP reported that they used more strategies, such as raising their voice, confronting their partner about their weaknesses, yelling, threatening, and physical anger during conflicts. These strategies were associated with a decline in relationship satisfaction. For instance, Jerome and Liss (2005) identified that as sensitivity increases, individuals are more likely to use emotion-focused coping strategies. These strategies impair an individual's ability to resolve conflicts and find alternative solutions, thereby increasing the likelihood of relationship anxiety.

Finally, after controlling for mediators, there was no significant direct association between SPS and relationship satisfaction in the current study. Although no previous study has directly tested this association, Aron (2010) suggested that after controlling for neuroticism, there was no significant association between SPS and relationship satisfaction, intimacy, closeness, and success of a relationship. In the current study, the direct effect was insignificant but positive ( $\beta = 0.31$ ), implying that there could be other variables between SPS and satisfaction that could increase satisfaction after controlling for negative affectivity and conflict

resolution style. These variables can include empathy, aesthetic awareness, or sensory awareness.

This study emphasizes considering SPS during case formulation and treatment by clinicians to understand how sensitivity might impact the development and perpetuation of the symptoms as well as the client's relationship dynamics, to better understand the unique experience of a sensitive client to strengthen therapeutic alliance, empathy, and understanding. Therapists can help increase clients' insight into the effects of sensitivity to facilitate the therapeutic process. Furthermore, our results highlight the significance of teaching problem-focused strategies and practices that help manage and express negative emotions in a more constructive manner. Similarly, couples' therapeutic approaches focusing on creating insight into conflict resolution styles and alternative methods of dealing with conflicts can be recommended for HSP. Finally, emerging adulthood is a stage involving many changes (work, relationships, etc.), which could lead to anxiety, over-arousal, and emotional reactivity in highly sensitive young adults. Therefore, it is important to use preventive strategies, including informing young adults via seminars or individual sessions about SPS, dealing with changes, planning changes, increasing social support, effective conflict resolution, and coping strategies.

## Limitations and future directions

This study has certain limitations that should be acknowledged. First, as it is a correlational research, causal claims cannot be made. Future longitudinal methods and/or experimental designs would better explain the roles of negative affectivity and conflict resolution style in the relationship between SPS and romantic relationship satisfaction. The majority of the participants were heterosexual females who had been in a relationship for approximately four years. Furthermore, most of the participants did not live with their partners. Thus, the results can be generalized to similar types of individuals in terms of gender, sexual orientation, and age. Additionally, our findings cannot be generalized to married couples. Especially in Turkey, due to the cultural context, living conditions, and extended family, marriage and romantic relationships could be affected by different processes.

Future research should measure both partners' sensitivity and satisfaction to understand the double side effects of SPS. In the current study, childhood environment did not moderate the relationship between SPS and relationship satisfaction. This may have been because of the retrospective self-measure of the childhood environment that affects the distribution of scores and introduces subjective bias. Additionally, owing to the ongoing Covid-19 pandemic, data were collected online, which can reduce

their reliability. However, it is important to note that most previous studies have established a significant association between SPS and negative psychological outcomes. Therefore, more studies are needed to identify whether SPS alone is a risk factor in the context of romantic relationships as well as in other domains.

## Summary

In summary, our findings suggest that highly sensitive individuals are more likely to experience lower satisfaction in their romantic relationships because they are more vulnerable to the effects of negative emotions and conflicts. Therefore, this trait should be considered as an independent risk factor for developing negative outcomes in romantic relationships. However, additional research is required to generalize these results to adult married couples, gay/lesbian individuals, and individuals with bisexual orientation.

**Author contribution** All authors contributed to conception, research design, data collection, analyses, and manuscript of this study. All authors read and approved the final manuscript.

**Data availability** All data gathered during and/or analyzed during the study are available from the corresponding author on reasonable request.

## Declarations

**Ethics approval** Before administration of this study, ethical approval from TED University Human Subjects Ethics Committee was obtained and this study was performed accordance to principles of Declaration of Helsinki.

**Consent to participate & publish** All participants voluntarily participated to our study. Before the study, all participants were accepted the informed consent which involves both consent to participate, and consent to publish the results for scientific purposes. Information of confidentiality was presented on the informed consent form.

**Competing interests** On behalf of all others, corresponding author certifies that there is no financial or non-financial interests relevant to this article.

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