DISCUSSIONS ON INTIMATE PARTNER VIOLENCE AND ELECTRODERMAL ACTIVITY IN COUPLE THERAPY

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Tutkimuksemme tarkoituksena oli tarkastella, kuinka paljon parisuhdeväkivallasta puhutaan pariterapiassa, mitä ja kuinka osallistujat puhuvat siitä sekä kuinka osallistujien ihon sähkönjohtavuus liittyy väkivaltakeskusteluihin. Tutkimukseemme kuului neljä paria ja heidän terapeuttinsa, ja parit olivat hakeutuneet terapiaan parisuhdeväkivallan vuoksi. Tarkastellessamme teemoja ja keskustelukäytäntöjä käytimme temaattista analyysia ja diskurssianalyysia. Ihon sähkönjohtavuuden osalta puolestaan tarkastelimme, onko osallistujien välillä eroja keskiarvoissa, piikkien määrässä ja osuuksissa sekä synkroniassa.

Tuloksemme osoittivat, että vaikka väkivallasta puhuttiin melko vähän terapiassa, uhrit ja terapeutit osallistuivat aktiivisesti keskusteluun. Havaitsimme myös, että yleisen väkivaltakeskustelun ja ihon sähkönjohtavuuspiikkien aikana useimmiten ilmenneet teemat olivat samanlaisia, käsittäen väkivallan kuvailun, selitykset ja seuraukset. Osallistujien ihon sähkönjohtavuudessa oli eroja, jotka ilmenivät yksilöllisinä eroina piikkien määrässä. Lisäksi terapeuteilla oli enemmän piikkejä kuin asiakkailla. Kuitenkin piikkien suhteelliset osuudet olivat melko pieniä, emmekä havainneet eroa väkivallan uhrien, tekijöiden ja terapeuttien keskiarvojen välillä. Osa terapeutti-asiakaspareista vaikutti olevan synkroniassa keskenään, kun puolestaan asiakas- ja terapeuttipareilla oli matala synkronia.

Tämän tutkimuksen perusteella vaikuttaa siltä, että uhrit eivät pelkää väkivallasta puhumista ja terapeutit kykenevät käsittelemään parisuhdeväkivaltaa, mutta väkivallan käsittelyyn terapiassa pitäisi kuitenkin kiinnittää enemmän huomiota. Lisäksi tuloksemme näyttävät ilmentävän, että osallistujat kokivat väkivallan käsittelyn eri tavoin, mikä olisi hyvä huomioida terapiaprosessissa.

Avainsanat: parisuhdeväkivalta, pariterapia, teemat, ihon sähkönjohtavuus, autonominen hermosto

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The aim of our study was to examine how much intimate partner violence (IPV) is discussed in couple therapy, what and how the participants talk about it, and how electrodermal activity (EDA) of the participants is related to IPV discussions. We studied four couples with their therapists dealing with IPV. For analyzing themes and discussion practices we used thematic and discourse analysis, whereas in EDA analysis we examined whether there are differences in EDA between the participants, manifested in means, the frequencies and proportions of the peaks and synchrony.

Our results showed that although IPV was discussed quite little in therapy, the victims took actively part in discussion. We also found that the themes during general IPV discussions and mostly occurred themes during EDA peaks were similar, including description of IPV, explanations on IPV and consequences of IPV. Moreover, there were differences between EDA of the participants, manifested as individual differences in frequency of the peaks, and therapists having more peaks than clients. However, the overall proportions of the peaks were quite small, and no difference in EDA means between the victims, perpetrators and therapists was found. In addition there were therapist-client dyads that seemed to have EDA synchrony between each other, whereas the clients and therapists dyads had low synchrony.

Based on this study, it seems that the victims are not afraid to speak about IPV and the therapists are able to deal with it, but however dealing with IPV needs more attention in therapy. Moreover, our results seem to reflect that the participants experienced dealing with IPV differently, which would be good to take into account in therapy process.

Keywords: intimate partner violence, couple therapy, themes, electrodermal activity, autonomic nervous system

CONTENTS

1. INTRODUCTION

1.1 Intimate partner violence and couple therapy

Intimate partner violence (IPV) was considered as a private matter before 1970 when feminist movement brought men's violence towards women into a public conversation and started to offer shelters to assaulted women (Stith, McCollum, & Rosen, 2011). In feminists' opinion, the culture strengthened men's dominating position in relation to women, and they also thought couple therapy will downgrade women's status even more and decrease men's responsibility for violence. Moreover, feminists' concern was that couple therapy could give a false sensation of safety to women or in contrast raise fear that keeps from women to talk about violence. In Finland, in turn, IPV has not been considered to be due to men's dominance in relation to women unlike in many other western countries (Husso, 2003). Some kind of equality thinking, that have emphasized harmony and cohesion between man and woman and minimized a thought of women as victims of violence, has dominated in Finland. Since relationships have been seen as a private state and causes of violence have been categorized into individual qualities and circumstances, intervening in IPV has not been important.

Sexually differentiated treatments are the most used treatments for IPV, and in these treatments man is usually considered as a violent person and woman as a victim (Stith, McCollum, Amanor-Boadu, & Smith, 2012). Although the statistics about arrested violent persons and shelter seeking victims are still substantially sexually differentiated, community-based studies have indicated that perpetrators and victims of IPV are more sexually heterogeneous than was thought earlier. Danielsson and Salmi (2013) found that in Finland ten percent of women and six percent of men who were in relationship reported to undergo violence from their partner in some point of their relationship. In addition, two percent of men and four percent of women reported to undergo physical violence from their current partner within the last year. However, women's violence is thought to be more emotional whereas men's violence is considered to be more physical (Kettunen, 2008). Attitude especially to women's violence towards men is sometimes contradictory; on the other hand, it is considered serious and untold but also a little bit comic and dismissive topic. A thought of a woman as a perpetrator can be also difficult to internalize by therapists (Koskinen,

Peltoniemi & Holma, 2016), also when violence is psychological (Kaufman, 1992).On the other hand, Husso (2003) notes that physical and emotional violence cannot be separated from each other; physical violence affects also emotional side and emotional violence has connection to physical body.

Because of its history couple therapy is still consider to be quite controversial way to treat IPV (Stith et al., 2011). It is common that victims that have experienced IPV are encouraged to leave from their relationship, and it is tended to offer them individual therapy to deal with IPV (Karakurt, Dial, Korkow, Mansfield, & Banford, 2013). However, studies show that considerable amount of couples stay in their relationship even if violence is severe (e.g. Stith et al., 2011). Couple therapy is seen to cause safety risks for victims of violence and to narrow taking responsibility for violence. In couple therapy it is essential to motivate the perpetrator to take responsibility and to help couples to improve mutual communication and interaction. On the other hand, it can be challenging; many therapists do not ask about violence their clients because they may do not know how to ask, they do not know how to react if a client admits there has been violence or they think clients just do not look like violent. It has also been showed that women's points of view have not took into account enough in therapy (Husso, 2003; Kaufman, 1992). One explanation to this can be that family therapists are afraid to break the social norm concerning a man as a controller in a relationship (Kaufman, 1992). Family therapists have also been found to minimize and even deny IPV and its existence. Also Karakurt et al. (2013) observed that IPV is a difficult subject to deal with for therapists; therapists have reported for example fear of increasing violence and worry about managing their own anxiety. However, they have also reported having trust in couple therapy as a treatment for IPV. It must be noted that the lack of trust between the couple may complicate the therapy process also from therapist's standpoint (Vall, Seikkula, Laitila, Holma, & Botella, 2014).

Dealing with IPV in couple therapy is considered to be difficult also for the couples. Sometimes couples can be cautious to discuss IPV because of the fear of partner becoming angry or insulted (Kaufman, 1992; Stith et al., 2011) but however, most couples do not think discussing IPV will lead violent act by their partner (Stith et al., 2011). According to Husso (2003), describing to others about oneself as a target of violence is a pervasive, physical process that may not only relieve but also frighten and hurt a victim, and cause fear, confusion and shame also among listeners. The feeling of shame is associated with the lack of reciprocity and the need of being accepted, and it emerges and intensifies in social interaction. A difficulty to express one's own thoughts about IPV and blaming especially

victims about their supposed provocation and inabilities in a relationship have a central meaning in the process of producing shame. However, more and more studies show that well organized couple therapy can be as safety and effective as other general treatments of intimate partner violence (McCollum, & Stith, 2008; Nieminen, & Nokelainen, 2012; Stith, Rosen, & McCollum, 2003), especially in situational couple violence where violence is not usually as severe as in intimate terrorism (Stith et al., 2011).

1.2 Specification and forms of intimate partner violence

The specification of IPV depends slightly on the descriptor and the selected view. Stith et al. (2011) use several categories to unitize different forms of violence. Physical violence includes always physical force that targets directly or indirectly to a partner, for example hitting, kicking, choking and throwing objects. Emotional violence is described as an effort to make partner to feel bad about oneself and as an assault against one's self-esteem and autonomy, which can include discouraging, violation, blaming, intimidation and isolation that means controlling partner's social life, action, thinking or feelings.

Sexual violence is all kind of sexual coercion or sexual action counter partner's own will, for example physical forcing to sexual intercourse, subordinating or humiliating sexual language and unwanted physical touch (Stith et al., 2011). Keeping one's own gender better than the other's is classified as gender related violence in which one's own rights and needs are considered more important than partner's. Unreasonable generalization (e.g. men are stronger, women need men to take care of themselves) and attempt to restrict partner's role in family due to gender are examples of gender related violence. In addition to these, Stith et al. categorize verbal, intimidation, religion and child abuse into separate forms of IPV.

Johnson (2008), in turn, categorizes the forms of IPV into four groups that are situational couple violence, intimate terrorism, violent resistance and mutual violent resistance. Situational couple violence is probably the most common type, and it differs from other types in that controlling the partner is not the purpose of violence. Violent behavior depends more on some particular situation that may rouse for example a perpetrator's anger or frustration, which then results in violence. In intimate terrorism violence is targeted only at the other party of a relationship. An intimate terrorist may have different kinds of motives for their action, but a need to control their partner is typical for that action. Compared to situational

couple violence, the victim of intimate terrorism has usually greater risk to get seriously hurt. Violent resistance is a type of IPV in which both partners take part in violent action. The other party of a relationship, usually a man, acts violently to control his partner, and other partner uses then violence as a defense for protecting herself from violent control. In mutual violent resistance both partners use violence trying to control each other.

1.3 Partners' views on intimate partner violence

The reports of physical injuries of IPV have been found to differ among victims and perpetrators; the victims have reported having more injuries than the perpetrators have considered to have caused (Dobash, Dobash, Cavanagh, & Lewis, 2000). Perpetrators have diminished or denied injuries or have been unaware of them (Dobash et al, 2000), and they have invalidated women's experiences and views of violent events (Husso, 2003). Moreover, not only the perpetrators but also the victims have been found to diminish or deny IPV (Kaufman, 1992). According to Holma (2005), victims' and perpetrators' views on IPV and its severity and descriptions of specific violent situations can differ substantially. They may also have disagreement of definition of violence or who is responsible for IPV. However, the views of physical violence among victims and perpetrators in couple therapy were found to be congruent in most of the couples, but there were disagreements about descriptions of psychological violence (Bunda, & Rantanen, 2013). The views on what is considered as psychological violence and who has used it differed among the victims and perpetrators. Husso (2003) suggests that in negating IPV it is not only a question of conscious avoiding but also unconscious suppression. Things and situations are interpreted in relation to qualities related to them and also to a context where these qualities are either relevant or irrelevant, comprehensible or incomprehensible, natural or unnatural.

Both the victims and perpetrators have given several explanations on IPV, such as perpetrator's jealousy and possessiveness, will of getting the partner fulfill their demands of domestic work, need for having dominating position and control over the partner, and alcohol use (Dobash et al., 2000). In Finland IPV have been explained for example by women's provocation or infidelity, whereas men's violent action has been concealed behind stress or alcohol drinking (Husso, 2003), which has seen to decrease perpetrators' responsibility for IPV. Also Bunda and Rantanen (2013) found partly similar explanations in couple therapy discussions, including perpetrator's jealousy, alcohol use, and negative emotional state or

mood. Ajo and Hara (1998) suggest that particularly for violent men it is hard to accept their responsibility concerning violence and admit it in therapy, and they often tend to outsource the explanations of violence far away from themselves. In their study men as perpetrators explained their violence by their traumatic past, losing their temper, their partners' behavior and normality of violent action.

The victims have reported having negative emotional consequences, including stress, anxiety, depression and fear of violence, but perpetrators are often unaware of the consequences or insensitive to them (Dobash et al., 2000; Husso, 2003). Also the victims in Bunda and Rantanen's (2013) study told about the fear of violence that they described to experience in conflict situations, but also constantly in everyday life. The victims described that they were cautious about expressing their own views and controlled their behavior. The perpetrators, in turn, diminished their partners' experiences and did not consider their behavior as intimidating. In women's opinion sense of fear is often the toughest consequence of violence (Husso, 2003). IPV has also often traumatic effects for victims, and traumatic memories of IPV are connected to painful experiences that impair the feeling of control both in relation to surrounding reality and oneself. These memories are quite common after being abused, and they may reflect strongly on one's own behavior and reactions in specific situations because experiences of being abused exist in the body already before consciousness of them.

1.4 Autonomic nervous system and emotions

Autonomic nervous system (ANS) is a part of the peripheral nervous system, and it regulates and coordinates essential body functions (Andreassi, 2007). The main function of the ANS is to maintain a constant internal body environment, the homeostasis (Levenson, 2014), but it is also associated with several features of emotional behavior (Andreassi, 2007). Moreover, the functions of the ANS are autonomic, and they do not require conscious control. The ANS can be divided into the sympathetic and parasympathetic nervous system (SNS and PNS; (Sequeira, Hot, Silvert, & Delplanque, 2009). The SNS is activated during emergency and stress situations, and it energizes behavior, and this is called as "fight or flight" response. The PNS, in turn, controls the functions of rest, relaxation and restoration of energy stores. Although the functions of the SNS and PNS are contrast with each other, they function integrated (Andreassi, 2007).

The ANS activity is considered as a significant factor of the emotion response (Kreibig, 2010). James and Lange (James, 1894) were first to consider that emotions derive from bodily changes. However, theorists' views of the degree of specificity of the ANS activation in emotion has varied, ranging from undifferential arousal to specific assumptions of autonomic response patterns (for review, see e.g. Kreibig, 2010). In model of embodied affectivity bodily responses are considered essential in the experience of emotions (Fuchs, & Koch, 2014). The model suggests that emotions results from the circular interaction between affective features in the environment and the person's bodily resonance such as sensations, postures and movements. The body functions color or charge the environment with affective features and thus have an effect on the experience of emotions, although bodily resonance is unconscious. This same phenomenon is also applied to interaffectivity that refers to that the individuals' embodied affectivity interacts with each other thus modifying the experience of emotions of both of them. Thus emotions are mainly shared states experienced through interbodily affection, and this process can be considered as the bodily basis of empathy and social understanding.

1.5 Electrodermal activity

Electrodermal activity (EDA) is a frequently used measure of psychophysiologic arousal, and it refers to the capability of the skin to conduct electricity (Hugdahl, 1995), including both active and passive electrical features (Boucsein, 2012). The outer layer of skin, epidermis, and sweat glands are essential in EDA. The majority of the human sweat glands are eccrine sweat glands (Boucsein, 2012), and the palms of the hands and soles of the feet consist the most of them (Andreassi, 2007). Expect of several other functions of the ANS that are innervated both the PNS and the SNS, the activity of the sweat glands are innervated by the SNS merely (Andreassi, 2007), and increased activity in the SNS can be observed as increased hydration in the sweat duct and on the surface of the skin (Hugdahl, 1995).

EDA can be divided to three different types: tonic level, phasic responses, and spontaneous fluctuations (Hugdahl, 1995). The tonic level indicates the relatively stable baseline activity level, whereas the phasic responses refer to the momentary changes in EDA (Andreassi, 2007). The EDA response occurs within 1-2 seconds after stimulus, indicating relatively slow transmission between the ANS and the sweat gland, and the response reaches

its peak generally within 1-4 seconds after the stimulus (Hugdahl, 1995). The 50 percent recovery of the response usually occurs within 4-8 seconds.

Increased EDA has been suggested to reflect cognitively or emotionally mediated motor preparation (Fredrikson et al., 1998), which is consistent with the view that emotions motivate to act (Brehm, 1999). The individual variations of EDA have been explained by personality traits and the degree of emotional expressiveness. Crider (2008) found in his review that greater EDA response instability was related to suppression of emotions and agreeableness, whereas greater stability was related to active expression of emotions and antisocial behavior. Crider suggests that individual variations in effortful control may explain the findings.

1.5.1 Electrodermal activity, psychological functions and social interaction

EDA is considered to be a sensitive marker of personally significant events that are usually related to emotions, novelty and attention (Sequira et al., 2009). A close temporal relation between EDA and emotional experience in healthy subjects has been found, thus indicating EDA to reflect emotional reactivity (Hot, Leconte, & Sequeira, 2005). Due to this, the eccrine sweating activity is also called as emotional sweating (Asahina, Suzuki, Mori, Kanesaka, & Hattori, 2003). Kreibig (2010) found in her meta-analysis that increased EDA was related to the most positive and negative emotions such as anger, anxiety, embarrassment, fear, amusement, happiness, and joy. Decreased EDA, in turn, was associated with only few emotions: non-crying and acute sadness, contentment, and relief. However, EDA has also been found to be clearly higher during voluntary facial portrayal of negative emotions (anger, fear, sadness and disgust) than during portrayal of positive emotion (happiness and surprise; (Levenson, Ekman, & Friesen, 1990).

Also novelty and significance of stimulus seem to be essential in EDA response (Bradley, 2009). It was found that even novel neutral stimulus caused increased EDA, although novel pleasant and unpleasant stimuli caused larger increases in EDA than neutral stimulus. When the stimuli were repeated, EDA was clearly lower for the neutral stimulus compared to the novelty situation, and the pleasant and unpleasant stimuli also caused lower, but still significant increases in EDA. Supporting Bradley's findings, increased EDA was also found to be related to attention to threat cues in general population (Löw, Lang, Smith, & Bradley,

2008; Wiemer, Gerdes, & Pauli, 2013) and in phobics (Wessel & Merckelbach, 1998) and reward cues (Löw et al., 2008).

The relation between EDA and stress has also been found. EDA was found to increase in stressful situations that included cognitive, emotional, acoustic and motivational stressors (Reinhardt, Schmahl, Wüst, & Bohus, 2012), and EDA peaks were observed to be related to psychosocial stress (Setz et al., 2010). EDA has also been found to be associated with stressful life events (Clements, & Turpin, 2000; Najström, & Jansson, 2007). It was found that increased EDA to masked threatening pictures predicted the greater emotional distress in response to naturally occurring stressful events after controlling trait anxiety (Najström, & Jansson, 2007). However, the greatest exposure to stressful life events has been found to be related to hyporesponsive pattern of EDA manifested as lower EDA compared to moderate exposure to stressful life events manifested as increased EDA (Clements, & Turpin, 2000).

EDA synchrony, in turn, has been found to be associated with social interaction qualities. Robinson, Herman and Kaplan (1982) found that the concurrent EDA peaks between a client and a counselor were related to perceived empathy by the client, whereas tonic EDA synchrony was not related to empathy. However, later research has indicated that tonic EDA synchrony between a client and a therapist seems to be positively associated with clients' ratings of perceived therapist empathy (Marci, & Riess, 2005; Marci, Ham, Moran, & Orr, 2007; Messina et al., 2013). It has also been found that increased emotional distance by interviewer is related to decreased EDA synchrony and lower perceived empathy by a client (Marci, & Orr, 2006). Karvonen, Kykyri, Kaartinen, Penttonen and Seikkula (2016), in turn, found that the therapist dyads had the highest EDA synchrony in couple therapy compared to therapist-client and couple dyads, and the couple dyads had the lowest EDA synchrony of all the dyads. It has also been observed that the clients and therapists had significantly more positive socio-emotional interaction during high moments of EDA synchrony compared to low synchrony moments (Marci et al., 2007). In marital interactions, however, EDA synchrony has been found to be related to distressed discussions solving relationship problems, which was explained by mutual experiencing of negative emotions (Levenson, & Gottman, 1983).

1.5.2 Electrodermal activity and intimate partner violence

Gottman, Jacobson, Rushe and Shortt (1995) were first to examine psychophysiological responses of men who had been violent towards their intimate partner. They measured heart rate of men in marital conflict and found two different types of IPV perpetrators: type I perpetrators who were more violent and showed autonomic underarousal, and type II perpetrators who were less severely violent and showed autonomic hyperactivity. After that also EDA of IPV perpetrators has been examined in couple of studies. Babcock, Green, Webb and Yerington (2005) compared EDA of severely violent perpetrators (considered as type I) to low-level violent perpetrators and nonviolent men during a conflict discussion between a couple, and they found that low EDA was associated with antisocial behavior in severely violent men. Also Romero-Martínez, Lila, Williams, González-Bono and Moya-Albiol (2013) compared EDA of IPV perpetrators (considered as type II) and nonviolent men, and EDA of the perpetrators was measured before, during and after they talked about their own experiences and problems related to IPV and opinions about IPV legislation. They found that perpetrators had higher EDA responses during recovery phase than nonviolent men, but no difference in tonic EDA was found between the two groups. Thus both Babcock et al.'s and Romero et al.'s findings supported Gottman et al.'s findings of different perpetrator types.

The relation between EDA of the perpetrator and IPV has also been examined in Relational Mind -project. Kalliomäki (2015) examined EDA of the perpetrator while the victim was talking about IPV in couple therapy, and she found that the perpetrator's EDA increased during victim's speech. However, EDA changes were not as large as later in therapy session discussing other subjects. The perpetrator also participated in stimulated recall -interview (SR-interview) after the therapy session, and watched there a clip of the victim's speech. He described that talking about IPV was unpleasant, and he would not want to talk about it. This and EDA responses referred that the perpetrator felt guilty and feared how therapists would react to IPV.

1.6 The aim of the study

The aim of our study was to examine how much IPV is discussed in couple therapy, what and how the participants talk about it, and how EDA of the participants is related to IPV discussions. In addition to find out how much the IPV discussions cover the whole therapy sessions, we wanted to also observe what kind of themes occur during general IPV discussion and EDA peaks, and how the participants take part in discussions. Our interest was also to examine whether there are differences in EDA between the participants and whether EDA synchrony between them occurs. To our knowledge, EDA has not been studied among IPV victims and therapists dealing with IPV earlier and overall psychophysiological responses in couple therapy context have not studied much. We wanted to combine EDA analysis with qualitative analysis of IPV discussions to gain broader understanding about dealing with IPV in couple therapy. Our research questions were following:

1) How much IPV is discussed in therapy?
2) What IPV themes are discussed in therapy and how they are discussed?
3) Is there difference between the participants a) in EDA means, b) in the frequencies and proportions of the EDA peaks, and c) in the proportions of the EDA peaks and synchrony during different IPV discussion themes?

2. METHOD

2.1 Research project

Our study is a part of the research project ”Relational Mind in Moments of Change in Multi-actor Therapeutic Dialogues”. The Relational Mind is a part of “Human Mind” research programme 2013-2016, and it is funded by the Academy of Finland (Seikkula, Kaartinen, Karvonen, Kykyri, & Penttonen, 2015). The project is directed by professor Jaakko Seikkula in Department of Psychology at the University of Jyväskylä, and it is executed in association with four other European universities. The project aims to expand understanding of the embodiment of the multi-actor therapeutic dialogues and synchronization in embodied responses between participants. The project examines the clients and therapists in the same way, and the data of the each participant’s ANS responses is gathered in two therapy sessions during the therapy process (most often 2nd and 6th sessions). Moreover, each measurement session is followed SR-interviews. Due to the study design, this project is internationally unique.

2.2 The cases and design

In this study we examined four cases, in each two clients and two therapists. The clients were couples that had sought to Jyväskylä University Psychotherapy Training and Research Centre to get treatment for IPV. All participants gave written consent to participate in this project, and their anonymity was taken care of in every stage in the study.

Before the treatment, the couples’ situation and background were surveyed with different forms. Therapy sessions were non-manualized, and they included reflective conversation between the therapists. All the couples had been searched for help for example from a crisis center because of IPV before therapy, and especially because of physical abuse. Despite of IPV in their relationships, the couples were motivated to stay together at least in the beginning of the treatment.

The clients were about 30 to 45 years old. Two of the couples cohabited (cases 1 and 4), one couple had registered their partnership (case 2) and one couple was engaged (case 3). In

each case at least other party in the couple had a child or children. The clients in the case 2 had initial education, whereas other clients had upper secondary education. In the case 1 and 2 the perpetrator had been diagnosed with depression and they had medication for that. In the case 2 the victim had bipolar disorder and also medication for that. The victim in the case 4 reported undergoing anxiety, melancholy and fears. In these selected cases there were five therapists in total.

The therapy sessions lasted 90 minutes, and they were video-recorded with a split screen between the clients and therapists with two cameras. The whole therapy setting and a facial image of each participant were video-recorded using one camera each, which enabled more precise analysis of interaction between participants. The therapy sessions were also audio-recorded.

In the second sessions the ANS responses of the participants were measured. EDA was measured from the palm of each participant's non-dominant hand with two silver chloride electrodes using BrainProducts acquisition system (Germany) that enabled the concurrent measurement of all participants. The EDA data was synchronized with video recordings using marker pulses so that specific points of EDA could be linked to the events of the therapy sessions. The ethical board of the University of Jyväskylä accepted the arrangements of this project.

2.3 Analysis

2.3.1 Qualitative analysis

We began our analysis with qualitative analysis of IPV extracts, and for that purpose we used thematic and discourse analysis. Thematic analysis is often the first phase before moving to more specific method of analysis, and it enables to observe and compare what sort of themes exist in the text (Eskola & Suoranta, 1998). To consider the discussions of every theme in more detail, we used discourse analysis. According to Schiffrin, Schiffrin, Tannen and Hamilton (2001), discourse analysis is the study of language in use, and it emphasizes importance of communication, meanings and context that are related to written or spoken language. Social constructionism can be seen as theoretical and methodological frame of reference to discourse analysis. Language is act that takes shape in social practices, and it

also constructs social reality (Pynnönen, 2013). In this study the context of couple therapy served as social practice. The couples constructed social reality in interaction with therapists. Observing discussions and meanings emerging from it, we gained information from the reality that the couples have including their beliefs, values and other subjective visions.

Because in discourse analysis it is typical to investigate data on terms of theory and data itself, we could not use any specific tools in order to get the answer concerning the research question (Pietikäinen, & Mäntynen, 2009). We observed the data through content analysis, which is typical to qualitative study. In other words, we had not any assumptions or definitions in advance about the data. Content analysis is essential especially when needed information from basic nature of some phenomenon, in our case from IPV (Eskola, & Suoranta, 1998).

Since we wanted to get as pervasive view of every four cases as possible, we started our process of analyzing by watching three first therapy sessions of each case. However, we used only second sessions when EDA was measured in our analysis and selected extracts where IPV (defined as in the introduction) and its' connection to couples' relationship were discussed explicitly. Thus we did not choose extracts where IPV was just mentioned in passing. After that we continued to analyzing and prune the quantity of extracts. According to Alasuutari (2012), this method is called as reducing observation, and it is typical to qualitative analysis.

After selecting and reducing the extracts, we listened them accurately several times and transcribed them (see transcription symbols in Appendix 1). To get more precise picture of the data and to be able to form exact theme categories, we read the extracts many times. By observing and coding words and phrases of the text and identifying their meanings we got preliminary theme categories that were then easier to merge together even sparser themes in later phase of analysis (Guest, MacQueen, & Namey, 2012). Moreover, our purpose was to analyze the meanings of the text and their relation to couple therapy context and social act related to it, which is essential to discourse analysis (Pietikäinen, & Mäntynen, 2009). Content of the text was premise when we categorized extracts and formed different themes from them. If some topic came to the fore several times from therapists' or clients' speech, we formed it a separate theme. However, the size of formed themes varied; some themes included less discussion than others.

In qualitative analysis sufficiency of data is defined by the concept of theoretical saturation (Pietikäinen, & Mäntynen, 2009). It means the stage when researchers have reached the point where anything new information related to a research question is hard to

find. Theoretical saturation was also our criterion when we stopped forming new themes and identifying new meanings from the data. After analyzing the extracts we translated here presented parts of the selected extracts from Finnish into English and changed the clients' names. The therapists were named as T1-T5.

2.3.2 Quantitative analysis

After we have finished our qualitative analysis of IPV extracts, we began our quantitative analysis. Our purpose was to examine the proportions of the discussions on IPV, EDA means and the frequencies and proportions of the EDA peaks of each participant in therapy. Moreover, we also analyzed EDA synchrony in few extracts. To analyze EDA we first examined raw EDA data of each participant to get an overall picture of EDA in therapy sessions and IPV extracts. Then we began to analyze EDA in more detail. The fast components of EDA coincided with the SNS activation, and these components were detected using the Matlab based Ledalab program (Benedek, & Kaernbach, 2010). The EDA signals were standardized for each participant so that the EDA values were comparable among the participants. The values higher than two standard deviations above the mean were considered as statistically significant points (at the level of 0.05) and peaks as well.

The examination of the proportions of the discussions on IPV of the whole therapy sessions began with measuring time in seconds in IPV extracts to determine how much the participants discussed IPV in each extract. Then we calculated how much IPV was discussed in each case and in all cases total. Lastly we compared the proportions of the discussions on IPV to whole session in each case and in all cases total.

To examine whether there is differences in EDA means between the clients and therapists, we first formed four groups: victims, perpetrators, therapist 1 and therapist 2. The groups of the therapists were randomly formed. All the four groups were considered as independent between each other. Then we calculated means for each participant for each extract, thus having 11 values (means) per each group (n=44). We aimed to do a one-way ANOVA and tested the assumptions required for the test. The variances of the groups were equal, but the data was not normally distributed so we did a nonparametric Independent-Samples Kruskal-Wallis test. The test was two-tailed and the level of significance was determined at $p < 0.05$. The test was performed with SPSS 22.0.

To explore the frequencies and proportions of the EDA peaks in IPV extracts, we calculated the frequencies of the peaks for each participant group (victims, perpetrators, therapist 1 and therapist 2). We also calculated the overall frequencies for the clients and therapist. Then we compared the frequencies of the peaks to overall frequencies of the peaks for each participant, group and case. Due to small sample size, it was not possible to compare statistically the frequencies and proportions between groups so we did not do any statistical test for that purpose.

EDA synchrony between the participants was analyzed in IPV extracts with high frequency of the peaks. For that purpose we selected the extracts where there were several peaks within relative short time and that presented different discussion themes. To analyze the synchrony, we did figures where all participants' EDA graphs during extracts were presented so that comparing them with each other was easier. Then we examined the graphs to find the momentary and overall synchrony between the participants.

To examine the proportions of the peaks during the discussion themes of the overall peaks in IPV extracts, we first formed four groups: victims, perpetrators, clients and therapists. Then we calculated the frequencies of the peaks during the themes for each group and compared them to overall frequencies of the peaks to get the proportions of the peaks.

3. RESULTS

3.1 The proportion of the discussions on IPV in therapy

We studied how much the participants discussed IPV in therapy, and we first measured time in seconds in IPV extracts to determine how much the participants discussed IPV in each extract. Then we compared the proportions of the discussions on IPV to whole session. In table 1 the proportions of IPV extracts of the whole sessions for each case are presented, and it shows that IPV was the most discussed in case 1, whereas in case 2 IPV was discussed the least. In case 3 and 4 the proportions of IPV discussion were almost equal. Overall, there were only few extracts in each case where IPV was discussed.

Table 1. The proportions of IPV extracts of the whole sessions for each case.

Case	**IPV extracts (sec)**	**Whole session (sec)**	**Proportion of IPV (%)**
1	468	5000	9,36
2	109	5000	2,18
3	271	4658	5,82
4	285	5402	5,28
All	1133	20060	5,65

3.2 The IPV themes discussed in therapy

3.2.1 Description of IPV

We analyzed what kinds of themes generally occurred in IPV extracts and found that the discussion themes dealt with description and consequences of IPV and explanations on IPV. Description of IPV included description of specific violent situations and perpetrator's general violent behavior. We found that in the extracts of description of IPV the victims

expressed their own point of view about perpetrators' violent behavior more spontaneously than the perpetrators themselves. Moreover, the therapists actively asked about violence. The perpetrators described their acts of violence mainly when therapists directly asked them about it. In extract 1 in case 1 Heidi begin spontaneously tell about the latest violent situation, and she describes how the situation proceeded to that point that William began to strangle her. William also completes Heidi's description, but Heidi is mainly speaking in this extract.

Extract 1, case 1 (56.26-56.57)

Heidi: so this last case was that (.) I ran away from him (1) he threw first tried to throw at me by that electric toothbrush and then I ran away to the kitchen (.) then he threw well erm we have glass doors ((draws in the air with her finger)) in those closets in the kitchen
T2: yes
Heidi: so at that glass door
T2: mh
Heidi: and (.) he (.) came (1) at me [which then happened ((nodding, William and Heidi look at each other))
William: [so I came at Heidi and then I also yelled I also yelled then
Heidi: mm (.) and in that (.) to that situ (.) ation (.) I s- so I said to William that (.) now you better go or I will call the police ((points in the air with her finger))
T2: yes =
Heidi: = so then he started to strangle me

We also found that the victims' and the perpetrators' views on IPV were congruent with each other in cases 1, 2 and 4, but in case 3 the victim (Lisa) described IPV as more severe than the perpetrator (John). In extract 2 in case 3 T3 says to John that his feeling of insecurity of the relationship manifested as jealousy and also controlling and following Lisa, but John himself does not consider his jealousy severe. John had also earlier disagreed with Lisa's description of IPV (see extract 8).

Extract 2, case 3 (48.37-48.56)

T3: but that your insecurity about continuation of your relationship manifested like as jealousy and still after that also as some kind of controlling and following
John: mm yes (.) yes a bit like that but nothing morbid and like that way everyday

We also discovered that in case 4 there was mutual IPV when the victim (Kate) talked about how she acted psychologically violent towards to the perpetrator (Steven) in conflict situations (see extract 9). However, the therapists did not comment that in any way.

3.2.2 Explanations on IPV

Explanations on IPV included discussion on possible reasons why the perpetrator acted violently towards his or her partner. The given possible explanations were very different, such as disappointments in relationship and the perpetrator's temper. The explanations why the perpetrators acted violently were related to the perpetrators' personal qualities, dynamic of the relationship and contextual factors, and the victims and therapists mainly discussed them. The perpetrators, in turn, did not discuss spontaneously explanations on IPV, but the therapists asked about them or prompted to them.

In case 1 T2 asked both Heidi and William whether William's family was related to IPV. Although their points of view were opposed to each other, either of them did not intervene one another's opinion. In case 3 T3 and John agreed that John's insecurity was related to his jealousy towards Lisa, which for its part also affected controlling behavior. John also explained his act of violence by his alcohol use. In case 1 Heidi said that William's quick temper and his family were related to IPV, whereas in case 4 the victim (Kate) considered the specific violent situation as an accident. In extract 6 in case 2 the therapists (T3 and T4) bring out many different reasons to IPV in reflective conversation: disappointments in relationship, inability to give up, fear of becoming abandoned, opposite ways to act in conflicts and difficulty to trust one another. Neither the victim (Miranda) nor the perpetrator (Susan) comment to the therapists' views.

Extract 6, case 2 (1.18.56-1.19.49)

T4: -- and anyway maybe in this conversation we have been much like ((clearing the throat)) how that from where that violence have probably risen or (.) like in my opinion (.) surely it could be related somehow to these fundamental disappointments or expectations from one another and which is burdening and it is difficult you to get round to TALK about it but now ↑in here it has been opened pretty much

T3: and surely then also these like quite a bit opposite ways to act in specific crisis situations (.) so and- and in the c-conflict situation which like have been (.) brought such pressure inside hh in that situation so that you haven't been able to give ↑up or

go ↑away or (.) fear of a-abandonment and lack of trust has existed and everything of this like as entangled there which has (.) brought those feelings and such (2) well to the surface in that situation
T4: mm
T3: and brought that violence

3.2.3 Consequences of IPV

Consequences of IPV included discussion on the victims' experienced caution and fear of violence, commitment to relationship, trust and traumatic effects and the perpetrators' experienced fear of using violence and shame. Moreover, the possible consequences (the worst case scenario) were discussed in case 1. The consequences were mostly discussed by the victim's perspective, but the perpetrator's view was also discussed. Although the therapists mostly prompted the perpetrators to tell about the consequences of IPV, we found out that the victims spoke significantly more about consequences than the perpetrators. The therapists also actively took part in discussion on consequences and reflected the clients' views. The victims discussed how violence has been affected their own behavior and caused fear and caution, and the perpetrators mainly understood their feelings and experiences. In extract 3 in case 2 (see below) T3 says to Miranda that she has to avoid expressing her frustration because of the fear of violence and both Miranda and Susan agree with it.

Extract 3, case 2 (44.48-45.00)

T3: so you have to swallow your own frustration [and there is some kind of fear of arguing
Miranda: [yes
T3: [and its starting is there a fear even of something like that argue escalates like
Susan: [mm
T3: into violence or
Miranda: ((nodding))

The effects of IPV to trust and traumatic experiences were discussed only in case 4. In extract 4 in case 4 T3 asks about trust in relationship and Kate tells that the violent situation decayed her trust to her partner Steven, but getting help to herself and him for dealing with IPV in crisis center increased her trust in their relationship.

Extract 4, case 4 (1.01.35-1.03.04)

T3: in this relationship it sounds like you are very committed
Kate: yeah =
T3: = and you trust (.) these argues and they don't bring that kind of (2) decay into trust neither
Kate: not yet in this point, anyway
T3: neither this violent situation have been something that have somehow decayed it
Kate: well yes it did (.) decay
--
Kate: and- and also tried to deal with that through knowledge that what is happening in here right now and do I dare to be or don't I -- good like an indication and a signal to me also for that (.) daring and trusting is that was that Steven went to the crisis center and
T3: mm
Kate: I got help for myself and that we are in here also
T3: mm
Kate: but yeah the violent situation was (.) really difficult and not just an eyebrow which bruised but also much more ((becomes emotionally moved))
T3 & T5: mm
Kate: and partly (.) I probably like still go and I will probably go long through that
T3: but however like the visiting the crisis center- visits in the crisis center increased that trust
Kate: yeah

The perpetrators discussed their own experiences of consequences such as the fear of using violence and their feeling of shame, but only when the therapist asked directly them about them. There was also one case (case 3) where the consequences of IPV were not discussed at all. In extract 5 in case 4 T3 asks Steven how he feels when Kate tells the violence situation is still affecting her, and Steven answers that he still feels strongly shame about it.

Extract 5, case 4 (1.07.32-1.08.24)

T3: but surely this like (1) experience of violence have also this kind of traumatic effects and affects still that ((Kate nods)) (2) what do you Steven what that arouse in you when Kate tells these (2) things that they still affect in her
Steven: well I would wonder if it didn't affect
T3: mm
Steven: well yes it still that feeling of shame is
T3: mm
Steven: comes pretty strongly
T3: mm
Steven: to mind

3.3 EDA means, peaks, synchrony and discussion themes during peaks

3.3.1 EDA means

We first formed four groups: victims, perpetrators, therapist 1 and therapist 2. The groups therapist 1 and therapist 2 were randomly formed. Then we calculated the EDA means of each participants for each extract, thus having 11 values (means) for each group (n = 44). Then we tested whether there is difference in means between groups, and for this purpose we did Independent-Samples Kruskal-Wallis test. The test showed that there was no significant difference in means between groups (H (3) = 1,672, p = 0.634).

3.3.2 The frequencies and proportions of the EDA peaks in IPV extracts

We calculated the frequencies and proportions of the EDA peaks that the clients and therapists had in therapy while discussing IPV. The victims had 13 and the perpetrators 14 peaks during IPV extracts, which is in total 27 peaks for the clients. The therapists had 36 peaks in IPV extracts so overall the therapists had more peaks than the clients. In total there occurred 63 peaks in IPV extracts.

In table 2 the proportions of the EDA peaks in IPV extracts of the total EDA peaks for the clients and therapists are presented, and it shows that the overall proportions of the peaks in IPV extracts of the total peaks of therapy session were quite small. There were the most variance in proportions of the peaks among the therapists and perpetrators and the least variance among the victims. The therapists had the highest proportion of the total peaks of the all participant groups. Moreover, in 3 of 4 cases (cases 1, 2 and 4) the therapist had the highest proportion of the peaks compared to other participants of a case. The therapists (T2 and T5) had also the two highest proportions of the peaks of the all participants, and they were the only proportions over 20 %. However, the therapists (T4 and T5) had also the second and the third lowest proportions of the peaks. The perpetrator in case 2 (Susan) had the lowest proportion of the peaks of the all participants, having no peaks at all. In case 1 there was the highest proportion of the peaks of the all cases, and both the proportions of the peaks for the clients and therapists were also the highest proportions of the these groups.

Moreover, in case 1 IPV was discussed the most. In turn, in case 3 there was the lowest proportion of the peaks of the all cases, and the therapists had also their lowest proportion of the peaks in this case. However, in case 3 IPV was discussed the second most, and the lowest proportion of the peaks for clients was in case 2.

Table 2. The proportions of the EDA peaks in IPV extracts of the total EDA peaks.

Case	**V %**	**P %**	**C %**	**T1 %**	**T2 %**	**T %**	**All %**
1	7,14	14,58	5,30	7,27	21,05	14,29	11,89
2	4,17	0	2,20	9,10	2,13	5,00	3,73
3	4,08	5,68	5,10	2,38	1,54	1,87	3,69
4	3,53	4,17	3,76	4,23	20,37	11,20	7,36
All	4,89	6,17	2,64	5,47	11,21	8,49	6,87

Note. V = Victims, Perpetrators = Clients in total, T1= Therapist group 1, T2 = Therapist group 2, T = Therapists in total

3.3.3 The discussion themes during EDA peaks and EDA synchrony in IPV extracts

First we analyzed the discussion during EDA peaks in IPV extracts for each case separately and formed of those extracts during peaks subthemes. Then we merged all cases together and formed eight main discussion themes including the subthemes. However, only two of our main discussion themes were formed of the subthemes; other subthemes were not suitable to merge together. The main discussion theme groups were 1) consequences of IPV, 2) explanations on IPV, 3) description of IPV, 4) surveying IPV, 5) criticism by victim towards perpetrator, 6) commitment to relationship, 7) psychological IPV by victim in conflicts, and 8) interruption by therapist. Consequences of IPV included subthemes such as victim's giving up, fear of violence, trust and traumatic effects. Surveying IPV, in turn, included subthemes such as surveying specific violent situations and surveying perpetrator's general violent behavior. We also analyzed EDA synchrony in extracts where there was high frequency of the peaks.

Consequences of IPV included discussion on different consequences for victims and perpetrators, and trust and being on guard were such consequences discussed during EDA

peaks. In extract 6 in case 4 T3 asks Kate about trust after IPV, and Kate answers that her trust in relationship still needs repairing. During T3's question T3 himself, T4 and Steven had peaks, and at the end of Kate's answer T5 had a peak after Kate was talking about being on guard (see peaks in extract).

Extract 6, case 4 (1.03.44-1.04.06)

T3: has **(T3's peak)** your trust restored to that level **(T5's peak)** that- that was before this violence or is there still **(Steven's peak)** (3) patching up
Kate: like there is patching up like I am a bit (.) on my toes in some situations just like if for example there is an argue and Steven's voice raises (.) so then I- I am quite on guard ((becomes emotionally moved)) **(T5's peak)**

In figure 1 the EDA of each participant in extract 6 is presented, and it shows that at the beginning of the extract Kate's, Steven's and T5's EDA were increasing and T3's EDA was decreasing same time. However, Steven's highest point of EDA (is also his peak) occurred later than Kate's and T5's highest points. At the end of the extract (from approximately 15 seconds on) Kate's, Steven's and T3's EDA were decreasing while T5's EDA was increasing. However, Steven's EDA began to increase 2-3 seconds later and then to decrease again. Overall, Steven's and T5's EDA graphs resembled each other, but Steven's peak occurred 2-3 seconds later than T5's peak, and Steven's EDA also decreased slower than T5's EDA. Kate and T3 had resemblance in EDA graphs from approximately 5 seconds on. The clients and therapist dyads, in turn, had low EDA synchrony between each other.

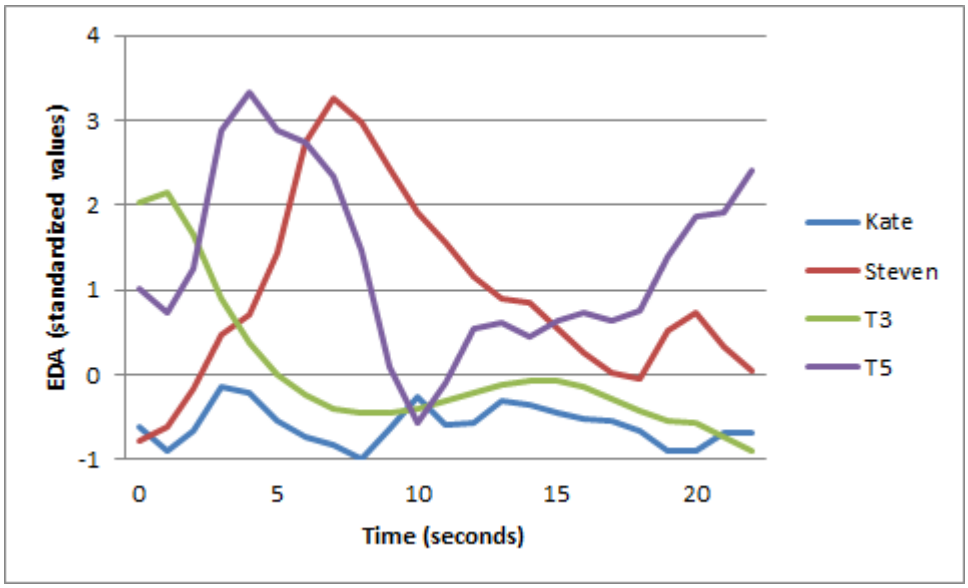

Figure 1. The EDA of the participants in case 4 during extract 6.

Explanations on IPV included discussion on different reasons why the perpetrator was violent. In extract 7 in case 1 T2 asks William whether his family was somehow involved when he strangled Heidi, and William answers that it was only himself there. Then T2 ensures it by saying that William's connection to his family was not involved in strangulation, and Williams confirms it. During T2's question both T2 himself and Heidi had peaks, and T2 had also two more peaks during his second say (see peaks in extract).

Extract 7, case 1 (54.39-54.59)

T2: what do you William think yourself about that ((looks down)) (.) situation when you strangled (1) Heidi **(T2's peak)** (.) **(Heidi's peak)** so erm (.) was it you or was your family involved °somehow°
William: yes it's me
T2: mm↑ (2) that **(T2's peak)** (.) you have ((gestures with hand)) (.) this kind of connection to that (.) your own family didn't involve [any way in that situation] **(T2's peak)**
William: [no-o

Overall, T2's EDA differed from other participants, since his EDA was high (2 standard deviations above the mean) during the most of the extract 7 (see figure 2). Moreover, Heidi's, T1's and T2's EDA graphs resembled each other, albeit EDA was different among them, T2 having the highest EDA and T1 the lowest EDA. Their EDA increased at the beginning of the extract (thus Heidi had also decrease of the EDA during it) and began to decrease from approximately 7 seconds on. However, Heidi's and T1's EDA resembled most each other of all the participants. Williams's EDA differed from other participants at the beginning of the extract, but he and T2 had resemblance in EDA graphs at the end of the extract (from approximately 8 seconds on). Moreover, Heidi and William had low EDA synchrony between each other, whereas T1 and T2 seemed to be more synchronized between each other. Although their EDA level differed between them, they had resemblance in EDA graphs.

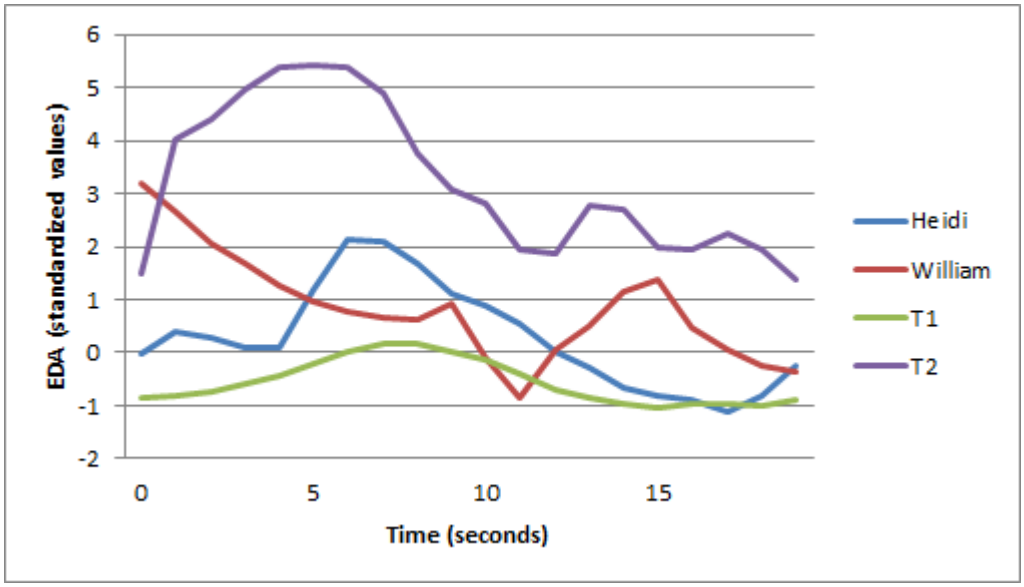

Figure 2. The EDA of the participants in case 1 during extract 7.

During criticism by victim towards perpetrator there occurred only two peaks and the theme was present only in case 3. In extract 8 in case 3 Lisa tells about John's raging and criticizes John about that he has not repaired places that he has broken at their home and he do not understand that the marks of his raging reminds of violence. After that John agrees with Lisa's criticism. T3 does not know which raging Lisa is talking about and asks about it (surveys IPV). Both Lisa and John answer the question, but they do not agree about the severity of John's raging; Lisa says that John has broken "half the house", but John denies it.

Extract 8, case 3 (35.57-36.43)

Lisa: and then there were these marks of John's raging so I was always annoyed when I saw every day them like some dents on cabinets and what he has smashed up there and the refrigerator so (.) it annoyed me then I with my ow- own money bought there doors and (.) something like well every day when you see things come back to mind so I said about it too John didn't quite understand it that I was really annoyed (.) them now must now be repaired and patched and that man did renovation there then and
John: yeah yeah **(John's peak)**
T3: erm what raging are you talking about (.) now I didn't quite catch on
Lisa: well then when **(T3's peak)**
John: well then drunk terribly drunk when there have had been argues so then something thrown always

Lisa: well half of the house has been smashed up they are those bad argues [that are something that

John: **(John's peak)** [half of the house hasn't been smashed up it's **(Lisa's peak)** completely **(John's peak)** rubbish that but

In this extract 8 the clients had the most of the peaks, and John had the first peak after Lisa's criticism towards him (see peaks in extract). T3, in turn, had a peak after he had asked about raging. Moreover, Both Lisa and John had peaks describing IPV; John had a peak after Lisa had told that John has broken "half the house" and when John denies it both Lisa and John had peaks almost at same time. Overall, T3's EDA differed from the other participants; he had had a high peak just before this extract, and his EDA was decreasing at the beginning of the extract (see figure 3). He had also the highest peak of the participants in this extract. John's and T5's EDA resembled each other at the beginning of the extract (until 20 seconds), and Lisa's and T5's EDA, in turn, resembled each other at the end of the extract (approximately from 27 seconds until 39 seconds). Both the clients and therapist dyads had low EDA synchrony between each other.

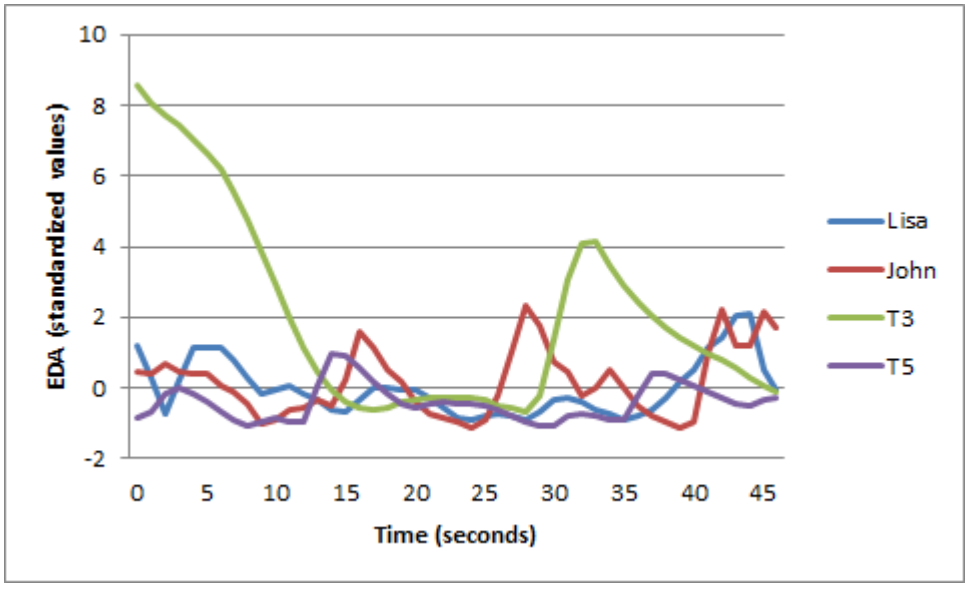

Figure 3. The EDA of the participants in case 3 during extract 8.

The peaks during psychological IPV by victim in conflicts, commitment to relationship and interruption by therapist occurred few extracts (only one extract per theme). In extract 9 in case 4 Kate describes how she had acted towards Steven in conflict situations, and her

behavior had included bashing and blaming. Both Kate and Steven had peaks during Kate's description.

Extract 9, case 4 (13.29-13.46)

Kate: -- ((emotionally moved)) you haven't read messages that you assumed that I bashes you in some way in those messages like I may often do
Steven: mm =
Kate: = when you **(Steven's peak)** turn- I get angry you turn that phone off (.) then I take a pepper in the nose and the I like bla- then I become really nasty I blame **(Kate's peak)** (.) and- and like bashes you about your behavior

In extract 10 in case 4 T3 says Kate and Steven that it seems that they are committed to each other and Kate confirms it. During T3's say T5 had a peak.

Extract 10, case 4 (1.01.35-1.01.40)

T3: in this relationship it <u>sounds</u> that you are **(T5's peak)** very committed
Kate: yeah

In extract 11, case 1 Heidi talks about that she has felt she cannot express her opinions because William become violent then. T2 interrupts Heidi's speaking and after it he apologies that and let her carry on. During his interrupt and apology he had a peak.

Extract 11, case 1 (48.29-48.38)

Heidi: somehow like ((shakes head)) there cannot any way like express opinion or doors were slammed and (.) [something else
T2: .hhh [was- °sorry that I interrupted go ahead° **(T2's peak)**
((gestures with hand towards Heidi))

3.3.4 The proportions of the EDA peaks during the discussion themes

We also calculated the proportions of the peaks during the discussion themes (present in table 3). Overall, the discussion themes varied among cases and some themes were present only in particular cases. However, the common discussion themes among cases were consequences of IPV (cases 1, 2 and 4), explanations on IPV (cases 1 and 2), description of IPV (cases 1 and 3), and surveying IPV (cases 1 and 3). The other discussion themes were present only in

particular cases, and it must also be noted that these themes included only 1-2 peaks per theme.

The participants had the most of the peaks discussing the consequences of IPV, and the therapists had more peaks than the clients discussing this theme. Moreover, the therapists had more peaks than the clients in all subthemes of this main theme, for example only the therapists had peaks when fear of violence was discussed. The second most of the peaks occurred discussing explanations on IPV, and the therapists had also in this theme more peaks than the clients. During description of IPV occurred the third most of the peaks and the clients, in turn, had more peaks than the therapists in this theme. The fourth most of the peaks occurred when the therapists surveyed IPV. In subtheme surveying specific violent situations only the therapists had peaks, and surveying perpetrator's general violent behavior the perpetrators had the most of the peaks. The victims, in turn, had no peaks when the therapists surveyed IPV. Among these common discussion themes both the victims and perpetrators had their highest proportion of the peaks during description of IPV, and the therapists, in turn, during the theme consequences of IPV. Overall, peaks occurred substantially less in other four themes, they having 9,52 % of all the peaks.

Table 3. The proportions of the EDA peaks during the discussion themes.

Main theme	V %	PE %	C %	T %	PA %
consequences of IPV	19,23	11,54	30,77	69,23	41,27
explanations on IPV	14,29	21,43	35,71	64,29	22,22
description of IPV	20,00	60,00	80,00	20,00	15,87
surveying IPV	0	42,86	42,86	57,14	11,11
criticism by victim towards perpetrator	50,00	50,00	100,00	0	3,17
psychological IPV by victim in conflicts	50,00	50,00	100,00	0	3,17
commitment to relationship	0	0	0	100,00	1,59
interruption by therapist	0	0	0	100,00	1,59

Note. V = Victims, PE = Perpetrators, C = Clients in total, T = Therapists and PA = Participants in total.

4. DISCUSSION

The aim of our study was to examine how much IPV is discussed in therapy, what and how the participants talk about it, and how EDA of the participants is related to IPV discussions. Firstly, we found that IPV was discussed quite little in therapy but IPV was mainly discussed by victim's perspective. Moreover, also the therapists took actively part in discussion. Secondly, the general IPV themes and mostly occurred themes during EDA peaks were similar, including description of IPV, explanations on IPV and consequences of IPV. Thirdly, there were differences between EDA of the participants, manifested as individual differences in frequency of the peaks, and the therapists having more peaks than the clients. However, the overall proportions of the peaks in IPV extracts of the total peaks of therapy session were quite small, and no difference in EDA means between the victims, perpetrators and therapists was found. We also found that there were therapist-client dyads that seemed to have EDA synchrony between each other, whereas the clients and therapists dyads had low synchrony.

We found that IPV was discussed quite little in therapy, although all couples sought to therapy because of it. All the couples had talked about IPV earlier for example in crisis center and dealt with the issue there, so it may be that the clients felt they did not have so much need to talk about it. It must also be noted that the therapy was very beginning for the couples, and it may also be that the clients, particularly the perpetrators, were reluctant to talk about IPV. The perpetrator in case 1, William, told in SR-interview that he felt talking about IPV was unpleasant and he would not have wanted to talk about it (Kalliomäki, 2015). The feeling of shame prevents to talk about IPV and strengthen covering it up (Husso, 2003), which can be one reason why the perpetrators were so laconic and unspontaneous to express their thoughts.

According to Kauffman (1992), in turn, the abused woman can be afraid to speak honestly in a situation where it could lead re-abuse. The victims have also reported about being cautious about expressing their own views because of the fear of violence (Bunda, & Rantanen, 2013). On the other hand, Stith et al. (2011) suggest that mostly couples do not think discussing IPV will lead violent act by their partner. This finding supports our result that showed the victims were able and willing to speak about IPV in therapy; we noted that the victims expressed spontaneously their views, whereas the perpetrators' views were discussed mainly when the therapists asked about them or prompted them to speak. The point of view that the victims' views are not discussed or took into account in couple therapy (Husso, 2003; Karakurt, 1992) is not consistent with our result. The therapists were interested

to hear more information about IPV from victims by asking specific questions for them and by reflecting their speech.

However, we noted that IPV was not always discussed although a client mentioned it. The victim in case 4, Kate, described her used psychological violence towards his partner, but the therapists did not react to it, and the issue was not dealt with. Therapists do not always clearly evaluate whether there has been abuse between couples because they may be unprepared to deal with IPV (Stith et al., 2011). Kaufman (1992) noted that it can be difficult for therapists to acknowledge the situation where a woman uses psychological violence (Kaufman, 1992) or violence at all (Koskinen et al., 2016). In addition, there is evidence that family therapists minimize and deny violence and its existence.

The results showed that the general IPV themes and mostly occurred themes during EDA peaks were similar, including description of IPV, explanations on IPV and consequences of IPV. The couples' understandings about all of the themes were quite consistent with each other. Because all the couples had discussed their relationship and IPV with some professional helper already before these therapy sessions, their views on IPV may have been more structured and objective and less unconscious. Also Husso (2003) suggests that negating IPV it is not only conscious process but sometimes also unconscious.

The description of IPV included discussion on perpetrator's general violent behavior and specific violent situations. The descriptions of IPV among the victims and perpetrators were congruent in most of the cases, which is consistent with findings of Bunda and Rantanen's (2013) study relating to partners' similar views on physical violence. Like Bunda and Rantanen, we also however found that views particularly on psychological violence were not congruent, in our study in case 3. The perpetrator John seemed to understate his used violence and jealousy, and he reacted verbally and physiologically strongly by denying the severity of violence and having EDA peaks when the victim Lisa told about his violence. Discussing his jealousy with the therapist John considered that jealousy is not morbid, although he for example had followed Lisa to home. There are findings that violently acted men have either negated their violence or diminished it (Dobash et al., 2000; Husso, 2003; Kaufman, 1992). According to Husso (2003), perpetrators have also invalidated women's experiences and views of violent events.

The explanations on IPV were very different and they related to the perpetrators' personal qualities, dynamic of the relationship and contextual factors. The explanations included for example a perpetrator's quick temper and alcohol use, disappointments in relationship and considering violent situation as an accident. According to Johnson's (2008) specification of

the types of IPV, these explanations are congruent with the type of situational couple violence in which act of violence occurs because of some specific situation rather than perpetrator's need to control their partner. In contrast with our results, earlier findings of explanations have dealt mostly with perpetrators' personal qualities and behavior (Bunda, & Rantanen, 2013; Dobash et al., 2000; Husso, 2003). Although in all four cases the victims and the therapists mostly gave explanations on IPV, the perpetrators did not deny them. Most of the time they either kept quiet or echoed others' thoughts about explanations. Concerning IPV discourses of explanation in which responsibility is taken most are least shared in couple therapy (Ajo, & Hara, 1998). It seems to be difficult especially for violent men to ponder violence and its reasons through themselves. In the case 3 the perpetrator John minimized his violence and considered that he had been violent because of using alcohol. Both the perpetrators and victims have considered alcohol use as one typical explanation also in other studies (Bunda, & Rantanen, 2013; Dobash et al., 2000; Husso, 2003).

The consequences of IPV included discussion on the victims' experienced caution and fear of violence, commitment to relationship, trust and traumatic effects and the perpetrators' experienced fear of using violence and shame. Sense of fear was one of most discussed consequence that emerged in couples' speech, which is consistent with earlier findings (Bunda, & Rantanen, 2013; Dobash et al., 2000; Husso, 2003), and in women's opinion sense of fear is often the toughest consequence of violence (Husso, 2003). According to Husso, also traumatic memories are common after being experienced IPV, especially among women who have been victims, because these experiences are pervasive and affect both physically and physiologically one's own behavior, feelings and thoughts. But unlike earlier studies (Bunda, & Rantanen, 2013; Dobash et al., 2000; Husso, 2003), we found that the perpetrators mostly understood their partners' experiences and feelings relating to IPV. However, it is not rare that trust between couple has broken down (Vall et al., 2014). Although the victims had experienced negative consequences due to IPV, the couples were committed to stay together. This result supports findings of that considerable amount of couples stay in their relationship after experienced IPV (e.g. Stith et al., 2011).

We found differences between EDA of the participants, manifested as individual differences in frequency of the peaks, and the therapists having more peaks than the clients. In most of the cases the therapists had the highest proportion of the peaks compared to other participants of a case. It might be that the clients had become more accustomed to speak IPV, because the couples had spoken about it also before therapy, whereas for the therapists discussing couples' IPV was at the beginning. It has been found that novelty of stimulus is

related to increased EDA (Bradley, 2009). The therapists may also have observed the situation more carefully and thus be more attentive because of the possible threat of IPV for the victims. Observing threat cues has been found to be related to increased EDA (Löw et al., 2008; Wessel & Merckelbach, 1998; Wiemer et al., 2013). Moreover, it has been observed that IPV is difficult subject to deal with for therapists (Karakurt et al., 2013; Kaufman, 1992), which may have been reflected in the therapists' EDA.

It was also notable that only one participant, the perpetrator in case 2, had no peaks at all. In other cases the perpetrators had more peaks than the victims. There have been found two different kinds of perpetrators, type I perpetrators who are more violent and show autonomic underarousal, and type II perpetrators who show autonomic hyperactivity (Babcock et al., 2005; Gottman et al., 1995; Romero-Martínez et al., 2013). It might be that Susan is type I perpetrator, which is observed as autonomic underarousal. Susan's experiences of violence by her mother as a child and youngster may also have impacted on her EDA response pattern. It has been found that the greatest exposure to stressful life events is related to hyporesponsive pattern of EDA manifested as lower EDA compared to moderate exposure to stressful life events manifested as increased EDA (Clements, & Turpin, 2000).

Overall, there was much variance in proportions of the peaks among the participants, and the proportions of the peaks was not clearly related to how much IPV was discussed. There were the most variance in the proportions of the peaks among the therapists and perpetrators and the least variance among the victims. The variance in the proportions of the peaks may result from the individual differences in expression of emotions; the victims actively expressed their views and feelings, whereas the perpetrators were more passive and the therapists cannot express as explicitly their feelings as the clients in therapy session. It has been observed that active expression of emotions is related to greater EDA response stability and, suppression of emotions, in turn, is associated with greater instability (Crider, 2008). EDA is also considered as a sensitive marker of personal significant events that related to emotions, novelty and attention (Sequeira et al., 2009), and thus individual differences in how the participants experienced dealing with IPV may have been reflected in EDA. Increased EDA has been found to be related to both negative and positive emotions (Kreibig, 2010; Levenson et al., 1990), emotional significance of stimulus and attention (Bradley, 2009; Löw et al., 2008; Wessel, & Merckelbach, 1998; Wiemer et al., 2013), stress (Setz et al., 2010; Reinhardt et al., 2012) and stressful life events (Clements, & Turpin, 2000; Najström, & Jansson, 2007).

There were several discussion themes during peaks, and during discussing description, explanations, consequences and surveying there occurred most of the peaks. The therapists had more peaks than the clients during consequences, explanations and surveying and the clients during description. During all subthemes of consequences the therapists had more peaks, for example during fear of violence only the therapists had peaks. The therapists may have been interpreted fear of violence as an indication of threat of IPV for a victim. Like mentioned earlier, observing threat has been found to be related to increased EDA (Löw et al., 2008; Wessel, & Merckelbach, 1998; Wiemer et al., 2013). Moreover, among these common discussion themes both the victims and perpetrators had their highest proportion of the peaks during description of IPV, and the therapists, in turn, during consequences of IPV. According to Husso (2003), describing to others about oneself as a target of violence may not only relieve but also frighten and hurt a victim, and cause negative feelings also among listeners. This may lead a perpetrator to feel shame (Husso, 2003), which may be reflected in EDA.

However, the overall proportions of the peaks in IPV extracts of the total peaks of therapy session were quite small, and no difference in EDA means between the victims, perpetrators and therapists was found. It has been found that repeated emotional stimuli cause significant EDA responses, but the responses also decrease over time (Bradley, 2009). No difference in EDA means between the participants may reflect the quality of the mean overall. The mean diminish differences within and between subjects so the peaks may indicate more clearly arousal.

We found that there seemed to be therapist-client dyads that had EDA synchrony between each other, whereas the clients and therapists dyads had low synchrony. This finding differs from Karvonen et al.'s (2016), who found that the highest synchrony occurred in the therapists dyads, the second highest in therapist-client dyads and the lowest in the clients dyads. Mutual embodiment is considered important for empathy and social understanding (Fuchs, & Koch, 2014), and it might be that the therapists become more embodied with the clients because they were trying to focus on and to understand other client's view. On the other hand, it might be that the clients perceived other therapist as more empathic than other. It has been found that EDA synchrony is related to perceived empathy by a client (Marci, & Riess, 2005; Marci et al., 2007; Messina et al., 2013; Robinson et al., 1982). The EDA synchrony in marital interaction has been found to be related to distressed discussions solving relationship problems (Levenson, & Gottman, 1983). However, IPV discussions dealt mostly

with describing and understanding the overall situation, and the perpetrators were quite passive in discussion, so active problem solving was not present.

Our study included a small sample (four couples, 11 extracts), which must be noted when evaluating results. Moreover, the selected extracts included only explicit discussions on IPV, and thus some more implicit discussions may have been become excluded. The couples for example discussed argues that may have contained IPV, but it was not mentioned in discussion. It must also be noted that the measurement sessions were the second sessions, which may have been impacted on EDA responses and how much IPV was discussed. Also the fact that all the couples had dealt with IPV before therapy may have been affected discussions and EDA. The lack of our EDA analysis was that the amplitude of the EDA peaks was not examined, which would have been informative on examining how strong the responses were.

Despite of the limitations of the small sample size, it enabled the more detailed qualitative analysis of IPV discussions. We were able to examine precisely what themes emerged during IPV discussions and how the participants took part in discussions. Merging EDA responses and qualitative data about IPV discussions together was also one of the strengths in our study, gaining new and unique information how the participants in couple therapy context reacted physiologically when dealing with IPV.

In future the relation between IPV discussions and EDA, among other physiological responses, needs to be studied with larger sample sizes. Although EDA is considered as important feature in emotions, for understanding more detailed the ANS responses in emotions, also other physiological responses need to be examined concurrently (Levenson, 2014). Also having SR-interviews about IPV discussions for all the participants would give more detailed information how they experienced discussing IPV and enable interpreting physiological responses more precisely and possible explaining individual differences in responses. Moreover, comparing couples who discuss IPV first time in therapy to the couples who have dealt with the issue earlier would give information do physiological responses differ between them due to habituation. The physiological data of the participants could also be tapped in examining the ongoing therapy process. In the case study of Marci and Riess (2005) examining the client's EDA in ongoing therapy was noted to be advantageous for the therapy process. Both the client and therapist reported getting new insights about the client's emotional states and the client also felt that her feelings were validated because they became explicit due to EDA analysis.

In conclusion, we gained new and unique information what and how IPV is discussed, and how the participants react physiologically while dealing with it in couple therapy. We found that IPV was discussed quite little in therapy, but the victims and therapists took actively part in discussion. Thus it seems that the victims were not afraid to talk about IPV and the therapists were able to deal with it, but however dealing with IPV needs more attention in therapy. The IPV themes were discussed generally and mostly occurred themes during peaks dealt with description and consequences of IPV and explanations on it, and thus it seems that at the beginning of therapy the focus was on getting overall picture of the situation. We also found that the participants had individual differences in EDA when dealing with IPV, and the therapists had more peaks than the clients. This may reflect that the participants experienced dealing with the issue differently, which would be good to take into account in therapy process. Overall, merging the physiological data and information on IPV discussions together provided new insights about understating how the participants experienced dealing with IPV, which may be useful in clinical practice.

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Appendix 1: Transcript Notation

Symbol	**Meaning**
and (1) well	The number in rounded brackets means pauses in seconds.
and (.) well	A period in rounded brackets indicates "micro-pauses" of less than 0.2 seconds.
((nodding))	Double rounded brackets include relevant contextual information added by the transcribers.
[mm	Overlapping utterances are marked by single square brackets.
=	Equal signs indicate no gap between utterances.
<u>trust</u>	Underlining indicates emphasis.
TALK	Capital letters indicates high volume speech.
°sorry°	The degree sign indicates a significantly lower volume than in the surrounding speech.
↑give up	Upward-pointing arrows indicate rising intonation.
I said- I said that	A single dash following a word or letter(s) indicates an abrupt cut-off in the flow of speech (stammering).
.hhh	This indicates inhalation between words.
--	A part of the utterance has been excluded (the extract is shortened).