Social sharing of emotions:

Detecting conditions for the alleviation of negative emotions beyond the effects of sharing.

Jaśmina Machlah

under the supervision of Hans IJzerman

Tilburg Univiersity

Abstract

This research attempted to determine the conditions under which feelings related to a negative event can be alleviated in a social sharing situation. Security in attachment, comfort with touch as well as low interoceptive skills were hypothesized to be beneficial for alleviation of negative feelings with respect to sharing. Two proxies were used for the alleviation of negative feelings: the emotional recovery index and the perceived stress levels. The findings of the study contribute to the previous body of research by confirming that the alleviation of negative feelings cannot be achieved through verbalizing emotions. Out of the three conditions only comfort with touch predicted sharing behaviour to a certain degree. There were also no differences found in the levels of stress between those who shared the event with others and those who did not. Nevertheless, the conditions had an impact on the alleviation of negative feelings beyond the effects of sharing. The interaction effect of both proxies was significant for all the measured conditions. However, after their impact on the conditions was measured separately, only lower sensitivity to bodily sensations and comfort with touch decreased the stress levels. None of the conditions had a significant effect on the emotional recovery levels. Further research in a more controlled setting should examine the relationship between the proxies and all measured conditions with respect to the sharing behaviour. Additional analyses are encouraged as to also test the effects of comfort with touch, carrying the potential to predict sharing, on the alleviation of negative feelings with respect to sharing behaviour.

Key words: social sharing, attachment, comfort with touch, interoception, alleviation of negative emotions, stress, emotional recovery

Social sharing of emotions:

Detecting conditions for the alleviation of negative emotions beyond the effects of sharing.

When people experience emotional events they show a great tendency to talk about it with others. This phenomenon, known as social sharing, is so widespread that lay people have for many years considered it to be a healthy way of alleviating negative feelings. Although it may seem counterproductive to allow oneself to re-experience the negative feelings connected to emotional events, the tendency to talk about them is no lower than for positive events (Zech & Rimé, 2005). Despite that people share their emotions frequently, the literature does not confirm the common view that sharing brings about emotional recovery. It is likely that individual differences with respect to the affective experience of the event are relevant for the precipitation of a faster recovery. This paper attempts to identify these possible conditions under which people are able to alleviate their negative feelings in a social sharing situation and characterizes people's ability to recover from the negative events by setting emotional recovery and perceived stress levels in the time after the event occurred as proxies. Individual differences arise with respect to the experience of stress in the social sharing situation. This work also assumes that personality differences such as attachment style, comfort with touch and interoceptive skills are the key determinants of the levels of stress and emotional recovery from the event. These conditions are thus expected to influence the proxies beyond the effects of sharing.

In the pages that follow, I first provide the review of the evidence for the emotional recovery effect. Further, this research attempts to identify the individual differences under which the negative feelings related to the event can be alleviated. These differences will be interchangeably referred to as conditions further in this paper. Lastly, I will show that levels of stress of experienced in a social interaction as well as the pace of the emotional recovery from the negative event vary greatly with respect to these three characteristics.

Is Social Sharing of Negative Emotional Events Beneficial?

A considerable amount of research has been carried out on consequences of social sharing of emotions (e.g., Finkenauer & Rimé, 1998; Nils & Rimé, 2012; Rimé et al., 1991). These studies were mostly based on the prevalent idea that repression of thoughts and emotions is detrimental to one's mental well-being (Greenberg, Wortman & Stone, 1996; Pennebaker & Beall, 1986; Pennebaker, Colder & Sharp, 1990; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). In a preliminary study of this type, Pennebaker and Beall (1986) placed their participants in four conditions where they were instructed to write either about feelings, thoughts, feelings and thoughts or nonemotional aspects of the traumatic event they had experienced. After a 6-months follow-up the participants in the condition reporting both feelings and thoughts related to the event, not only showed a decreased amount of visits to the campus health center but also reported fewer illnesses as compared to those reporting only feelings, thoughts or nonemotional aspects of the event (for review, see Rimé et al., 1991). The relevance of these findings lays in their potential to influence health outcomes.

Other researchers examining these health variables found negative affectivity to correlate with the repression of affective memories (Costa & McCrae, 1987) and somatic complaints (Watson & Pennebaker, 1989). Finkenauer and Rimé (1998) asked participants in their study to recall an important emotional event that they did not share. They were also asked to rate scales assessing physical illness, satisfaction with life and Negative Affectivity. The results that those who did not have a memory of the negative emotional event reported lower number of illnesses as compared to those who did have such a memory. This outcome can be explained basing on the theory of inhibition. The theory predicts that physiological work is required in order to be able to inhibit the thoughts related to the traumatic event. The persistent physiological efforts are speculated to have an adverse impact on a long-term psychological and physiological well-being. Studies testing this assumption found verbalizing stress or trauma reduced these efforts resulting in beneficial consequences for health (Pennebaker & Beall, 1986; Rimé et al., 1991). Consequently, the researchers concluded that

sharing an emotionally loaded event is helpful in reducing the intensity of the feelings experienced in the longer run with respect to the event (beneficial consequences) and may potentially bring about emotional recovery from the emotional event.

However, once the concept of emotional recovery was tested in a battery of laboratory, field as well as interpersonal studies, verbalizing the negative feelings did not bring about emotional recovery. In the first part of their study, Zech and Rimé (2005), tested the benefits of the disclosure of emotional and factual parts of the stressful event. No effects were found between those who shared emotions or those sharing facts related to the experienced event with respect to the actual emotional recovery (measure days and weeks after). Nevertheless, it was surprising to observe that those participants who shared the emotional parts of the event self-reported more perceived benefits of sharing than those who shared the facts.

In a more laboratory-controlled experiments perceived benefits of sharing were also observed (Mendolia & Kleck, 1993). In this study the researchers placed participants in three conditions: emotion, fact and distraction, which indicated the parts of the experience they will instructed to share. Later they either watched a neutral or stressful films. Those in the emotion condition were systematically more aroused when viewing the stressful stimulus as compared to those in the fact condition. After 48 hours the experimenters exposed the participants again to the same stimulus. Those who shared emotional parts of the experience reported more perceived benefits, such as lower stress levels and more positive mood than those in the fact condition. The results of these studies reveal the paradoxical nature of the social sharing phenomenon. Although sharing seems to have clear perceived benefits for the participants, such as reduced stress levels and a more positive mood, the studies failed to confirm the venting hypothesis that talking about the negative event does indeed lead to emotional recovery, as determined by the difference in the felt initial and current intensity of the event.

The way to achieve emotional recovery?

The inability to achieve emotional recovery can be explained by the results of the current research on the socio-affective vs. cognitive sharing modes. Nils and Rimé (2012) conducted a social sharing study in a laboratory environment, first exposing their participants to an emotional movie and than having listeners adopt either socio-affective or cognitive response styles. This research showed that only in the case of sharing the factual information (stimulation of the cognitive mode) about the event was the emotional recovery possible. In the case of sharing the emotional information (stimulation of the socio-affective mode) about the event, the most pronounced changes occurred in participants' self-reports.

These included, for example a greater felt proximity to the listener, less loneliness, less stress and the impression of feeling better (Nils & Rimé, 2012). It seems like that negative feelings related to the event can thus be buffered through communal (emotional) responses involving forms of social support, which are helpful in enhancing the feelings of inclusion, belongingness as well as feelings of security. These communal behaviours stem from the individual differences examined in the paper, such as attachment security and touch, which will be described next. They are believed to facilitate the alleviation of negative emotions related to the event beyond the idea of sharing (venting). The alleviation of the negative feelings can be analyzed based on the stress levels experienced in the time after the event occurred as well as the emotional recovery index[1]. The choice of appropriate tools, which are needed to measure the potential of the communal responses to alleviate negative emotions, is likely to be problematic and somehow subjective. So far, however, there has been little discussion about the role of the communal responses in dealing with the negative feelings alleviation. As a mean to tackle this problem, attachment and touch behaviours and interoception are proposed as possible variables that describe the communal responses, which I will further explore below. To the best knowledge of this author the relationship between all

[1] difference between the initial and current felt emotional intensity of the event.

the three considered measures with regard to emotional recovery has never been explicitly tested before.

Individual differences on the way to emotional recovery

One of the aforementioned communal responses involving various forms of social support includes attachment. During a social interaction in which sharing is precipitated, the attachment system is activated. In childhood the attachment system is activated when the child experiences distress. The main goal of the system is to keep a close proximity to the attachment figure (i.e., parents), who is expected to alleviate stress in order to provide a sense of security and well-being. The adult attachment style is found in the literature be an extension of the childhood attachment pattern (Hazan and Shaver, 1987; Fraley, 1999; Grossmann and Waters, 2005). When an adult person experiences a negative emotional event, they also find themselves in the situation of distress. The chosen way of dealing with it depends crucially on the attachment style of the person. To date there has been research done on the behaviour of people with different attachment styles in a variety of social interactions involving stressful events (Brennan, Simpson & Rholes, 1998; Pietromonaco, 1997; Pietromonaco, DeBuse & Power, 2013)

Security in attachment style is characterized by support-seeking or problem-focused coping strategies in times of distress. These ways of coping have been found across literature to be the most effective ones (Crarver, Scheier & Weintraub, 1989). This would suggests that if such an individual was to experience a negative event, the most efficient way to deal with it would be found in the interactions with the social environment. Secure people were also found to be generally more tolerant of distressing events and lend the access to unpleasant emotions without being scared of re-experiencing them (Simpson & Rholes, 1998). This stands on the contrary to the behaviour of the insecurely attached people in situations of distress, who were found to direct their attention toward distress by ruminating on negative thoughts, memories and affect (Kobak & Sceery, 1988; Shaver & Hazan, 1993); They also suffer the pain of not being able to repress the negative thoughts, emotions as well as detach

from this suffering in any way, which traps them in a vicious anxiety circle (Mikulincer & Orbach, 1995). Other insecure individuals tend to deal with distress by avoiding its acknowledgement or 'compulsive self-reliance' (Bowlby, 1973; Shaver & Hazan, 1993). These people want to shun from any confrontations that may induce the evocation of the distressful situation by inhibiting the access to negative affect and thoughts (Simpson & Rholes, 1998). When the insecure people encounter an adverse negative life event, they would most probably either find it even more overwhelming to their emotional well-being or avoid it completely.

The security in attachment style determines thus the potential for the search of appropriate ways for dealing with distress. Secure people are more open to the social interaction and more eager to look support in their social environment. Conversely, the insecurely attached people do not seem to be able to use their social environment efficiently in order to alleviate the negative feelings related to the event. The degree of security in attachment determines the intensity with which communal behaviours are exhibited during the social sharing interaction.

These findings suggest that the ability to cope with the negative feelings connected to the distressing situation are to some extent dependent on the attachment style of a person. The attachment style motivates the communal responses of people, facilitating the alleviation of negative feelings. In this paper I argue that securely attached individuals will share the event to a higher degree than those insecurely attached. The secure individuals are also expected to be able to buffer the feelings of distress in the most efficient manner and recover from the negative situation the fastest. This will not be the case for the insecurely attached people, who are hypothesized not to be as efficient in buffering negative feelings in times of distress and have a lower recovery rate than secure individuals.

The second aspect hypothesized to help alleviating negative feelings in a sharing situation related to an emotional event is comfort with touch. Research conducted on touch behaviours or comfort with touch shows how beneficial it is in promoting psychological and

physiological well-being through stress reduction. Studies examining the influence of touch on physiological well-being demonstrate that engaging in physical contact during a stressful situation results in decreased blood pressure and heart rate (Gallace & Spence, 2010). This finding is vital as it shows that reactivity to stressful life events can be lowered through touch. In yet another study, the authors assessed the influence of touch on the psychological well-being of their participants. The participants were patients in the Center of Complementary Care, with a wide range of ailments. The procedure involved gentle hand placing (touching) on the various parts of the participants' bodies for 6 weeks of treatment. The gentle touch resulted mostly in stress reduction, pain relief and increased ability to cope (Weze et al., 2004). The willingness to engage in touch behaviours could also result in reduced stress levels and have a potential to promote a faster recovery. Physical touch behaviours, however, differ from the concept of comfort with touch. The latter one entails the embodiment of the attachment cues, which describe the involvement in emotional intimacy. This stands on the contrary to the physical touch behaviour which communicates one's levels extrovertism, unrelated to the present study.

The individual degree of comfort with touch varies, which entails that the levels of engagement in emotional intimacy with others will also differ. The degree of engagement in the emotional intimacy determines the levels of social engagement with close people. Studies have already identified the degree to which one engages in the social environment based on the levels of comfort with touch. This was tested in a study by Fromme and colleagues (1989) found that people high in comfort with touch were characterized by the most effective interpersonal skills and a general lack of negative affect. Higher comfort with touch also predicted participants' capacity to resolve problems in an active way as well as indicated their superior engagement in social environment. These characteristics have a potential to predict the levels of stress one is under while entering a social interaction. This line of thought is also

confirmed by the finding of studies done on communication apprehension[2], which show that it positively correlates with touch avoidance. Thus individuals who are distressed by the anticipated social interaction are also the ones not comfortable with touch (Andersen & Leibowitz, 1979). These people will also most probably be the ones refraining from social sharing the most.

Nevertheless, the researchers found that emotional social sharing can be stimulated through touch itself. Across literature touch has been linked to the release of oxytocin, a hormone shown to increase bonding and calming effects. In one study, Lane and colleagues (2012) injected their participants with either placebo or oxytocin and asked them to recall a past painful memory. They found that all participants were equally eager to share the event-related facts, however those injected with oxytocin were particularly willing to share event-related emotions. Thus, it can be concluded that touch also contributes to the increase in the willingness to socially share one's *emotions* (Lane, Luminet & Rimé, et al., 2012). The engagement in touch behaviours or comfort with touch thus determines the potential for sharing as well the experienced levels of stress one is under in the time after the event occurred. This paper attempts to show that comfort with touch predicts sharing behaviour to a certain degree. Also, the engagement in touch behaviours is hypothesized to result in reduced stress levels with regard to the experienced negative emotional event. It is expected that people high in comfort with touch will be most efficient in alleviating the negative feelings related to the emotional event thus recover from it the fastest and be under the lowest levels of stress.

The third, and the last hypothesized aspect to affect the levels of stress one is under after the occurrence of the event and the sharing behaviour, is interoception. This concept describes the human sensitivity to internal bodily sensations, such as air stomach, heartbeat or dry mouth. Quite recently, neuroimaging research found touch to be involved in the same

[2] an anxiety train or syndrome that is manifested whenever real or anticipated verbal communication occurs (Andersen & Leibowitz, 1979)

system responsible for the detection of signals coming from a human body. Touch and interoception are both inherently connected to the experience of emotions (Craig, 2002). The interoceptive signals arising from human bodies together with touch both serve not only a sensory but also a motivational role, which is maintaining homeostasis (fulfilling body's needs). For example, Harlow's study on monkeys (1958) showed how important touch is in the psychological and physiological development of mammals[3], stressing the importance of physical touch for survival issues. The same way the feeling of the hunger contractions in the stomach or dry mouth is there to signalize the need to drink or eat. Neuroimaging studies found the experience of these subjective emotions to reside in brain areas related to the representations of the physiological states of our bodies (the right anterior insula and orbifrontal cortex). The foundation for the emotional feelings is the evaluation of the condition of the body in response to a stimulus. Craig (2002) demonstrated that humans have the ability to re-represent the physiological state of their bodies and that this representation is the basis for the experience of subjective emotions.

Since the ability to re-represent the physiological state of our bodies is a foundation for the experience of subjective emotions, then people high in interoceptive skills should also be the ones who experience the most intense emotions. Current scientific researches use detection of heartbeat as the most widespread measure of interoception and relates it strongly to emotional experiences (Critchley et al., 2004; Pollatos et al., 2007; Zaki, David & Ochsner, 2012). In one of the studies, participants were divided into good and poor heartbeat detectors and were instructed to watch different emotion-eliciting films. Those high on interoceptive skills (good heartbeat detectors) reported experiencing more intense emotions than those who were low on interoceptive skills (poor heartbeat detectors) (Wiens, 2005; Wiens et al., 2000; Zaki, David & Ochsner, 2012). This shows that the ability to detect the signals coming from the body varies with people and determines the experience of the intensity of the emotion.

[3] Monkeys growing up with either a wire-made mother with a food source or a terrycloth-made mother with no food source. Those growing up with a wire-made mother had more psychological and physiological problems in the future as compared to those raised with a soft mother (Harlow, 1958)

Due to that it is believed that in the following study those with highly developed interoceptive skills will not be much prone to share their negative emotional experiences as a way to avoid re-living it. Re-living the negative emotional event is expected to cause high levels of stress for people high on interoceptive skills, as their ability to experience emotions is heightened. These individuals are also predicted to have a lower recovery rate than those with poorer interoceptive skills. Those scoring low on interoception are expected to be under lower levels of stress and be more prone to sharing, as the experience of emotions is not expected to be very pronounced.

Both comfort with touch as well as interoceptive skills with regard to stress levels are also hypothesized to yield one more relationships. Namely, here it is assumed that people low on comfort with touch will be also the ones with higher interoceptive skills, and those high in comfort with touch will be the ones with lower interoceptive skills. This is expected as touch behaviour as a communal response in a social sharing situation communicates more complex emotions than simply verbalizing it. Touch is then inherently connected to the experience of heightened emotions in a social interaction, which is undesirable for people high in interoceptive skills. When touch is involved in the social interaction, then those who are sensitive to their bodily changes should be also the ones wanting to avoid touch the most. This assumption stems from the analysis of the findings of the aforementioned neuroimaging studies, which show that the basis for emotional feelings is evaluation of the condition of the body in response to the stimulus. The evaluation of the body's condition has been found to be located in the same brain areas as touch and has been related to the experience of subjective emotions (Craig, 2002). It is thus expected that those with high interoceptive skills and low in comfort with touch will experience the highest stress will experience.

All in all, this research attempts to test the propensity to share negative emotions with others under conditions which can facilitate emotional sharing. These include attachment, comfort with touch and interoception. These conditions influence the propensity to emotionally engage in a social sharing interaction. They also have the potential to alleviate

negative feelings related to the emotional event, as expected to be visible in stress and emotional recovery levels measured in the research. It is important to note however, that here the alleviation of negative feelings connected to the experienced event is also expected to occur beyond the sharing itself, under the three above-mentioned conditions.

Research Overview

The present research attempts to test the influence of attachment, comfort with touch and interoception on the ability to alleviate negative feelings in a social sharing situation. It is hypothesized that those with a more secure attachment, comfortable with touch and low on sensitivity to bodily sensations will be more eager to share and recover from the shared event faster than those sensitive to their bodily sensations, uncomfortable with touch and insecure. The alleviation of the negative feelings with respect to the event is also expected to occur beyond the effects of sharing. The best recovery rates as well as lowest stress levels should be visible for those high in security in attachment, comfort with touch and high on interoception. The additional hypothesis concerns high levels of comfort with touch for those low on interoceptive skills.

Methods

Participants

The participants that took part in the study included 207 individuals. The participants were all native Polish speakers enlisted online through popular social websites (i.e. Facebook, Twitter, LinkendIn, nasza-klasa, a Polish social networking site). The overall sample consisted of 144 women and 59 men. The average age was 25,8 years (*SD*=1.09).

The original sample included 266 people. Unfortunately, not all participants answered every question in the survey. This is the reason why the variables differ in sample sizes. In order to increase the statistical power of the calculations this study opts for using maximum available number of the valid responses. Adequately, considering the sample size, the statistical calculations are adjusted separately for test.

Methods of data collection

The survey was administered in Polish. It consisted of seven question blocks (9 blocks in total). Questions about interoception, attachment styles and comfort with touch were administered before asking for a recall and determining stress and emotional recovery levels in order to prevent emotional memories of participants from affecting their responses. The first block measured interoception with *The Private Body Consciousness* scale. The second block measured touch with the *Touch test.* The third block measured attachment with *The Relationship Structures Questionnaire (ECR-RS)*. In the fourth block participants were asked to recall an emotional event (2 minutes in writing) from the past during which they felt sadness. The directives for writing included the description of what happened during the event and in as much detail as possible. In the fifth block the participants answered questions regarding sharing, frequency of conscious thoughts about the event, frequency of visits to the doctor and the initial and current felt emotional intensity of the event. Considering the sixth block, this part measures stress levels with *the Perceived Stress Scale.* The directive for the answers included the self-reported stress levels *after* the emotional episode. In the last, seventh block consisted of questions regarding demographics. Participants answered questions about age, gender and asked to indicate their native language.

Measures

The Interoception Scale: Participants had to rate their sensitivity to internal bodily sensations on a five-item scale (i.e. "I am quick to sense the hunger contractions in my stomach." (1 = *extremely characteristic* to 4 = *extremely uncharacteristic*), Cronbach's α = .69).

Touch test: Participants were asked to complete a 13-item test measuring their levels of comfort with giving to and receiving touch from the close ones (i.e. "How comfortable would you feel kissing a loved one of the same sex at a shopping mall?" (1 = *very comfortable* to 5 = *very uncomfortable*, Cronbach's α = .73)

Relationship Structures Questionnaire: In this study the most crucial attachment pattern is the one people have with a person they can confide in. Participants were instructed to answer

questions designed to measure attachment patterns in a variety of close relationships. (i.e. "I usually discuss my problems and concerns with this person"; "I worry that this person won't care about me as much as I care about him or her", (1 = *strongly agree* to 7 = *strongly disagree),* Cronbach's α = .65 to .80)

Perceived Stress Questionnaire (PSQ Index): 30-item questionnaire designed to test the general levels of stress of participants. In this study the participants were instructed to rate the statements with regard to the time after the event occurred (i.e. "You feel rested"; "You have too many worries" 1= *never* to 4 = *usually,* Cronbach's α = .82)

Scales

Intero Index: was calculated by taking a mean of the answers to questions from *the Interoception Scale.*

Attachment Index: was calculated by taking a mean of the answers to questions from *the Relationship Structures questionnaire.*

Touch Index: was calculated by taking a mean of the answers to the questions from *the Touch Test.*

Recovery Index (RI): was calculated by subtracting the initial and current felt emotional intensity of the event.

The frequency of visits to the doctor: a three-point scale was created to code the answers; never (0 visits), rarely (1-2 visits), often (3 and more; or if the answer was: regularly, every month, two months, etc.).

Data collection

The survey was started 475 times. After the removal of surveys which data was limited to a few answers the number was reduced to 275. The removal of the surveys which data did not include the description of the emotional event reduced the number to 257. All in all there was 207 people whose responses could be computed. Thus another 50 were removed because of the lack of the complete set of answers to the asked questions. Therefore the sample for each test differs slightly as it was adjusted to the number of the valid responses.

Results

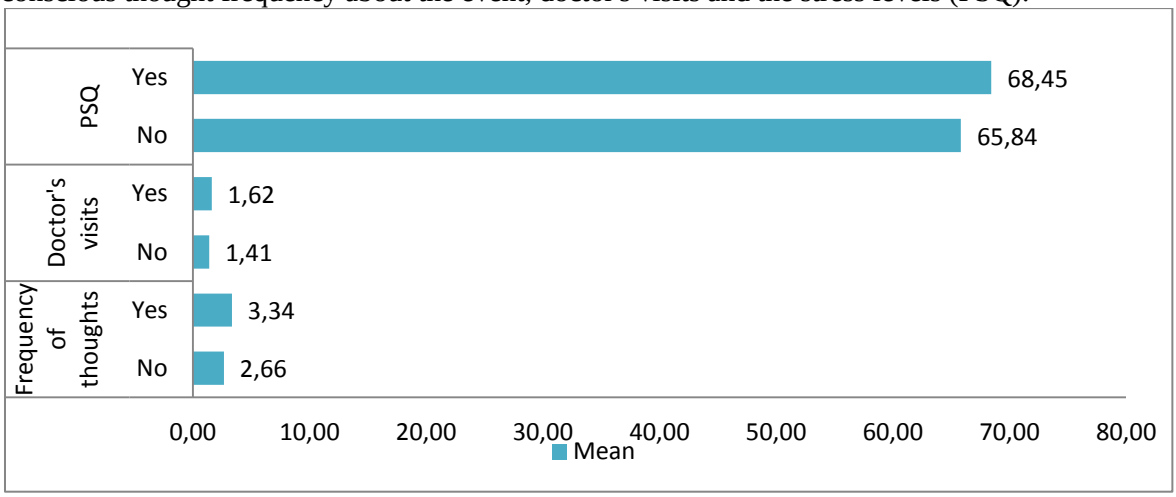
Firstly, it is crucial to determine the general relationships between the conditions and the sharing behaviour, as well as their influence on the alleviation of negative feelings. In order to test whether people who shared their negative emotional event with others recovered from it the faster than those who did not, three t-tests for independent groups were employed. The measures of recovery included the frequency of visits to the doctor, frequency of conscious thoughts about the event, the stress levels experienced in the time after the event occurred (PSQ) as well as emotional recovery index (RI). The whole sample of those who answered the question of whether they shared the event consisted of 207 participants. The samples sizes are lower for the other groups as not all the participants answered the questions about visiting the health care provider or the levels of stress.

The analysis showed that the participants who shared their events with others, thought about the event consciously and more often (M = 3.34, SD= 1.086) than those who did not share the event (M = 2.66, SD = 1.26; r = .216; $t(207) = 3.19$, $p < .01$). Further analysis revealed that those who shared and did not share visited a health care provider (i.e. a physician) similarly often ($t(204) = 1.49$, p = .139; r = .10) and were under similar levels of stress ($t(200) = .89$, p = .338; r = .068). These data conflict with one of the hypotheses of the paper, namely that those who shared will be able to alleviate the negative feelings related to the event faster than those who did not. The results reveal that the groups are not equal with respect to the frequency of conscious thoughts about the event, with those who share having even more frequent thoughts than those who did not. All means and standard deviations are shown in Table 1 and 2 as well as in Figure 1 and 2 below.

Table 1. Differences between those who share and did not share their emotional event in their conscious thought frequency about the event, doctor's visits and the stress levels (PSQ).

	Sharing	*M*	*SD*	The Standard Error of the Mean
Frequency of thoughts	No	2.66	1.26	0.22
	Yes	3.34	1.09	0.08
Doctor's visits	No	1.41	0.67	0.12
	Yes	1.62	0.76	0.06
PSQ	No	65.84	14.05	2.52
	Yes	68.45	13.90	1.06

Figure 1. Differences between those who share and did not share their emotional event in their conscious thought frequency about the event, doctor's visits and the stress levels (PSQ).



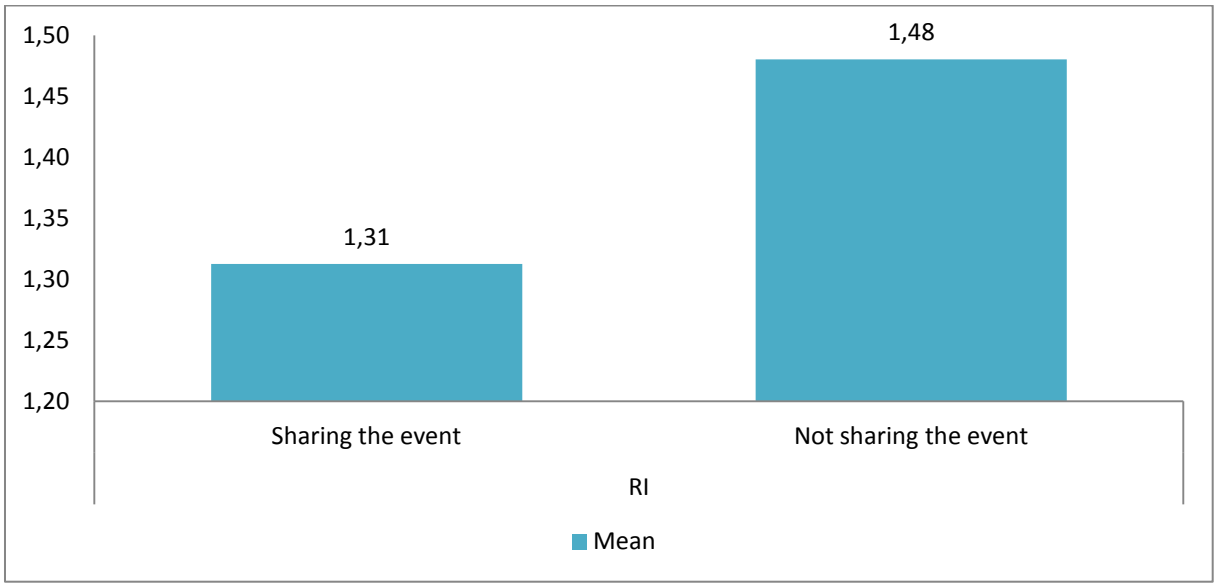
One more additional t-test for independent groups was conducted in order to assess whether those who shared differed with respect to the security in attachment, comfort with touch and interoceptive skills from those who did not share. The analysis revealed that those who shared the event were significantly more comfortable with touch (M = 35.54, SD = 8.52) as compared to those who did not (M = 31.25, SD = 8.04, r = .18; $t(207) = 2.65$, p = .01). The analysis did not reveal any other significant differences between those who shared and those who did not in their levels of interoceptive skills ($t(207) = .679$, p = .498, r = .047), and security in attachment ($t(207) = 2.65$, p = .01, r = .019). The interpretation of these results needs to be approached carefully because the amount of people who did not share (N = 31) is

significantly smaller than those who shared (N = 171). This can carry a bias for the statistical significance regarding the disproportionate sample sizes.

Table 2. The influence of sharing on the recovery index (RI).

		M	*SD*	The Standard Error of the Mean
RI	Sharing the event	1.31	1.53	0.27
	Not sharing the event	1.48	1.66	0.12

Graph 2. The influence of sharing on the recovery index (RI).



However, because of the absence of any significant differences between those who shared and did not it in their stress levels and emotional recovery index, it can be concluded that sharing itself does not bring about the alleviation of the negative feelings. Nevertheless, the alleviation of the negative feelings with regard to the experience of the event can occur beyond the effects of sharing, as determined by attachment, comfort with touch and interoception. Further analyses attempt to test this assumption as the only significant correlation yielded with regard to sharing involved comfort with touch.

Conducting Bartlett's test of sphericity prior to the multivariate formulation of the interaction between the RI and PSQ (= 562.462; Likelihood Ratio=.000; Sig. .000) reveals

that the MANOVA approach can be used to analyze this relationship. Table 3 presents the results.

Table 3. Barlett's test of sphericity for two proxies: emotional recovery (RI) and perceived stress levels (PSQ)

Likelihood Ratio	.000
Approx. Chi-Square	95.097
df	5
Sig.	.000

Before commencing the analysis of the separate proxies, the test for the interaction of the proxies for the alleviation of negative feelings is necessary. This problem was approached by the means of constructing a general linear model with two independent variables, representing two proxies for the alleviation of the negative feelings. This model attempts to capture the joined relation between the emotional recovery and perceived stress levels regarding the three independent variables (attachment, comfort with touch and interoception). If the dependent variables are tested jointly the significance of the model is very high. All of the independent variables are significant (Att. Index: $F = 4.06$, $p = 0.019$; Touch Index $F = 3.479$, $p = 0.033$; Intero Index $F = 3.467$, $p = 0.033$) what indicated a significant correlation between two proxies.

Table 4. Influence of attachment style (Att Index), comfort with touch (Touch Index) and interoception (Intero Index) on the interaction between emotional recovery (RI) and perceived stress levels (PSQ).

		Value	F	p-value
Constant	Wilks' Lambda	0.169	19.967	0.000
	Pillai's Trace	0.831	19.967	0.000
	Hotelling-Lawley Trace	0.203	19.967	0.000
	Roy's Greatest Root	0.203	19.967	0.000
Intero. INDEX	Wilks' Lambda	0.034	3.467	0.033
	Pillai's Trace	0.966	3.467	0.033
	Hotelling-Lawley Trace	0.035	3.467	0.033
	Roy's Greatest Root	0.035	3.467	0.033
Touch INDEX	Wilks' Lambda	0.034	3.479	0.033
	Pillai's Trace	0.966	3.479	0.033
	Hotelling-Lawley Trace	0.035	3.479	0.033
	Roy's Greatest Root	0.035	3.479	0.033
Att. INDEX	Wilks' Lambda	0.040	4.066	0.019
	Pillai's Trace	0.960	4.066	0.019
	Hotelling-Lawley Trace	0.041	4.066	0.019
	Roy's Greatest Root	0.041	4.066	0.019

Beyond the effects of sharing, the stress levels were discussed in the literature with respect to the examined conditions. However, the emotional recovery was not. For this reason, it might be useful to distinguish between the two in further analyses.

Multivariate regression analysis was used to test the influence of attachment security and comfort with touch as well as interoceptive skills on the stress levels experienced after the emotional event occurred. The analysis showed that attachment style, comfort with touch as well as interoceptive skills were significantly related to the levels of stress (PSQ $F(2.014) = 7.135$, $p < .01$). The relationship between the independent variables and the experience of stress was somehow weak ($R = .312$). Adjusted R^2 analysis showed that the variables explain 8.4% variation in stress levels. The analysis of the standardized Beta coefficient showed that together with an increase in 1 standard deviation in Touch Index, the level of stress experienced was falling by -.180 standard deviations, Beta = -.180. Moreover, the attachment style had a stronger relation with stress, with an increase in 1 standard deviation in AttIndex

the level of stress increased by .175 standard deviation, Beta = .175. Interoceptive skills were also related to the stress levels of stress. The analysis shows that with an increase in 1 standard deviation in interoceptive skills the level of stress was rising by .180 standard deviations Beta = .180. Collinearity analysis showed that the independent variables had no significant relationship. These results seem to partially confirm the hypothesis of this paper that those comfortable with touch and low on interoceptive skills will experience the lowest levels of stress in time after the event occurred. However, those high on security in attachment experienced heightened levels of stress, contradicting the hypothesis that those securely attached will be able to alleviate the negative feelings better than those insecurely attached. The results are presented in Table 4 below.

Table 4. The influence of attachment style (Att Index), comfort with touch (Touch Index) and interoceptive skills (Intero Index) on the levels of stress (PSQ).

Model	Unstandardized coeffcients		Standardized coefficients	t	p	Collinearity statistics	
	B	Standard error	β			Tolerance	VIF
(Constant)	47.553	8.860		5.367	.000		
TOUCH Index	-.290	.110	***-.180***	***-2.643***	***.009***	.987	1.013
ATT. Index	.453	.176	***.175***	***2.577***	***.011***	.989	1.012
INTERO. Index	.735	.278	***.180***	***2.639***	***.009***	.981	1.019

Dependent variable: PSQ

Table 5. The relationship between the levels of stress experienced in the time after the event occurred (PSQ), levels of comfort with touch (Touch Index), the attachment style (Att Index) and interoception (Intero Index).

		PSQ	TOUCH Index	ATT. Index	INTERO. Index
PSQ	Tau b Kendall correlation coefficient		***-.098****	.091	***.099****
	p		***.043***	.065	***.046***
TOUCH Index	Tau b Kendall correlation coefficient			-.026	.055
	p			.559	.218
ATT. Index	Tau b Kendall correlation coefficient				.026
	p				.555

* $p < .05$ (two-tailed)

Considering the relation between the independent variables and emotional recovery (RI) (second proxy for the alleviation of the negative feelings related to the event) the variable that is the closest to be regarded significant is attachment ($r^{tau} = -.096$, $p = .066$). None of the other independent variables correlated with emotional recovery. The analysis showed that attachment style, comfort with touch as well as interoceptive skills did not influence the levels of emotional recovery (RI $F(2.054) = 1.146$, $p < .01$). There was no relationship between the independent variables and the levels of emotional recovery, as indicated by R=.128. Adjusted R^2 analysis showed that the variables explain 0.2% variation in the levels of emotional recovery. As can be seen in Table 5 above none of the independent variables correlates with each other, suggesting the predictive power of the regression model.

The above regression analysis helps to estimate the importance of attachment security, comfort with touch as well as interoceptive skills in alleviating the negative feelings related to the event. The results presented above imply an opposite relationship between the levels of stress and the security in attachment suggesting that with an increase in attachment security the levels of stress increase and the emotional recovery index decreases, what suggests an

even worse recovery rate. Additional dependent measures of the ability to alleviate negative feelings were included in the further analysis of the relationship between attachment security and the initial and current felt emotional intensity of the event. Also, the following analysis using the Kendall tau Correlation test additionally assessed the relationship between the dependent variables: stress levels (PSQ), the initial and current felt intensity of the event as well as the recovery index.

The analysis revealed that with an increase in the security of one's attachment style there was an increase in the current felt emotional intensity of the event (r^{tau} = .15, p < .01). Additionally, it was shown that together with an increase in emotional recovery there was a decrease in the levels of stress experienced in the time after the event occurred (r^{tau} = -.11, p = .028). Moreover, the analyses showed that the higher the levels of stress, the higher was the experienced initial (r^{tau} = .15, p < .01), and current emotional intensity (r^{tau} = .23, p < .01) of the event. Nonetheless the strength of these relationships was weak. These findings suggest that security in attachment style was related only to the current felt emotional intensity of the event. Implying that attachment security does not help alleviating the negative feelings as measured by the recovery index and stress levels. The levels of emotional recovery and stress levels are related, such as the faster one recovers from the event (RI), the lower the stress levels they were under in the time after the event occurred (PSQ). The levels of stress are also related to the initial and current felt emotional intensity of the event, suggesting that the stronger one experiences the event, the higher stress levels they were under in the time after the event occurred. The results of the correlations are presented in Table 6 below.

Table 6. The relationship between the levels of stress (PSQ), attachment style (Att Index), emotional recovery (RI), and the initial and current felt emotional intensity of the shared event.

		ATT INDEX	RI	Initial felt emotional intensity of the event	Current felt emotional intensity of the event
PSQ	Correlation Coefficient	.091	***-.114****	***.154****	***.246****
	p	.065	***.028***	***.005***	***.000***
ATT INDEX	Correlation Coefficient		-.096	.053	**.147****
	p		.066	.327	**.004**
RI	Correlation Coefficient			.235**	-.592**
	p			.000	.000
Initial felt emotional intensity of the event	Correlation Coefficient				.381**
	p				.000

* $p < .05$ (two-tailed)

For the test of the influence of the level of comfort with touch (Touch Index) and interoceptive skills (Intero Index) on the experienced levels of stress after the event occurred (PSQ), multiple factor ANOVA for independent samples was conducted. The analysis did not show the main effect of the Touch Index ($F(1.98) = 1.69$, $p = .195$;), those high and low in comfort with touch experienced similar levels of stress after the event occurred. The analysis also did not show the main, general effect of Intero Index ($F(1.198) = 1.25$, $p = .265$). Those high and low on interoceptive skills experienced similar levels of stress in the time after the event occurred. The analysis also did not show the interaction effect of Touch and Intero Index on the experience of the levels of stress, as measured by the PSQ ($F(1.198) = .33$, $p = .565$). Those high and low in comfort with touch as well as interoceptive skills experienced

similar levels of stress (PSQ). ANOVA analyses did not confirm the hypothesis of the paper that those high on interoceptive skills are also the ones not comfortable with touch, and those low on interoceptive skills are comfortable with touch. The results are presented in Table 7 and Figure 3 below.

Figure 3. Influence of comfort with touch (Touch Index) and interoceptive skills (Intero Index) on the experience of stress in the time after the event occurred (PSQ).

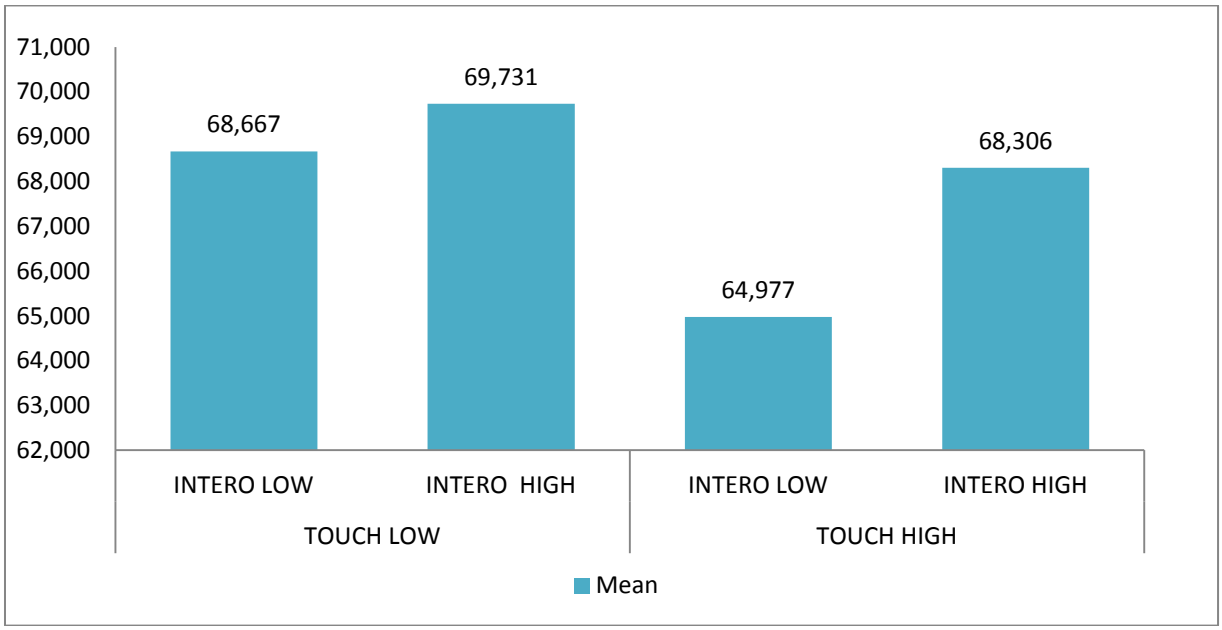


Table 7. Influence of comfort with touch (Touch Index) and interoceptive skills (Intero Index) on the experience of stress in the time after the event occurred (PSQ).

		M	*SD*
LOW	LOW	68.667	12.563
	HIGH	69.731	12.680
	Total	69.174	12.572
HIGH	LOW	64.977	13.199
	HIGH	68.306	16.957
	Total	66.731	15.305
Total	LOW	67.059	12.910
	HIGH	69.040	14.851
	Total	68.050	13.915

In order to see whether the frequency of conscious thoughts about the event, levels of emotional recovery (RI) as well as the initial and current intensity of the event influenced the

frequency of visits to the doctor multiple regression analysis was conducted. The analysis showed that the model has a potential to predict the frequency of visits to the doctor. The independent variables were moderately related with the frequency of visits to the doctor (R = .31). The adjusted R^2 analysis revealed that the variables explain 8% variance in stress levels. The analysis of the standardized Beta coefficients showed that together with an increase by 1 standard deviation in the frequency of thoughts, the frequency of visits to the doctor increased by .138 standard deviations, Beta = .138. The initial felt intensity of the event and the RI did not significantly (p > .05) influenced the frequency of visits to the doctor. The analysis of the VIF statistics did not reveal the independent variables in the model to be significantly related to each other. The results of these analyses are presented in Table 8.

Table 8. The influence of the frequency of thoughts, emotional recovery and the initial felt emotional intensity of the event on the frequency of visits to the doctor in the time after the event occurred.

	Unstandardized coefficients		Standardized coefficients	t	p	Collinearity statistics	
	B	Standard error	Beta			Tolerance	VIF
(Constant)	.992	.233		4.265	.000		
RI	-.064	.042	-.140	-1.527	.128	.532	1.879
Initial Felt Intensity of the Event	.040	.050	.074	.801	.424	.523	1.913
Frequency of thoughts	.138	.062	.210	2.227	.027	.504	1.986

Dependent variable: frequency of visits to the doctor

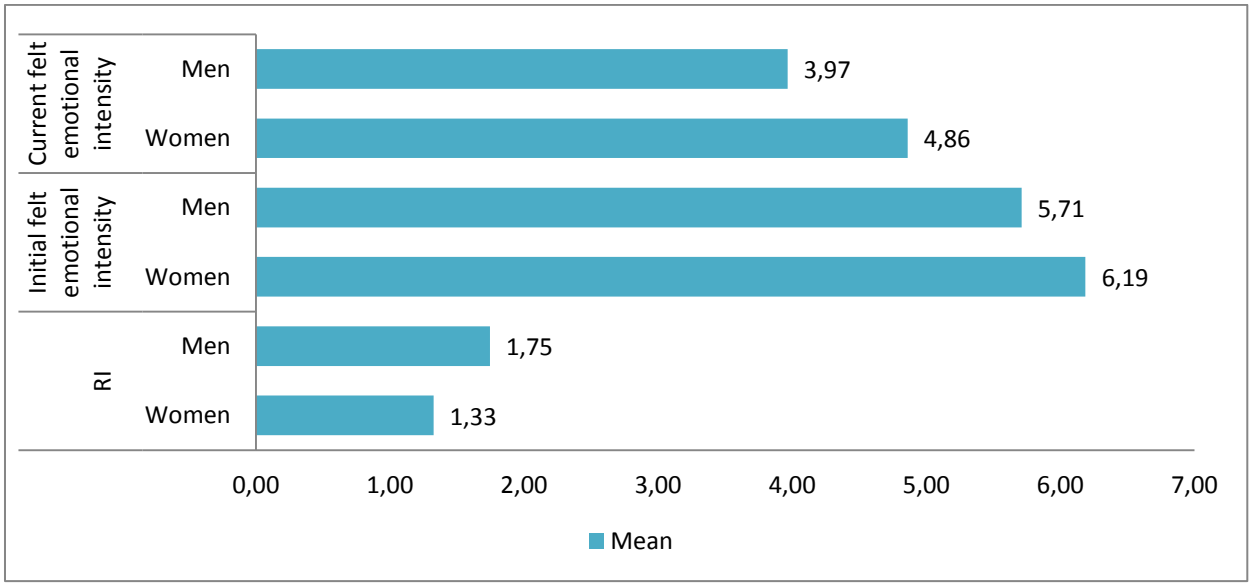
Additionally, the author was interested in the potential differences between men and women in their emotional recovery levels, as measured by RI, as well as the the initial felt emotional intensity and the current felt emotional intensity of the event. Three series of t-tests for independent samples were carried out in order to examine the differences. The analysis showed that women experienced significantly higher levels of the initial emotional intensity

of the event (M = 6.19, SD = 1.33) than men (M = 5.71; SD = 1.46; $t(201) = 2.24$, $p = .026$, $r = .16$). They also had a significantly higher levels of felt current emotional intensity of the event (M = 4.86, SD = 1.704) as compared to men (M = 3.97, SD = 1.71; $t(201) = 3.39$, $p < .01$, $r = .23$). The last analysis revealed that men and women similar recovery levels ($t(201) = 1.65$, $p = .102$, $r = .11$). The results are presented in Table 9 and Figure 4.

Table 9. Differences between men and women in emotional recovery (RI), the initial felt emotional intensity and the current felt emotional intensity of the event.

		M	*SD*	*Standard Error of the Mean*
RI	Women	1.33	1.58	0.13
	Men	1.75	1.81	0.24
Initial felt emotional intensity of the event	Women	6.19	1.33	0.11
	Men	5.71	1.46	0.19
Current felt emotional intensity of the event	Women	4.86	1.70	0.14
	Men	3.97	1.71	0.22

Figure 4. Differences between men and women in levels of emotional recovery, the initial felt emotional intensity and the current felt emotional intensity of the event.



Discussion

This research attempted to demonstrate that sharing an emotionally arousing event might bring about the alleviation of negative feelings (as measured by the stress levels experienced after the event occurred, the emotional recovery index) related to this event under the conditions which stimulate affective sharing. These conditions included the degree of security in attachment, sensitivity to bodily sensations as well as comfort with touch. The findings of this research failed to demonstrate the effect of sharing on the alleviation of negative feelings related to the event. No differences were observed between those who shared the event and those who did not in the experienced levels of stress and the emotional recovery index. This finding is consistent with those of previous researches who also found no effect of sharing on the levels emotional recovery (i.e. Zech & Rimé, 2005; Rimé, Yogo & Pennebaker, 1996). Additional measures assessing the potential alleviation of negative feelings included the frequency of visits to the doctor as well as the frequency of conscious thoughts about the event. The analysis of the former variable between those who shared and those who did not, showed that the two groups did not differ in their frequency of visits to the doctor. This is consistent with the absence of the difference in the emotional recovery level between two groups, as both of these were expected to measure its pace. Alternatively, it could assumed that visiting a doctor is necessary in cases when one assumes danger to health. Looking at the descriptions of the shared events it is clearly visible that most of them were traumatic (most cases death of a close one, i.e. parent, sibling, etc.), thus it can be deduced that emotional trauma was simply not perceived as detrimental to one's health as much as a physical diseases might have been. Nevertheless, the two groups (those who shared and did not) differed with respect to the frequency of the conscious thoughts about the event. Those who shared the event showed a greater frequency of conscious thoughts about the event as compared to those who did not. This stands on contrast to the findings of Lepore, Ragan and Jones (2000), who showed that talking about the event reduces the number of intrusive thoughts about the negative event as a way to alleviate the negative feelings. Nevertheless,

this finding is relevant as it shows the opposite relationship. Previous research showed that the lack of recovery is directly related to perpetuation of the need to share (for review, see Zech, Rimé & Nils, 2005). This finding that people who shared thought consciously about the event more often than those who did not, may imply that exact perpetuation of the need to share. This research however, did not test for the presence of the need for the perpetuation of sharing, thus it has to be assumed here as an alternative explanation for the obtained results.

It is very important to note however, that only one of the independent variables related to sharing, namely comfort with touch. On average, people who were comfortable with touch shared the event more often than those who did not. Adequately, it could be concluded that comfort with touch was the only indicator of sharing. Fromme and colleagues (1989) conducted a study on nonverbal behaviour and attitudes toward touch. Comfort with touch in this study was found to reflect the degree of openness to express emotionally intimate behaviour as well as predict superior engagement in social environment. Sharing an emotional event entails the engagement in the intimate social behaviour and requires a high degree of comfort with others to be precipitated. For this reason it can be concluded that comfort with touch predicts engagement in intimacy to a higher degree than for example attachment. Comfort with touch is thus the most relevant in predicting sharing behaviour than any other of the hypothesized conditions. The hypothesis assuming that those securely attached, comfortable with touch and low on interoceptive skills will be the ones most willing to share was confirmed only to a small degree. There was no significant effect of attachment or interoception on the sharing behaviour. However, these finding should be interpreted with caution as the sample sizes for those who shared and did not are very disproportionate.

None of the three hypothesized conditions (attachment security, comfort with touch, interoception) had an influence on the alleviation of the negative feelings related to the experienced event with regard to sharing behaviour, as measured by stress and emotional recovery levels. Nevertheless, this paper also assumes that despite sharing, the alleviation of negative feelings can be highly dependent on the aforementioned conditions. Conducting

Bartlett's test of sphericity prior to the multivariate formulation of the interaction between the emotional recovery and perceived stress levels revealed that the MANOVA approach can be used to analyze this relationship (especially with regard to the small sample size).

MANOVA analyses of the interaction effect of both proxies for the alleviation of negative feeligs: emotional recovery and stress levels, revealed that they are related to all three conditions under investigation. It can be concluded that the attachment security, comfort with touch and interoception are good in predicitng the alleviation of negative feelings from an adverse event. This should be further tested in experiments with regard to a social sharing situation. However, the test of the conditions with regard to stress levels was previously examined in the literature and the emotional recovery was not. The outcomes were calcluated separately for each one of the proxies, as to give an approximation of the relevance of each for the allevation of the negative feelings.

Prior research examined the behaviour of people with different attachment styles, varying in their levels of comfort with touch and interoception in situations of distress (Feeney, 1990; Barholomew & Horowitz, 1991; Hazan & Shaver, 1987; Andersen & Leibowitz, 1979; Fromme et al., 1989) . It was thus assumed that those most secure in their attachment style, comfortable with touch and low on interoceptive skills will be able to alleviate the negative feelings related to the event more effectively than those insecure, uncomfortable with touch and sensitive to their bodily sensations. Multivariate regression analysis showed that all three independent variables had an influence on the levels of stress experienced in the time after the event occurred. The more comfortable the person was with touch the lower were the stress levels they experienced. This finding is supported by the studies showing that the engagement in touch behaviours has the potential to reduce the levels of stress one experiences (Gallace & Spence, 2010Samples-Steele, 2011). Thus those most comfortable with touch are also the ones engaging in touch behaviours the most. People high in comfort with touch are characterized by a general lack of negative affect and the ability to

resolve problems in active ways (Fromme et al., 1989). This seems to be the case for the participants in this study, whose comfort with touch predicted the levels of stress.

The significant influence of the sensitivity to bodily sensations on the experienced levels of stress was also found. The more sensitive the subjects were to their internal bodily sensations, the higher were the levels of stress they experienced. This also accords with the findings of the studies showing that higher interoceptive skills entail a heightened experience of emotions (Wiens, 2005; Wiens et al., 2000; Zaki, David & Ochsner, 2012). Those sensitive to the changes occurring in their organism were expected to experience higher levels of stress, as a result of the potential re-experience of the negative emotional event to a higher degree than those insensitive to these changes. This finding was confirmed by participants in this study whose levels of stress increased for with an increase in their interoceptive skills.

Contrary to expectations, this study found a negative relationship between the levels of security in attachment and the experience of stress. Security in attachment style was related to the increase in the levels of stress experienced in the time after the event occurred. This although surprising, may carry an important information. From the participants' answers it was visible that the most common sad, negative event listed was a death of a close one. The security in attachment was measured by asking questions with regard to the person the participants confide in the most. It is thus possible that the negative emotional event described was related to the same person the participants described as having a confiding relationship with. This would explain the increase in stress levels of stress for people high on security in attachment. The disruption in the attachment bond can have severe consequence for emotional health, even in adulthood. This occurs as one cannot integrate the information about the death of the close one in a well-functioning schema of the secure base and/or the inability to re-engage in the exploration of the world without that person (Shear, Monk et al., 2010).

It can be concluded that the two out of three conditions chosen for this study relate to the levels of stress as a proxy for the alleviation of the negative feelings related to the sad event beyond the effects of sharing. Attachment style as the only condition was found to

negatively correlate with the levels of stress, whereas comfort with touch and interoceptive skills were positively related to its levels. This study, also tested for the levels of emotional recovery (RI) as a proxy for the alleviation of the negative feelings. However, the regression and correlation analyses did not reveal any significant relationships between the independent variables. Surprisingly the regression analysis of attachment and the levels of emotional recovery yielded similar results to the results of the analysis of the levels of stress and attachment. The relationship of attachment style and emotional recovery turns negative, the more secure the attachment style of the person, the lower the levels of emotional recovery and higher levels of stress. The aforementioned explanation for heightened stress levels in those of more secure attachment is also applicable to the finding suggesting worse recovery rates for those higher in security in attachment.

In general, people are considered myopic. Therefore, the fact that the survey asked participants to infer about their past experiences can lead to biased reports. Moreover, the intensity of the negative emotion is assumed to be the highest just after the event occurs. For this reason it is crucial to distinguish between the initial and current felt emotional intensity of the event. One more relationship with regard to attachment style was found in the further analysis. Together with an increase in the security of one's attachment style there was an increase in the level of the current felt emotional intensity of the event. This results is suggestive of the previously mentioned relationship between the stress levels, emotional recovery and attachment. The levels of emotional recovery for higher security in attachment were low, it is thus expected that the person's felt initial and current emotional intensity would not be much different in number.

The analysis provided another crucial result, the increase in the emotional recovery was related to the decrease in the levels of stress. Also, the higher the levels of stress, the higher the experienced initial and current felt emotional intensity of the event. This finding suggests that the more stressed the person was with the event in the time after it occurred, the

lower was their recovery rate. This supports the choice for the proxies used to measure the alleviation of negative feelings related to the sad event.

Some of the additionally measured dependent variables were found to be predictive of the frequency of visits to the doctor. These included: the frequency of conscious thoughts about the event, levels of emotional recovery as well as the initial felt intensity of the event. The model predicted how often people used the services of the physician mostly by the frequency of thoughts about the event. Emotional recovery was moderately related to the frequency of visits to the doctor, the relationship was however insignificant. Similarly, the initial felt emotional intensity was completely unrelated to the frequency of visiting the doctor. It can be concluded that consciously thinking about the event precipitated the doctor's visits the most. This finding is relevant as it shows that people do not go to see the doctor on an impulse, which would most probably be the case if the initial felt emotional intensity was predictive of the frequency of visits to the doctor. Moreover, the persistence of conscious thoughts about the negative event is suggestive of the low levels of emotional well-being. This implies that people who felt the emotional burden of the event correctly recognized their well-being to be endangered and decided to see the doctor. The results reveal that the improved levels of emotional recovery are associated with the more frequent visits to the doctor. It can be speculated that visiting the doctor thus improves the levels of emotional recovery.

The current study did not find any evidence for the hypothesis that those high on comfort with touch will also be the ones least sensitive to their bodily sensations. As it can be seen in Table 6., there is an absence of the main effect of touch and interoception on the reported levels of stress. This finding does not seem to support the assumption of the paper, that touch behaviours communicate more complex emotions, which those sensitive to their bodily sensations should want to avoid. Nevertheless, despite the absence of the significant results, it is visible in Figure 3. that those high in comfort with touch were consistently less sensitive to their bodily sensations as compared to those lower in comfort with touch. It is

believed that the sample size significantly influenced theses results. Research focusing on touch and interoception does confirm that these two characteristics have a joined potential in fulfilling not only regulatory but also social needs. This occurs as touch and interoceptive systems are integrated with each other as to provide the mirror for self-awareness, which is crucial in determining the well-being and the general physiological condition of the body (Björnsdotter, Morrison & Olausson, 2010; Craig 2002; Craig, 2003). Hence the assumption that higher levels of comfort with touch are directly related to the low sensitivity to the bodily changes in situations of distress. The negative emotions experienced by a person high on interoceptive skills are expected to be heightened with touch (Wiens, 2005; Wiens et al., 2000), as the integration of both systems signalizes a motivational, homeostatic role, for the directed at escaping the negative affect.

The very last, additional analysis involved the examination of the differences between men and women in their levels of emotional recovery as well as the initial and current felt emotional intensity of the event. Research in the field generally found women to experience more intense emotions than men (Allen & Haccoun, 1976; Larsen & Diener, 1987; Grossman & Wood, 1993). Similarly, this research found women's self-reports of the initial and current emotional intensity significantly higher than for men. This finding would support the idea that women generally experience more intense emotions than men. On average, women were also found to have lower recovery rates than men. This would support the explanation for the heightened experience of emotions and suggest a lower ability to resolve emotional issues in an efficient way as compared to men, this finding was however insignificant.

Conclusions, limitations and directions for future research

This research sought to examine whether sharing a negative emotional event with others can alleviate the negative feelings related to this event under the conditions precipitating communal sharing of emotions. The conditions included security in attachment style, comfort with touch and the sensitivity to bodily sensations. The paper also hypothesized

that such alleviation of negative feelings, as visible in the stress and emotional recovery levels, can occur beyond the effects of sharing.

The first major finding showed that sharing the event with others does not bring about the alleviation of negative feelings. This finding contributes to the existing knowledge by showing that verbalizing emotional experiences does not bring about the alleviation of negative feelings. The only condition that predicted sharing to certain degree was comfort with touch. Further research should attempt to examine the relationship between touch behaviours and social sharing of emotions as the effect might be more pronounced for a bigger sample of participants. The small sample in this study is, however, believed to have influenced the absence of the effect of the other conditions on the alleviation of negative feelings.

Because of the absence of any effects of sharing on the reduction in negative feelings, the author sought to examine whether the conditions may have an effect on the reduction in negative feelings beyond the sharing itself. The evidence from this study suggests that all three conditions were related to the experienced levels of stress and only attachment was negatively related to the levels of emotional recovery. Comfort with touch and insensitivity to bodily sensations predicted lower levels of stress but no effect on emotional recovery. Security in attachment was the only condition which yielded opposite results, such as the more secure the person, the higher experienced stress levels and lower emotional recovery. This result is speculated to be influenced by a recall of a sad episode, which in most cases involved the death of a close one, who also might have been the attachment figure one referred to in the survey. It is suggested here that attachment as a condition hypothesized to have a potential for promoting reduced levels of negative emotions, is not adequate and should not be taken under consideration in further research. If the speculated explanation for the opposite findings with regard to attachment is true than this condition should be avoided in similar survey asking for a recall of an episode related to sadness (most often reported

episode: death of a close one). Further experimental investigations would be needed to detect whether this relationship really exists.

Nonetheless, the general linear model of the influence of both proxies for the alleviation of negative feelings with respect to the three measures conditions yielded significant results. This suggests that although emotional recovery index might not be the best indicator of the alleviation of negative feelings when measured separately, it increases the significance of the results if included in the model together with the perceived stress levels. Experimental investigations should examine the importance of the proxies with respect to attachment, comfort with touch and interoception, as the findings might transferable to a bigger sample.

Moreover, it would be interesting to further examine the relationship between interoception and touch, which in this study did not yield any significant results. Nevertheless, consistently the lower levels of interoception were observed in those comfortable with touch. The literature is suggestive of the integrative influence of both on the experience of subjective emotions. It is believed that a more controlled experimental environment would bring about the significance of the results. Also, their joined influence on the experience of emotion in an interpersonal environment should be investigated before attempting to detect their impact on alleviation of negative emotions.

Frequency of conscious thoughts about the event, taken as an additional indicator of the ability to alleviate negative emotions, predicted the rate of visits to the doctor. This finding is vital as it has a potential to determine how one judges their emotional health. It suggests that the presence of prolonged, intrusive thoughts about the negative event was treated as a signal of the continuous deterioration in their emotional health. This finding can also be further investigated in order to determine the specific reasons that motivate people to choose to go to the doctor after experiencing an emotionally upsetting event. This knowledge would be useful in determining an efficient way of approaching people who underwent a traumatic experience.

In the light of the appraisal theories of emotion, for the emotional intensity to change one should be able to first modify the appraisal of the emotion in question. Thus, in order for the verbalization of emotion to be beneficial it should carry the potential that will allow one for the re-evaluation of the event. It might be concluded then, that the sharing situation did not allow the participants for the change in the evaluation of the event. Nevertheless, the alleviation of negative feelings with respect to the self-reported stress levels was observed beyond the effects of sharing. It is possible that the self-reported levels of emotional recovery simply carried a time bias, as the participants had to judge their initial emotional intensity from a time perspective. For this reason it is likely that emotional recovery was not found to significantly vary between the conditions.

Despite the paucity of the sample, the main weakness of the study, the current findings are relevant to the continuously growing body of literature on the conditions under which social sharing of emotions brings about emotional recovery. The present study confirms previous findings and contributes additional evidence that suggests that comfort with touch is predictive of the sharing behaviour. It also adds to the understanding of the potential conditions under which people are able to most effectively alleviate their negative feelings. These include interoception and comfort with touch. Moreover, the research suggests that the emotional recovery index is not the best indicator of the levels of recovery, if measured from a time perspective. The future experiments should be conducted in a more controlled setting in order to observe the actual levels of recovery.

References

Allen, J.G., and Haccoun, D.M. (1976). Sex differences in emotionality: A multidimensional approach. *Human Relations, 29,* 711-722.

Andersen, P. A., and Leibowitz, K. (1978). The development and nature of the construct touch avoidance. *Environmental Psychology and Nonverbal Behavior, 3,* 89-106.

Bartholomew, K., and Horowitz, L. M. (1991). Attachment Styles Among Young Adults: A Test of a Four-Category Model. *Journal of Personality and Social Psychology, 61,* 226–244.

Björnsdotter, M., Morrison, I., and Olausson, H. (2010). Feeling good: on the role of C fiber mediated touch in interoception. *Experimental Brain Research, 207(3-4),*149-55.

Bowlby, J. (1973). Attachment and loss: Vol. 2. Separation: Anxiety and anger. New York: Basic Books.

Brennan, K.A. (1998). Adult Romantic Attachment and Individual Differences in Attitudes Toward Physical Contact in the Context of Adult Romantic Relationship. In J. A. Simpson and W. S. Rholes (Eds.), *Attachment theory and close relationships*, 394-428.

Chelsea R. Samples-Steele. Adult Attachment as a Predictor of Touch Attitudes and Touch Behavior in Romantic Relationships. *Clinical Psychology, 56,* 239-245.. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships*, 394-428. New York: Guilford Press.

Craig, A. D. (2002). How do you feel? Interoception: the sense of the physiological condition of the body. *National Review of Neuroscience, 3(8),* 655-666.

Craig, A. D. (2003). Interoception: the sense of the physiological condition of the body. *Current Opinion in Neurobiology, 13(4),* 500-505.

Craver, C.S., Scheier, M.F., and Weintraub, J.K. (1989). Assessing coping strategies: A Theoretically Based Approach. *Journal of Personality and Social Psychology, 56(2),*267-283.

Critchley, H. D., Wiens, S., Rotshtien, P., Ohman, A., and Dolan, R. J. (2004). Neural systems supporting interoceptive awareness. *Nature Neuroscience,7,* 189–195.

Feeney, J. A., and Noller, P. (1990). Attachment Style as a Predictor of Adult Romantic Relationships. *Journal of Personality and Social Psychology, 582,* 81–291.

Finkenauer, C., and Rimé, B. (1998). Socially shared experiences vs. emotional experiences kept secret: Differential characteristics and consequences. *Journal of Social and Clinical Psychology, 17*, 295–318.

Finkenauer, C., and Rimé, B. (1998). Keeping Emotional Memories Secret: Health and Subjective Well-being when Emotions are not Shared. *Journal of Health Psychology, 3(1),* 47-58.

Fraley, R. C., and Shaver, P. R. (1999). Loss and bereavement: Attachment theory and recent controversies concerning "grief work" and the nature of detachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*, 735-759. New York: Guilford Press.

Fromme, D. K., Jaynes, W. E., Taylor, D. K., Hanold, E. G., Daniell, J., Rountree, J. R., and Fromme, M. L. (1989). Nonverbal behavior and attitudes toward touch. *Journal of Nonverbal Behavior, 13,* 3-14.

Gallace, A., Spence, C. (no date). Touch and the Body: The Role of the Somatosensory Cortex in Tactile Awareness. *Psyche,16(1).* http://www.theassc.org/files/assc/psyche_vol_16_no_1/7_Gallace_A_SO%20EDITEDpaged30-67.pdf accessed on 21.04.2013.

Greenberg, M. A., Wortman, C. B., & Stone, A. A. (1996). Emotional expression and physical health: Revising traumatic memories or fostering self-regulation? *Journal of Personality and Social Psychology, 71*, 588-602.

Grossman, K. E., Grossman K. and Waters, E. (2005). *Attachment from Infancy to Adulthood: The Major Longitudinal Studies.* The Guilford Press: New York, 332

Grossman, M., and Wood, W. (1993). Sex differences in intensity of emotional experience: A social role interpretation. *Journal of Personality and Social Psychology, 65,* 1010-1022.

Hall, D. L. (2013). Adult Attachment and Coregulation of Stress in Romantic Couples Open Access Theses. Paper 398.

Harlow, H. F. (1958). The nature of love. *American Psychologist, 13,* 673-685.

Hazan, C., and Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52,* 511-524.

Kobak, R.R., and Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development,* 59, 135–146.

Lane, A., Luminet, O., Rime, B., Gross, J.J., de Timary, P., and Mikołajczak, M. (2012). Oxytocin Increases the Willingness to Socially Share One's Emotions. *International Journal of Psychology, 6,* 1-7.

Larsen, R., and Diener, E. (1987). Affect intensity as an individual difference characteristic. *Journal of Research in Personality, 21,* 1-39.

Lepore, S. J., Ragan, J. D., and Jones, S. (2000). Talking facilitates cognitive-emotional processes of adaptation to an acute stressor. *Journal of Personality and Social Psychology, 78,* 499-509.

McCrae, R. R. and Costa, P. T., Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52,* 81-90.

Mendolia, M., and Kleck, R. E. (1993). Effects of talking about a stressful event on arousal: Does what we talk about make a difference?. *Journal of Personality and Social Psychology, 64,* 283-292.

Mikulincer, M., and Orbach, I. (1995). Attachment styles and repressive defensiveness: The accessibility and architecture of affective memories. *Journal of Personality and Social Psychology, 68,* 917- 925.

Nils, F., and Rimé, B. (2012). Beyond the myth of venting: Social sharing modes determine the benefits of emotional disclosure. *European Journal of Social Psychology, 42*, 672–681.

Pennebaker, J. W. and Beall, S. (1986). Confronting a traumatic event: Toward an understanding of inhibition and disease. *Journal of Abnormal Psychology, 95,* 274-281.

Pennebaker, J. W., Colder, M., and Sharp, L. K. (1990). Accelerating the coping process. *Journal of Personality and Social Psychology, 58,* 528-537.

Pennebaker, J. W., Kiecolt-Glaser, J. K., and Glaser, R. (1988). Disclosure of traumas and immune function: Health implications for psychotherapy. *Journal of Consulting and Clinical Psychology, 56,* 239-245.

Pietromonaco, P. R., DeBuse, C. J., and Powers, S. I. (2013). Does attachment get under the skin? Adult romantic attachment and cortisol responses to stress. *Current Directions in Psychological Science, 22(1) 63-68.*

Pietromonaco, P.R., and Feldman Barrett, L. (1997). Working models of attachment in daily social interactions. *Journal of Personality and Social Psychology, 73,* 1409-1423.

Pollatos, O., Gramann, K., and Schandry, R. (2007). Neural systems connecting interoceptive awareness and feelings. *Human Brain Mapping, 28,* 9-18.

Rimé B., Mesquita, B., Philippot, P., and Boca, S. (1991). Beyond the emotional event: Six studies on the social sharing of emotion. *Cognition and Emotion, 5,* 435–465.

Shaver, P. R., and Hazan, C. (1993). Adult romantic attachment: Theory and evidence. In D. Perlman & W. Jones (Eds.), *Advances in personal relationships*, 4, 29–70. London: Jessica Kingsley.

Shear, K., Monk, T., Sillowash, R. (2007). An attachment-based model of complicated grief including the role of avoidance. *European Archives of Psychiatry and Clinical Neuroscience, 257(8),* 453-461.

Simpson, C., and W. S. Rholes. (1998). (Eds.) *Attachment theory and close relationships* (249-279). New York: Guilford Press.

Watson, D., and Pennebaker, J. W. (1989). Health complaints, stress, and distress: Exploring the central role of negative affectivity. *Psychological Review, 96,* 234-254.

Weze, C., Leathard, H.L., Grange, J., Tiplady, P. and Stevens, G. (2007). Healing by Gentle Touch Ameliorates Stress and Other Symptoms in People Suffering with Mental Health Disorders or Psychological Stress. *Evidence Based Complement Alternative Medicine, 4(1),* 115–123.

Wiens, S. (2005). Interoception in emotional experience. *Current Opinion in Neurology, 18(4),* 442-447.

Wiens, S., Mezzacappa, S.E., Katkin, E.S. (2000). Heartbeat detection and the experience of emotions. *Cognition and Emotion, 14(3),* 417-427.

Zaki, J., and Ochsner, K. (2012). The neuroscience of empathy: progress, pitfalls and promise. *National Neuroscience*. 15, 675–680.

Zaki, J., Davis, J.I., and Ochsner, K.N. (2012). Overlapping activity in anterior insula during interoception and emotional experience. *Neuroimage, 62(1),* 493-9

Zech, E., & Rimé, B. (2005). Is talking about an emotional experience helpful? Effects on emotional recovery and perceived benefits. *Clinical Psychology & Psychotherapy, 12,* 270–287.

Zech, E., Rimé´, B., and Nils, F. (2004). Social sharing of emotion: Emotional recovery, and interpersonal aspects. In P. Philippot & R. S. Feldman (Eds.), *The regulation of emotion,*157–18.

Appendix 1. Survey in English

Social Sharing Study

Tilburg UniversitySocial Sharing of Emotions Introduction: We invite you to participate in our research called Social Sharing of Emotions. This study is being conducted by J.Machlah, a social psychology student at the university of tilburg.Volunteer Status: you participation in this research is completely voluntary. Morover, you can refuse to answer any of the questions you do not wish to answer. You have the right to refuse to answer each particular questions. You also have the right to withdraw your data at the end of the session or at a later stage.Purpose of the Study: The purpose of this research is to examine the relationship between recall and social stimuli. We will also be looking at the aspects of your self-concept and personality.Description of the research: You will be asked to provide information about yourself, aspects of your personality and the perception of your self-concept. You will also be asked to recall information from the past.Time commitment: You participation in this study will take about 30 minutes.Confidentiality: Your privacy will be kept in all the publication resulting from this study. Experimental materials will be coded in a way that your name will not be attached to any of the experiemntal materials. In this way there will not no possiblity of connecting your name with any of the filled out by you materials.Any question, concerns or compliments that you may have about this study can be answered by H.IJzerman, who can be reached by email at h.ijzerman@uvt.nl, Tilburg University.By pressing 'continue' you consent to participating in this study.

Block 1. First we will ask you some questions regarding your self-awareness. Please answer the following queestions on a scale from 'Extermely uncharacteristic of me' to 'extremely characteristic of me'.

Q7 I am sensitive to internal bodily sensations.

Extremely uncharacteristic (1)
- Uncharacteristic (2)
- Neutral (3)
- Characteristic (4)
- Extremely Characteristic (5)

Q10 I know immediately when my mouth or throat gets dry.

- Extremely uncharacteristic (1)
- Uncharacteristic (2)
- Neutral (3)
- Characteristic (4)

Q11 I can often feel my heart beating.

- Extremely uncharacteristic (1)
- Uncharacteristic (2)
- Neutral (3)
- Characteristic (4)
- Extremely Characteristic (5)

Q12 I am quick to sense the hunger contractions in my stomach.

- Extremely uncharacteristic (1)
- Uncharacteristic (2)
- Neutral (3)
- Characteristic (4)
- Extremely Characteristic (5)

Q13 I am very aware of changes in my body temperature.

- Extremely uncharacteristic (1)
- Uncharacteristic (2)
- Neutral (3)
- Characteristic (4)
- Extremely Characteristic (5)

Block. 2

Q34 This next questionnaire concerns how comfortable you feel with a touch by others. Please answer this based on a scale from very uncomfortable to very comfortable.

Q35 How comfortable would you feel hugging a same-sex person who was homely?

- Very uncomfortable (1)
- Somewhat uncomfortable (2)
- Neutral (3)
- Somewhat comfortable (4)
- Very comfortable (5)

Q37 How comfortable would you feel kissing a loved one of the opposite sex in a shopping mall?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q38 How comfortable would you feel hugging a friend of the opposite sex?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q49 How comfortable would you feel hugging a friend of the same sex?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q39 How comfortable would your mother (or stepmother, etc.) be in kissing you at a party?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q40 In general, how comfortable would you rate yourself in touching others of the same sex?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q41 If asked in an experiment, how comfortable would you feel about mutual touching with an opposite-sex stranger in such areas of the body as hands, arms, or shoulders?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q48 If asked in an experiment, how comfortable would you feel about mutual touching with an same-sex stranger in such areas of the body as hands, arms, or shoulders?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q42 In general, how comfortable would you rate yourself in being touched by others of the opposite sex?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q44 How comfortable would you feel kissing a loved one of the same sex at a shopping mall?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q45 How comfortable would your father (or stepfather, etc.) feel in kissing you at a party?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

Q46 How comfortable would you feel hugging a stranger of the same sex?

- ❍ Very uncomfortable (1)
- ❍ Somewhat uncomfortable (2)
- ❍ Neutral (3)
- ❍ Somewhat comfortable (4)
- ❍ Very comfortable (5)

<u>Block. 3</u>

Q48 Please answer the following questions about the person that you feel most comfortable with sharing your emotions.

Q49 It helps to turn to this person in times of need.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)

- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q52 I usually discuss my problems and concerns with this person.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q53 I talk things over with this person.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q54 I find it easy to depend on this person.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q55 I don't feel comfortable opening up to this person.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q56 I prefer not to show this person how I feel deep down.

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Q57 I often worry that this person doesn't really care for me.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

Q58 I'm afraid that this person may abandon me.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

Q59 I worry that this person won't care about me as much as I care about him or her.

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

Block. 4

Q9. Here we would like to ask you to recall an emotional event that you have experienced in the past. We are interested in an episode when you felt sadness. Please first specify the episode when you felt sad and then tell us (approximately) when this happened. Please write as much as you can remember about the episode. You can take about 2 minutes to write about the episode.

Block. 5

Q24 You have just recalled an emotional episode. How frequently do you still think about this emotional episode consciously?

- ❍ Never (1)
- ❍ Rarely (2)
- ❍ Sometimes (3)
- ❍ Often (4)
- ❍ Very Often (5)

Q50 How frequently have you visited a health care provider (such as a physician) since the emotional episode?

Q60 How intense did you experience the emotional episode when it occurred?

- Not intense at all (1)
- Not intense (2)
- Not very intense (3)
- Neutral (4)
- A bit intense (5)
- Intense (6)
- Very intense (7)

Q61 How intense do you experience the emotional episode to be now?

- Not intense at all (1)
- Not intense (2)
- Not very intense (3)
- Neutral (4)
- A bit intense (5)
- Intense (6)
- Very intense (7)

Q25 Have you spoken about the emotional episode to anyone?

- Yes (1)
- No (2)

Block. 6

Q62 For each sentence, circle the number that describes how often it applies to you in general, since the emotional episode you have just described. Work quickly, without bothering to check your answers, and be careful to describe your life after the episode.

Q63 You feel rested

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q64 You feel that too many demands are being made on you

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q65 You are irritable or grouchy

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q66 You have too many things to do

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q67 You feel lonely or isolated

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q68 You find yourself in situations of conflict

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q69 You feel you're doing things you really like

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q70 You feel tired

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q71 You fear you may not manage to attain your goals

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q72 You feel calm

- Almost Never (1)
- Sometimes (2)
- Often (3)
- Usually (4)

Q73 You have too many decisions to make

- Almost Never (1)

- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q74 You feel frustrated

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q75 You are full of energy

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q76 You feel tense

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q77 Your problems seem to be piling up

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q78 You feel you are in a hurry

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q79 You feel safe and protected

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q80 You have many worries

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)

- ❍ Usually (4)

Q81 You are under pressure from other people

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q82 You feel discouraged

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q83 You enjoy yourself

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q84 You are afraid for the future

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q85 You feel you're doing things because you have to, not because you want to

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q86 You feel criticized or judged

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q87 You are lighthearted

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q88 You feel mentally exhausted

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q89 You have trouble relaxing

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q90 You feel loaded down with responsibility

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q91 You have enough time for yourself

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Q92 You feel under pressure from deadlines

- ❍ Almost Never (1)
- ❍ Sometimes (2)
- ❍ Often (3)
- ❍ Usually (4)

Block. 7

Q29 This is almost the end of the questionnaire. We would like to know some things about you.

Q30 What is your sex?

- ❍ Male (1)
- ❍ Female (2)

Q31 What is your age?

Q32 What is your native language?

Q33 We really appreciate your participation. Please note that we will only debrief participants at a later stage, given that this is an ongoing research project. We hope you understand. If you are interested in the final results of our project, please contact me at the e-mail address provided below, with subject 'debriefing'. Best wishes, Hans IJzermanTilburg .