Volunteering: affective life, empathy and regulation of the other's emotions

SORIA ROMERO, Maria Cecilia

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Volunteering: affective life, empathy and regulation of the other’s emotions

Faculté de Psychologie et Sciences de l’Education
Genève, Suisse

Maria Cecilia Soria Romero

Directeur de recherche :
Madame Tanja Wranik, professeur,

Membres du jury :
Madame Katia Schenkel, assistante
Madame Cristina Rivera, assistante
Monsieur Michael Richter, maître assistant

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cecilia.soria@bluewin.ch
00 41 22 321 76 69
00 41 79 243 14 57
Abstract

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Introduction

People do not choose all their activities in their daily life. But even if most of the time children and adults are strained to go to school or to work, or to do home works or house works, people make their best to get a lot of pleasure from every day’s activities. Sometimes, they get interested in concerns standing out of the way of their daily activities and they try to get involved - on top of their usual activities - in occupations that bring them the satisfaction of several needs, as for example: to be helpful, to feel funny, to be respected or esteemed, and, why not, to get some additional money. Volunteering is an excellent option to satisfy those needs (excepting the pecuniary aspect).

People choose to practice a volunteer activity for as many reasons as there are volunteers: they want to get involved in a new community or they overheard someone talking about a need or they just want to be active. Some people want to repay a perceived debt to society and others start volunteering as part of a major reassessment of their lives and priorities. Sometimes, people come looking for a better balance in their lives, for a learning experience, for something to do with their time after being laid off from work or for something that could add to their skills and their references (Ancans, 1992). Having some voluntary work experience is often necessary to follow a university course and it can provide practical experience to students during their studies. Voluntary work can function as a bridge for people who are going to go back to work after an absence. It can provide a structure to the day, it can enable individuals to refresh skills, and it can be used as a reference in the future. There are many other reasons why people choose to volunteer, be it to meet new people or to keep active or to improve their self-esteem and self-confidence.

Whatever their reasons to get involved in volunteer work, people who do share a common feature: they feel well when they volunteer. Moen and Fields, (1999) assert that retirees who volunteer or participate in community organizations enjoy significantly higher levels of psychological and physical well being than retirees or older workers who do not. Morrow- Howell, Hinterlong, Rozario and Tang (2003) found that older adults who engage in volunteering report higher levels of well-being. Just two hours of volunteering a week can have a positive effect on the overall well being of older Americans. Thus, it seems that the motivation of the volunteers is frequently a search of wellness (social and personal accomplishment) which will very probably be found: volunteer work open the door toward many positive emotions.
**Volunteer work, salaried work**

We know of many preconceived ideas about volunteering. One of them being that people who engage in such activities have extraordinary qualities or are generous beyond measure.

Such “clichés” may come from the idea that volunteering can be reduced to spontaneous and unconditional gestures toward other people, by people who are not expecting anything in return.

Chacon, Menard, Sanz and Vecina (1998) assert that there are two tendencies in the research about volunteering:

- the first tendency is represented by the study of all the situations, usually unexpected, in which a person is going to help a stranger. His or her conduct reflects a simple humanitarian preoccupation, since no previous relationship exists to justify such a behaviour. The author calls this type of help "spontaneous", and says that it is usually of short duration,

- the second tendency is represented by the study of continuous and prolonged situations where help is to be planned, and where the people involved know each other (helping our ageing parents or our sick friends for instance). Some authors refer to this type of help as being "obligatory" (Omoto & Snyder, 1995, cited by Chacon, 1985).

Chacon et al. (1998) then bring forward a third form of help that is of great social relevance but appears to be much less studied: volunteer work, where help is to be planned and exercised by trained and experienced volunteers on the long term; where also the volunteers and the people they help are strangers. In these respects, volunteering differs from salaried work by the absence of pecuniary interest only.

In the volunteer work field, Omoto and Snyder (1993, 1995, cited by Chacon, 1998) have researched the psychosocial factors that affect volunteering, and the motivations that bring people to get involved in helping strangers at often great personal cost over an indefinite period of time. To this end they used variables of personality, variables of motivation, social support, personal satisfaction and integration in the organisation as predictors of the duration of voluntary service. Omoto and Snyder observed that high motivation and low social support influence directly the duration of volunteers’ services. A person who likes to help and is well integrated in an organisation dedicated to the purpose of helping others is usually positively rewarded and will therefore keep on volunteering for a long period of time. Furthermore, volunteers gain skills volunteering, and this enables them to manage new situations, which in turn encourages them to keep on volunteering.
In the salaried work field, Calvo (2006), asserts that the workplace is an important starting point to make friends and confidants, and to receive social support, even after a long-term absence or after retirement. Retirees tend to retain the network of friends they developed when they were working, and job-related rewards seem to have a positive impact on the mental health. Furthermore, Calvo (2006) observed that performing more than 100 annual hours of work - be it volunteer or salaried work - after the retirement age has an independent beneficial effect on older adults' self rated health and survival. The conditions of work, are more influential one the physical and mental health than the sheer amount of work. Older people who work in low stress jobs during the periods they desire experience better health. The researches of Calvo (2006) demonstrate that salaried work or volunteering are a basis of positive emotions and social support (much more than a source of embarrassment). Long term involvement and a structured or hierarchically ordered activity frame are also features shared by both activities.

One type of volunteering: listening to other people

Our study bears on a type of volunteering where the people who wish to be helped are going to speak on the telephone of their difficulties in a anonymous and confidential manner. Volunteering is thus here aimed at building human relationships (relationships of help, or therapeutical relationships) which will necessarily have to fulfill some conditions.

The basic principles of the help (as offered by the group the volunteers we study) that is provided listening on the telephone are those proposed by Carl Roger's humanist approach, where three conditions must be fulfilled in order to induce a change in the caller:

- empathy,
- unconditional positive regard,
- and genuineness (or congruency, that is, being oneself rather than playing a role).

Empathy and unconditional positive regard are attitudes of the psychologist toward his client, genuineness is an attitude of the psychologist toward himself.

To this rogerian basis, Carkhuff (1967, cited by Cibanal, 1993), adds elements aiming at solving problems: the human relationships should be established in a way that brings

- the caller to act in a constructive manner,
- and the volunteer to do all he can to help the caller to find that constructive manner.

Carkhuff leans on Rogers' theory to train people coming from many horizons. The ability and dispositions to react efficiently in a crisis situation during a short help relationship, can be
taught to people who are not professional psychologists with very good results (Sprinthall, 1972, cited by Cibanal, 1993).

To be efficient, helping callers by benevolent listening should include two elements:
- a passive one: listening and understanding the suffering,
- and an active one: acting to relieve the suffering.
Those two elements have been studied and modelled in the concepts of emotional intelligence, empathy and emotional regulation.

**Emotional Intelligence**

Salovey and Mayer (1990) define the emotional intelligence as the ability to appraise and express emotions and feelings in oneself and in others, to discriminate among them and to use this information to guide one’s thinking and actions. To this definition, these authors attach a set of skills, thought to contribute to the accurate perception, appraisal and expression of emotions in oneself and in others.

- first that the emotional intelligence involves the accurate perception of emotional episodes in oneself and in others,
- second, that emotional intelligence enable individuals to use the emotion-related information to reach better decisions,
- third that emotional intelligence involves the capacity to understand emotions,
- and fourth that emotional intelligence implies an efficient emotion regulation in oneself and in others.

The perception of emotional episodes in oneself and in others occurs by reading clues expressed in the face, in the voice and in the body. Individuals differ in their ability to infer which precise emotion they detect when they notice those; they also differ in their ability to perceive with precision which are their own emotion.

Gross and Thompson (2007) propose that “an emotion can be understood as a combination of physiological activation, facial and vocal expressions and actions that individuals try to understand”. Children first learn to identify basic categories of emotions (anger, fear and happiness, etc…) by mean of facial clues and they then retrieve verbal labels in memory, which they associate with facial behaviours.
But as the affective lives and conceptual knowledge about emotions varies between different complex cultures and languages, the verbal labels differ (Averill, 1975; Wierzbicka, 2005, cited by Wranik, 2007).

The conceptual knowledge about emotions influences the manner in which the affective world is perceived. Emotional intelligence enable individuals to exploit their emotional experiences to focus on inductive and deductive reasoning and reach better decisions. Understanding what emotions are and how they work, and prognosticate their trends and their outcomes is a human capacity strongly influenced by development. We can expect that it progresses with age and experience.

We are now going to develop two aspects of the emotional intelligence:
- the ability to understand the other’s and one’s own emotions
- and the ability to regulate the other’s and one’s emotions

**Empathy**

Many authors have put forward definitions of empathy, and made distinctions between adjacent concepts, used as synonyms, but whose mechanisms differ. Duan and Hill, (1996) affirm that this lack of clarity in the definition, as well as in the mechanisms of the empathy, hampers scientific researches (the lack of clarity also explains why empathy as been researched less and less in recent years).

The focus of researches has shifted toward the therapeutical alliance where an active component (the step at which problems are solved) has been added to the rogerian “person centred therapy” in order to give the caller (the other person) an opportunity to act upon his own situation in a constructive manner. Carl Rogers (1957) affirms that empathy is one of the “necessary and sufficient conditions of therapeutic personality change”.

Empathy, sympathy and emotional contagion are concepts which have often been confused in the research in psychotherapy. Future researches of the therapeutic alliance will need to be founded on a clear definition of the empathy’s concept.

Empathy differs from sympathy in that the former means feeling something with someone whereas the latter means have a feeling for someone. When we have a feeling of empathy with someone, it means that we feel an emotion similar to the emotion that the other is feeling. When we have a feeling of sympathy for someone, then we feel some kind of positive concern for her or him. To have a feeling of empathy with someone is not
incompatible with having sympathy for this person. But empathy differs from sympathy in that it is not necessary to feel a concern for a person in order to have a feeling of empathy with her or him (Snow, 2000, cited by Podolskiy 2007). Decety (2005) affirms that we share with other animal species the ability to feel our fellow’s emotions and to react accordingly. This alone does not permit to describe the process that allows empathy to appear, empathy being defined here as the ability to put oneself in the other’s perspective to understand his or her emotions and feelings. The ability to put oneself in the other’s perspective is in itself neutral, and can be aimed at the other with positive or negative intentions. Empathy is often studied in relationship with moral feelings and altruistic behaviours.

The empathy’s concept that we will use in our future analyses considers that empathy is a psychological construct constituted by two elements in accordance with

a) Decety’s general thesis that proposes that empathy stands on two important elements:

- an altogether not very conscious, automatic, affective sharing with the other; an ability to imagine the others’ subjective world. This component appears precociously during the child’s development
- the temporary conscious regulation of one’s own subjective perspective in order to put oneself in the other’s place, without loosing one’s own identity. This component appears, with social interactions, later during the development; it involves the executive and evaluating abilities of the pre-frontal cortex, which is particularly well developed in human beings.

b) Gladstein (1983), who affirms that social and developmental psychology as well as the domains of psychotherapy and counselling identify two major types of empathy:

- affective empathy or feeling the same way as another person, and
- cognitive or role-taking empathy, that is, taking the other’s perspective in an intellectual way.

Developmental psychology has often put the accent on the affective component of empathy. On their part, the two therapeutical approaches (client-centred therapy and psychoanalytic therapy) which have highlighted empathy have focused on its cognitive aspects.

Empathy is then constituted first by an affective response to the other’s situation. This response implies probably, but not necessarily, the sharing of an emotional state. Second, empathy is a cognitive capacity to adopt the subjective point of view of the other. Those two components of empathy interact between one’s and the other’s selves; they should not be
confused. The therapist is thus participating closely to the emotional experience of the patient, in an affectively independent manner. The emotional regulation facilitates the identification and representation of one’s own and of the other’s emotions, on a self-conscious basis. If we share the other’s emotions, without keeping a clear distinction between one’s own and the other’s selves, and without emotional regulation, we become the object of an emotional contagion. This situation can produce an emotional distress and have an inhibiting effect on the empathy.

Empathy is thus an emotional ability developed from one’s inner simulation of the other’s emotional state, that is, from a coupling of the perceptions and of the production of emotions. The inner production of emotions through the mechanism which makes empathy possible is accompanied by an emotional regulation process, which is evidently a function of the emotional state of the person. Reciprocally, the emotional state of the person is a function of the emotional regulation process.

The emotional regulation includes identifying, describing, and objectifying inner feelings (Moriguchi, Decety, Ohnishi, Motonari, Mori, Nemoto, Matsuda & Komaki, 2006). Thompson (1994) includes a developmental approach in his definition of the emotional regulation, which then consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions (and especially their intensive and temporal features) in order to accomplish one’s goals.

**Emotional regulation**

Efficient emotional regulation (in oneself and/or in the others) implies that the awareness of the emotion-related events is sustained, even when the events are disagreeable. Emotional regulation also implies that the emotion-laden problems are solved constructively. These two conditions have us keep in mind the evident link between emotional regulation and emotional intelligence.

The emotional regulation of the person itself has been broadly studied. By James Gross for instance, who established two primary forms of strategies to regulate one’s own emotions. Gross’s reasoning starts with the assertion that the emotion prototype has three core features. These features relate to « emotion antecedents, emotion responses, and the links between emotion antecedents and responses » (Gross, 2007, p.4)

The three core features are the following:
- emotions arise when an individual is present in a situation that is relevant to his goals. The importance of the goals is variable: are they relevant to our survival? central to
our sense of self? Conscious or unconscious? The goals can also be shared by a social
group, or highly idiosyncratic. As the goals change meaning over time, the emotion can also
change,

- emotions are multifaceted. They involve changes in the subjective experience, in the
behaviour and in the physiology. The subjective aspect of emotion is reflected in the
language,

- emotions can be modulated. Changes in the multisystems associated with the
emotions do not seem to be obligatory. This aspect of emotion is crucial for the analysis of
emotional regulation, as regulation is possible precisely because of this feature.

Gross then proceed to establish his model of emotional regulation, which is based on the
premise that specific emotion regulation strategies can be differentiated along the timeline of
the emotional response (Gross, 1998, cited by John, 2004). This author distinguishes
between the antecedent-focused and the response-focused emotion regulation strategies.
The antecedent-focused strategies refer to things we do before the emotion response has
become fully activated and has changed the behaviours and the physiological responses.
To the contrary, the response-focused strategies refer to things we do once an emotion has
appeared.

Gross distinguishes two specific strategies that appear commonly in the everyday life and
that can be manipulated in experimental situations: cognitive reappraisal and expressive
suppression.

Cognitive reappraisal is a cognitive change that involves the construction of a situation with
an emotional impact somehow different from the original situation. This kind of strategy
influences whether or not a particular emotion response is triggered. Reappraisal requires
few cognitive resources to produce interpersonal behaviour that is appropriately focused on
the interaction partner.

Expressive suppression is a form of response modulation that inhibits the emotional
expressive behaviour. This kind of strategy influences the way the emotion response is
modulated once it has been triggered. Suppression comes late in the emotion process and
modifies the aspect of the emotion response without reducing the experience of the negative
emotion.

In his experimental manipulations, Gross found that whereas expressive suppression
decreases the behavioural expression of negative emotion - but not the subjective
experience -, cognitive reappraisal decreases both the experience and the behavioural
expression of negative emotion without any increase in the physiological activation.
Both the emotional expression and the subjective feeling of the emotion are the indicators that will permit an evaluation of the efficiency of one’s own emotional regulation. The other’s emotional regulation has not been broadly studied yet. We posit that one should be able to rely on a good representation of the other’s emotional state in order to regulate efficiently his or her emotions.

The way individuals represent their emotions determine the way they regulate them. Kang and Shaver (2004, cited by Wranik 2007) affirm that individuals presenting a higher degree of emotional complexity are more attentive to their feelings and to new experiences, and more empathic toward others. Wranik et al. (2007) affirm that a richer understanding of the emotional experience should influence the choice of the regulation strategies considered as appropriate in a particular situation. For example, strategies will not be applied in the same way if the situation requires a direct action on the relationship between two persons, or if the situation requires repairing mistakes one has done personally.

Individuals with complex emotion knowledge will generate more suitable regulation plans, when compared to those with less complex emotion knowledge. The complexity of emotion knowledge can be assessed by examining cognitive appraisal processes. Appraisals reflect the explicit knowledge an individual has about himself, the context, and emotions in general. John and Gross (2004) demonstrate that suppression (response-focused strategy) decreases positive emotion experience, impairs memory of social information and compromises social functioning, whereas reappraisal (antecedent-focused strategy) do not present these effects. In a general way, individuals using cognitive reappraisal strategies are more “intelligent” regulators that suppressors.

More specific and targeted knowledge of emotions influences positively the generation and regulation of emotion (Philippot, Baeyens, Douilliez, & Francart, 2004, cited by Wranik, 2007) and people with greater ability to discriminate between different negative emotional states report a larger variety of strategies of emotional regulation (Barret, Gross, Christensen & Benvenuto, 2001, cited by Wranik 2007). That way, a good representation of the other’s emotional state determines the choice of the regulation strategy. The chosen strategy should be appropriate to the particular situation.

The present study will try:
- to understand how a person deals with the emotion regulation of another person,
- to answer the question: how does the emotion knowledge influence the emotional regulation of the other.
Anger and anxiety management

We have seen above that the volunteers combine activities aiming at solving problems (to help the caller to act constructively) and an empathetic attitude. In our study, we focused our attention on two frequently expressed negative emotions: anger and anxiety. We analysed the strategies used by the participants to regulate the other’s anger and anxiety. Fitness (2000) demonstrated that anger is a very common emotion at the workplace. On his side, Scherer (2004) demonstrated that anger is, with happiness, the most frequent emotion in the everyday life. Anger is a powerful, perfectly normal emotion that everyone feels at one time or another. Anger experts say that anger develops more often within the family (in married life and with children) than in any other human relationship. A second common setting for anger episodes is at work, with colleagues and supervisors. And that explain why more people are injured by the violent acts of someone they live with, or work with, than by the violent acts of strangers (Duncan, 2000).

Isen (2001, cited by Bryant, 2005) has shown that positive affect has an influence on creative-problem solving, while Schwarz (2002, cited by Bryant, 2005) has shown that negative affect may support analytical problem solving.

In anger management training, the problem-solving skills enable the students to control their anger during a conflict. Most programs use a combination of techniques:

- development of the ability to understand the perspective of the other, that is to put oneself in someone else’s shoes,
- development of the ability to be aware of one’s own emotional and physical states when one is angry,
- learning to use a specific strategy (e.g., Stop! Think! What should I do?) to moderate the responses to potential conflicts (Eggert, 1994).

Anxiety refers to an emotional state very common in the context of volunteer work at telephone emergency services. When the caller is anxious, the volunteer has to be helpful and he must find a way to offer the caller a moment of kind listening, with the purpose to help the caller draw, in his or her own resources, whatever is necessary to face the worrying situation.

It is only through an appropriate use of strategies that the volunteer can altogether welcome the caller with his load of emotions and help the caller in relieving his or her anxiety by drawing in his or her own resources.
So, emotions can influence the way a person approaches a problem-solving activity. Problem-solving abilities are related to many aspects of cognition such as the ability to remember similar problems, the ability to recognize familiar problem elements and the ability to develop new solutions.

**Hypotheses**

We have seen that volunteering shares some characteristics with salaried work, such as the training of workers, the long term engagement and the fact that the workplace is a source of positive emotions and social support. Since the kind of volunteer work we have studied consists in providing help to suffering persons, the training of volunteers will necessarily have to fulfil (for one’s own as well as for the other’s emotions) two conditions: an empathetic attitude and the utilisation of efficient emotional regulation strategies.

We have also seen that the emotional intelligence enables to perceive accurately the emotional episodes in others as well as in oneself. The emotional intelligence facilitates thinking and permits to reach good decisions as well as to anticipate the outcome of an emotional episode. The strategies to regulate one’s own emotional state imply that one knows one’s feelings, that one is able to describe them, and eventually that one is able to object to them. This process is highly adaptive and the characteristics of the environment determine the strategies’ choice.

So, our first hypothesis posits that the mechanism aiming at regulating the other’s emotions is strongly dependent of the situations and emotions, as is the mechanism to regulate one’s own emotions:

**H1**: Volunteers use strategies to regulate other’s emotions depending on the context (work, home, volunteering) and on the emotions (anger, anxiety)

We argue that the regulation of the other’s emotions is an interpersonal process, where the responses to the other’s attitudes are arising retroactively. If we consider that empathy is an affective ability that enables a person to understand the other’s emotions, we can posit that the volunteers with a high empathy regulate the other’s emotions in a different way than the volunteers with a low empathy. The differences in the regulation of the other’s emotions will be analysed on the basis of the strategies’ choice. Two direct strategies used by the volunteers are the **cognitive strategy** and the **emotional management strategy**. A third strategy used by the volunteers refers to the management of the other’s emotion by mean of a postponed action (this requires talking to someone else before acting).
The mechanism which brings a person to regulate his or her own emotions has an effect on his or her interactions with the other(s). We thus posit that a twofold link exists:
- between the empathy and the choice of strategies aimed at the regulation of the emotions,
- and between the empathy and the success at regulating one’s own and the other’s emotions. We posit that:

**H$_2$:** Individuals with high empathy will use different strategies to regulate anxiety and anger than individuals with low empathy.

and

**H$_3$:** Volunteers with high empathy perceive their behaviours to regulate anger and anxiety of other people as more efficient than volunteers with low empathy.

A last word about the type of data we work with:
In this study we gave an important place to the souvenirs of emotional situations and the ways they were dealt with. Thus, we decided to study the affective life of volunteers, as well as their response to the emotions of the other people, on the basis of self-reports. In this concern, Scherer et al., (2004) affirm that “Although verbal report may not be the best method for obtaining precise data on expressive and physiological reactions, it is the only feasible approach to obtain information on real-life, everyday emotions and the reaction patterns they generate […]” (p. 505).
In self-report procedures, respondents may be unable to report their emotions for many reasons: they are not aware of how they exactly feel; they are unwilling to report their emotions because of social desirability concerns, etc…
Thus, responses collected by mean an auto questionnaire, enable us to measure a perception of emotional response rather than the emotional response itself. Had emotional response been the aim of this study, we would have chosen observation as the appropriated method.

**Method**

**The sample**
Our group of volunteers is member of The International Federation of Telephone Emergency Services (IFOTES). This Federation was founded in 1967, to bring together National Associations of Telephone Emergency Services which offer an emotional support,
immediately accessible, to any person suffering from loneliness, or in a state of psychological crisis, or contemplating suicide.

These emotional support hotlines are available 24 hours a day, and offer to those who call the benefit of a genuine human relationship, based on non-judgemental listening, and delivered by experienced trained volunteers. This support is entirely confidential and free of charge. It is available to everybody, whatever the problems, age, sex or convictions of the person who calls. (IFOTES, internet site)

An international IFOTES congress took place in 2007 in Prato, Italy, with the subject « Emotional Health». On this occasion, the Geneva Emotion Research Group organised, with the IFOTES’ support, a questionnaire that has been sent to 527 volunteers of IFOTES in twelve different countries.

**Demographic data**

Questions were asked about gender, age, number of years of volunteer work, number of volunteering hours per month, level of education, nationality, mother tongue, and family situation of the volunteers.

**Procedure and equipment**

The present study is entirely based on the 527 computerized self-report questionnaires. The participants to the research were informed of the aims of the research and they had filled out a consent form. The volunteers had answered the questionnaires in three computerized sessions, at two weeks intervals.

In the first session, demographic data were collected as well as the empathy scores. During the second session the participants were asked to answer questions about the affective life either in their WORK context or in their FAMILY context (each volunteer had had to choose one background: WORK or FAMILY). In the end, 230 volunteers had answered the questions regarding their affective life in FAMILY context, and 182 volunteers had answered the questions regarding their affective life in WORK context.

In the third session the volunteers were asked to answer questions about their affective life in the IFOTES context. The questionnaires (in computerized form) were accessible on a protected Internet site. The login code was sent by email to the volunteers. Thus, all the participants had to use a computer to fill out the questionnaires.
**Variables**

**Empathy score**

The Basic Empathy Scale (Jollife, 2005) was used. This scale, with its 20 items, gives the possibility to get cognitive and affective sub-scores. Volunteers were asked how they understood the emotion of the caller in the following formulation: “*to what extent did you feel you could understand the emotion of your caller?*” Possible answers were: 1= not at all, 2= slightly, 3= somewhat, 4= quite a bit, 5 = absolutely. Volunteers were also asked how they felt the emotion of the caller in the following formulation: “*to what extent did you feel the same emotion of your caller?*” Possible answers were: 1= not at all, 2= slightly, 3= somewhat, 4= quite a bit, 5 = absolutely.

**Emotions’ frequency:**

The emotions studied were: anger (at circumstances, at organisation, at other, at oneself), anxiety, shame, disgust, guilt, hostility, sadness, being appreciated, happiness, pride, being respected and satisfaction. In order to assess the frequency of these fifteen emotions, the volunteers were asked the question: “*Think about the last two months. Please indicate the frequency with which you generally experience the following emotions in your FAMILY / WORK / IFOTES environment*."

To do the frequency analyses, we used the answers that the volunteers gave to the question: “*Think about the last two months. Please indicate the frequency with which you generally experience the following emotions in your FAMILY / WORK / IFOTES environment*."

Possible answers were:

1= rarely or never
2= about once a month
3= several times a month
4= about once a week
5= several times a week
6= about once a day
7= several times a day

To analyse those frequencies, we consider the answers to the questions as continuous, not categorical variables, and consequently we calculate means in order to realize comparative analyses among the different contexts.

New variables were created to compare overall anger (mean of anger at circumstances, anger at organisation, anger at other and anger at yourself), overall positive emotions (mean
of being appreciated, happiness, pride, being respected and satisfaction) and overall negative emotions (mean of all kind of anger as well as anxiety, shame, disgust, guilt, hostility and sadness).

**Difficulty / facility in dealing with the other’s emotions:**

In order to know which emotions are considered difficult or easy to deal with, the volunteers were asked the questions:

“What three emotions do you generally find most difficult to regulate/manage in the context of your FAMILY / WORK / IFOTES environment? Please rank them in order of importance”,

and,

“What three emotions do you generally find most easy to regulate/manage in the context of your working (or IFOTES, or family) environment? Please rank them in order of importance”.

So, volunteers were asked about which three emotions were the most difficult to deal with in the FAMILY context, the WORK context and the IFOTES context. In order to be certain that the volunteers take into account truly three emotions that are difficult to deal with, we have asked the participants to rank them in order of importance. Thanks to new variables (overall_context_most_difficult_emotion), which are able to take the same value that is: 1, regardless of the hierarchy in which it is ordered, comparisons can be established relatively to the number of times an emotion has been mentioned.

In the same way, volunteers were asked about which three emotions were the most easy to deal with in the FAMILY context, the WORK context and the IFOTES context. In order to be certain that the volunteers take into account truly three emotions that are easy to deal with, we have asked the participants to rank them in order of importance. Thanks to new variables (overall_context_more_easy_emotion), which are able to take the same value, that is: 1, regardless of the hierarchy in which it is ordered, comparisons can be established relatively to the number of times an emotion has been mentioned.

**Strategies used when confronted with anger and anxiety.**

Volunteers were asked about the strategies they used to appease the other’s emotion, and especially anger and anxiety.

*The first question* was: “Did you talk to the person\(^1\) about the reasons for his or her anger (or anxiety)”? Possible answers were: 1= no, I did not talk to him or her, 2= yes, I talked to the

\(^1\) “The person” may be a parent or friend in FAMILY context, a colleague, collaborator, client, boss or subordinate in WORK context, or the caller in IFOTES context.
person who was angry (or anxious) right away, 3= yes, I talked to the person who was angry (or anxious) shortly after the emotional event, 4= yes, I talked to the person who was angry (or anxious) several hours after the angering (or anxiety producing) event, and 5= yes, I talked to the person who was angry (or anxious) one or more days after the emotional event. The second question was: “Did you talk to anyone else about the angering (or anxiety producing) event or about the person who was angry (or anxious)”? Possible answers were: 1= no, I did not talk to anyone else, 2= yes, I talked to someone else right after the event, 3= yes, I talked to someone shortly after the event, 4= yes, I talked to someone else several hours after the event, and 5= I talked to someone else one or more days after the event. The third question was: “Did you do anything to appease (or diminish or disappear) the person’s anger (or anxiety)”? Possible answers were: 1= yes, 2= no.

The answers to these questions enable us to define three strategies used by the volunteers to appease the other’s emotion, namely he or she:
Strategy 1: talks to the person about the reasons for his or her anger (or anxiety): here, the volunteer and the person talk directly together about the reasons of his or her anger or anxiety.
Strategy 2: talks to someone else about the situation of anger (or anxiety): here, the volunteer talks with a third person, uninvolved in the situation about the anger or anxiety of the person.
Strategy 3: does something to appease (or diminish or have disappeared) the person’s anger (or anxiety): here, the volunteer proposes a possible action to the person in order to diminish or eventually suppress the emotion.

To compare FAMILY-IFOTES contexts and WORK-IFOTES contexts, responses to the questions about the use of three different strategies were recoded in the following manner:
Strategy 1 talk to the person and strategy 2 talk to someone else: the values 2 (talk to the person or to someone else right away or after the situation), 3 (talk to the person or to someone else shortly after the situation), 4 (talk to the person or to someone else several hours after the situation) and 5 (talk to the person or to someone else one or more days after the situation) were recoded into a new value, “2” which indicates that the strategy was used regardless of the moment when the talking took place. So the new values for strategies 1 and 2 are 1= “no” and 2= “yes”.

__________________________
Similarly, we recoded the variable of strategy 3 *do something to appease the other's emotion*, to give this variable the direction of the variables 1 and 2. Thus, strategy 3 was recoded into a new, inversed, variable with the values 1= no and 2= yes (originally we had 1 = yes and 2 = no)

**Indicators of success**

Volunteers were asked about their perception of their success in dealing with anger and anxiety by mean of the three strategies studied above in the following formulations:

a) “How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?”

Possible responses were: 1 = "not at all effective", 2 = “a little bit effective”, 3 = "somewhat effective", 4 = “quite effective”, 5 = “very effective” and 6 = “extremely effective”).

b) “Do you think that the overall situation or event was successfully resolved?”

Possible responses were: 1 = "not at all", 2 = "a little bit", 3 = "somewhat", 4 = “very” and 5 = “extremely”.

c) “If you could do it again you would…”

Possible responses were: 1 = “do everything in exactly the same way”, 2 = “do everything in a very similar way”, 3 = “change some minor reactions and behaviours”, 4 = “change several reactions and behaviours”, 5 = “change many reactions and behaviours” and 6 = “completely change the reactions and behaviours”.

We recoded the answers to this third question because the direction of the scale is reversed when put in relation with the two others. Thus, new values are 1= “completely change the reactions and behaviours”, 2 = “change many reactions and behaviours”, 3= “change several reactions and behaviours”, 4= “change some minor reactions and behaviours”, 5= “do everything in a very similar way”, 6= “do everything in exactly the same way”.

The answers to these questions enable us to define three success’ indicators: a, b and c. We then compute a new variable: mean of success indicators (mean of indicator a, indicator b and indicator c). The values of this new variable vary from 1 to 5.7
**Results (1)**

**Demographic data:**

We had 527 persons who took part in this study and participated in the questionnaires sessions: 357 were women and 125 men, so that the missing data is 45.

The level of education was: university 40.4%, professional trade school 20.3%, high school 12.7%, professional training of apprenticeship 10.2%, university PhD 4.4% and basic schooling 2.8%. Differences between women and men are displayed on figure 1, in the annex.

The services of twelve principal nationalities were represented: Germany, Austria, Switzerland, Belgium, France, Canada United Kingdom, New Zealand, Australia, Hong Kong, India and Sweden. The questionnaires were filled out 242 times in German (46%), 183 times in French (35%) and 58 times in English (11%).

Among the participants, 324 are parents of children, and 203 are childless. The mean number of children is 3 and the mode is 5. The age of the participants' children ranges from 1 to 54 years.

The mean of age, number of years and number of hours per month of volunteering are displayed in the table 1:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Demographic date of the participants</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>N= 527</th>
<th>M</th>
<th>SD</th>
<th>maximum</th>
<th>minimum</th>
<th>mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>♂= 125</td>
<td>53</td>
<td>12.2</td>
<td>86</td>
<td>21</td>
<td>63</td>
</tr>
<tr>
<td>♂= 357</td>
<td>52</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of years of volunteering</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of volunteering hours per month</td>
<td>19.4</td>
</tr>
</tbody>
</table>

The graph of distribution of volunteering number of years and the graph of distribution of volunteering number of hours per month are displayed on figure 2 and 3, in the annex.
**Exploratory analyses**

In the present study we will explore the affective life of the volunteers in three different contexts: family life, salaried work and volunteering. In order to establish comparisons between these contexts, we have chosen a group of volunteers who exercise their activity in the long term, as do people who are engaged in their family life or salaried work.

The contexts we will examine are the following:

- the context of the private life of the volunteers, that is, the context of their family’s and friends’ circles. This context will be named FAMILY context.
- the context of the salaried work, that is, the context of the professional activities of the volunteers. This context will be named WORK context.
- the context of the volunteer activity, that is, the context where the participants to this study develop an activity in the framework of the International Federation of Telephone Emergency Services. This context will be named IFOTES context.

We have seen above that the volunteers of the International Federation of Telephone Emergency Services are usually engaged for long periods. We posit that this feature probably renders the affective context of volunteering similar to the affective context of salaried work. In the same way we can suppose that the affective life in the context of volunteer work is probably similar to the affective life in the private life context because the relationships are good and warm in the family as well as in the volunteering context.

We have also seen that despite the fact that anger is a very frequent emotion at the workplace, working is also a source of sheer well-being. The researches that have studied the emotions’ frequencies in the everyday life have not made proper distinctions between different contexts.

Before proceeding to the analyses to test our hypotheses, we are going to compare the affective life in the three different contexts to understand the similarities and the differences among them. We then will consider the differences or the similarities in two main concerns:

- the occurrence of emotions
- the frequency of apparition of the emotions considered as difficult or easy to deal with.

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2 The results of exploratory analyses are shown in pages 24 to 44. The results of analyses to test our hypotheses are shown from page 45.
1. Emotions’ frequencies

In order to investigate if the frequency of the experienced emotions is similar in the three contexts FAMILY, WORK and IFOTES we computed comparisons between the contexts of the private life and volunteer work and comparisons between the contexts of salaried and volunteer work. The results are:

1.1 FAMILY-IFOTES comparisons

A Repeated measures ANOVA test was used to compare the emotions frequency means in the IFOTES and FAMILY contexts.

The results exhibit:
- a main effect of context: $F(1, 229) = 324.10, p < .001$: that means that emotions’ frequency is different across FAMILY and IFOTES contexts
- a main effect of emotion $F(14, 3206) = 278.01, p < .001$: that means that frequency is different across the emotions
- a significant context* emotion interaction: $F(14, 3206) = 57.32, p < .001$: that means that emotions’ frequency vary according to context.

Patterns of emotions’ frequency in FAMILY-IFOTES comparison is shown in figure 1:

![Figure 1: Patterns of emotions’ frequency in FAMILY context and in IFOTES context.](image-url)
The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 2:

<table>
<thead>
<tr>
<th>Anger at circumstances</th>
<th>Family ($M = 2.69$, $SD = .08$) &gt; IFOTES ($M = 1.90$, $SD = .09$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger at organization</td>
<td>Family ($M = 2.74$, $SD = .09$) &gt; IFOTES ($M = 1.49$, $SD = .08$)</td>
</tr>
<tr>
<td>Anger at other</td>
<td>Family ($M = 2.75$, $SD = .091$) &gt; IFOTES ($M = 1.62$, $SD = .08$)</td>
</tr>
<tr>
<td>Anger at oneself</td>
<td>Family ($M = 3.13$, $SD = .10$) &gt; IFOTES ($M = 1.54$, $SD = .07$)</td>
</tr>
<tr>
<td>Anger at oneself</td>
<td>Family ($M = 3.13$, $SD = .10$) &gt; IFOTES ($M = 1.54$, $SD = .07$)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Family ($M = 3.79$, $SD = .10$) &gt; IFOTES ($M = 2.20$, $SD = .09$)</td>
</tr>
<tr>
<td>Shame</td>
<td>Family ($M = 1.73$, $SD = .07$) &gt; IFOTES ($M = 1.15$, $SD = .05$)</td>
</tr>
<tr>
<td>Disgust</td>
<td>Family ($M = 1.58$, $SD = .06$) &gt; IFOTES ($M = 1.32$, $SD = .07$) NS</td>
</tr>
<tr>
<td>Guilt</td>
<td>Family ($M = 2.33$, $SD = .09$) &gt; IFOTES ($M = 1.16$, $SD = .05$)</td>
</tr>
<tr>
<td>Hostility</td>
<td>Family ($M = 1.66$, $SD = .06$) &gt; IFOTES ($M = 1.27$, $SD = .06$)</td>
</tr>
<tr>
<td>Sadness</td>
<td>Family ($M = 3.03$, $SD = .09$) &gt; IFOTES ($M = 2.16$, $SD = .09$)</td>
</tr>
<tr>
<td>Being appreciated</td>
<td>Family ($M = 4.70$, $SD = .09$) &gt; IFOTES ($M = 3.03$, $SD = .11$)</td>
</tr>
<tr>
<td>Happiness</td>
<td>Family ($M = 5.13$, $SD = .10$) &gt; IFOTES ($M = 2.55$, $SD = .11$)</td>
</tr>
<tr>
<td>Pride</td>
<td>Family ($M = 3.51$, $SD = .10$) &gt; IFOTES ($M = 2.03$, $SD = .10$)</td>
</tr>
<tr>
<td>Being respected</td>
<td>Family ($M = 4.56$, $SD = .09$) &gt; IFOTES ($M = 2.87$, $SD = .11$)</td>
</tr>
<tr>
<td>Being satisfied</td>
<td>Family ($M = 5.52$, $SD = .09$) &gt; IFOTES ($M = 2.98$, $SD = .11$)</td>
</tr>
</tbody>
</table>

The post-hoc comparisons exhibit significant results for all the emotions except for disgust.

### 1.1.1 Anger frequency, positive emotions' frequency and negative emotions' frequency in FAMILY-IFOTES contexts comparisons

A Repeated measures ANOVA test was used to compare positive emotions frequency and negative emotions frequency means in the IFOTES and FAMILY contexts.

The results exhibit:

- a main effect of context: $F (1, 229) = 360.43$, $p < .001$: that means that emotions’ frequency is different in FAMILY and IFOTES contexts
- a main effect of valence: $F (1, 229) = 525.09$, $p < .001$: that means that positive emotions frequency is different from the negative emotions frequency
- a significant context*valence interaction: $F (1, 229) = 107.89$, $p < .001$: that means that positive emotions frequency and negative emotions frequency vary according to the contexts. This significant interaction is shown in figure 2:
Post-hoc comparisons

In FAMILY context, positive emotions frequency \((M 4.68, SD .07)\) is greater than negative emotions frequency \((M 2.54, SD .06)\)

In IFOTES context, positive emotions frequency \((M 2.70, SD .10)\) is greater than negative emotions frequency \((M 1.60, SD .06)\)

Positive emotions frequency \((M 4.68, SD .07)\) in FAMILY context is greater than positive emotions frequency \((M 2.70, SD .10)\) in IFOTES context

Negative emotions frequency \((M 2.54, SD .06)\) in FAMILY context is greater than negative emotions frequency \((M 1.60, SD .06)\) in IFOTES context

Taken together, the four modalities of anger are more frequent in FAMILY context \((M 2.83, SD .07)\) than in IFOTES context \((M 1.64, SD .06)\)

1.1.2 Anxiety- Anger in FAMILY and IFOTES contexts comparisons

A Repeated measures ANOVA test was used to compare anxiety frequency and anger frequency in FAMILY and IFOTES contexts.

The results exhibit:

- a main effect of emotion: \(F (1, 229) = 137.37, p < .001\): that means that anxiety frequency is different than anger frequency
- a main effect of context \(F (1, 229) = 215.14, p < .001\): that means that emotions’ frequency is different in FAMILY and IFOTES contexts.
- a significant emotion*context interaction: \(F (1, 229) = 13.30, p < .001\), that means that anxiety and anger frequencies vary according the context. This significant interaction is shown in figure 3:
Post-hoc comparisons

In FAMILY context, anxiety frequency ($M = 3.79, SD = .10$) is greater than anger frequency ($M = 2.83, SD = .07$)

In IFOTES context, anxiety frequency ($M = 2.20, SD = .09$) is greater than anger frequency ($M = 1.64, SD = .06$)

Anxiety frequency in FAMILY context ($M = 3.79, SD = .10$) is greater than anxiety frequency in IFOTES context ($M = 2.20, SD = .09$)

Anger frequency in FAMILY context ($M = 2.83, SD = .07$) is greater than anger frequency in IFOTES context ($M = 1.64, SD = .06$)

1.2 WORK-IFOTES comparisons

A Repeated measures ANOVA test was used to compare the emotions frequency means in IFOTES and WORK contexts.

The results exhibit:
- a main effect of context: $F (1, 182) = 198.19, p < .001$: that means that emotions’ frequency is different in WORK and IFOTES contexts
- a main effect of emotion $F (14, 2548) = 223.94, p < .001$: that means that frequency is different across the emotions
- a significant interaction context*emotion: $F (14, 2548) = 43.79, p < .001$: that means that emotions’ frequency vary according to context.

Patterns of comparison of emotions’ frequency in WORK context and in IFOTES context is shown in figure 4:
Fig 4: Patterns of emotions’ frequency in WORK context and in IFOTES context.

The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 3:

Table 3
Post-hoc tests of the emotions’ frequency in WORK and IFOTES contexts.

<table>
<thead>
<tr>
<th>Emotion</th>
<th>WORK (M, SD)</th>
<th>IFOTES (M, SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger at circumstances</td>
<td>WORK (2.87, .11)</td>
<td>IFOTES (1.81, .09)</td>
</tr>
<tr>
<td>Anger at organization</td>
<td>WORK (3.37, .14)</td>
<td>IFOTES (1.39, .08)</td>
</tr>
<tr>
<td>Anger at other</td>
<td>WORK (2.91, .11)</td>
<td>IFOTES (1.61, .09)</td>
</tr>
<tr>
<td>Anger at oneself</td>
<td>WORK (2.52, .11)</td>
<td>IFOTES (1.52, .08)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>WORK (2.97, .13)</td>
<td>IFOTES (2.05, .10)</td>
</tr>
<tr>
<td>Shame</td>
<td>WORK (1.30, .06)</td>
<td>IFOTES (1.19, .07) NS</td>
</tr>
<tr>
<td>Disgust</td>
<td>WORK (1.42, .07)</td>
<td>IFOTES (1.22, .07) NS</td>
</tr>
<tr>
<td>Guilt</td>
<td>WORK (1.79, .09)</td>
<td>IFOTES (1.05, .05)</td>
</tr>
<tr>
<td>Hostility</td>
<td>WORK (1.52, .07)</td>
<td>IFOTES (1.18, .06) NS</td>
</tr>
<tr>
<td>Sadness</td>
<td>WORK (2.17, .09)</td>
<td>IFOTES (2.03, .10) NS</td>
</tr>
<tr>
<td>Being appreciated</td>
<td>WORK (4.78, .12)</td>
<td>IFOTES (3.20, .14)</td>
</tr>
<tr>
<td>Happiness</td>
<td>WORK (4.62, .14)</td>
<td>IFOTES (2.73, .13)</td>
</tr>
<tr>
<td>Pride</td>
<td>WORK (4.04, .13)</td>
<td>IFOTES (2.46, .13)</td>
</tr>
<tr>
<td>Being respected</td>
<td>WORK (4.68, .13)</td>
<td>IFOTES (3.15, .14)</td>
</tr>
<tr>
<td>Being satisfied</td>
<td>WORK (5.39, .12)</td>
<td>IFOTES (3.17, .14)</td>
</tr>
</tbody>
</table>
The post-hoc comparisons exhibit significant results for all emotions except for shame, for disgust, for hostility and for sadness.

### 1.2.1 Anger frequency, positive emotions' frequency and negative emotions' frequency in WORK-IFOTES contexts comparisons

A repeated measures ANOVA test was used to compare the positive emotions frequency and negative emotions frequency means in IFOTES and WORK contexts. The results exhibit:

- a main effect of context: $F(1, 182) = 217.02, p < .001$: that means that emotions’ frequency is different in WORK and IFOTES contexts
- a main effect of valence: $F(1, 182) = 414.37, p < .001$: that means that positive emotions’ frequency is different from negative emotions’ frequency
- a significant interaction context*valence: $F(1, 182) = 63.36, p < .001$: that means that positive emotions frequency and negative emotions frequency vary according to the contexts. This significant interaction is shown in figure 5:

![Interaction graph of positive and negatives emotions’ frequencies with FAMILY and IFOTES contexts.](image)

**Fig 5:** Interaction graph of positive and negatives emotions’ frequencies with FAMILY and IFOTES contexts.

### Post-hoc comparisons

In WORK context, positive emotions frequency ($M = 4.70, SD = 0.10$) is greater than negative emotions frequency ($M = 2.29, SD = 0.06$)

In IFOTES context, positive emotions frequency ($M = 2.95, SD = 0.13$) is greater than negative emotions frequency ($M = 1.51, SD = 0.06$)

Positive emotions frequency in WORK context ($M = 4.70, SD = 0.10$) is greater than positive emotions frequency in IFOTES context ($M = 2.95, SD = 0.13$)
Negative emotions frequency in WORK context ($M_{2.29}, SD_{.06}$) is greater than negative emotions frequency in IFOTES context ($M_{1.51}, SD_{.06}$)

Taken together, the four modalities of anger (at circumstances, at organisation, at other, at yourself) are more frequent in WORK context ($M_{2.92}, SD_{.09}$) than in IFOTES context ($M_{1.59}, SD_{.07}$)

### 1.2.2 Anxiety- Anger in WORK and IFOTES contexts comparisons

A Repeated measures ANOVA test was used to compare anxiety and anger frequencies in WORK and IFOTES contexts.

The results exhibit:

- a main effect of emotion: $F (1, 182) = 10.13, p < .01$: that means that anxiety frequency is different than anger frequency
- a main effect of context $F (1, 182) =109.01, p < .001$: that means that emotions’ frequency is different in WORK and IFOTES contexts
- a significant emotion*context interaction: $F (1, 182) = 8.64, p < .01$: that means that anxiety and anger frequencies vary according the context. This significant interaction is shown in figure 6:

![Interaction graph of anxiety and anger frequencies with WORK and IFOTES contexts.](image)

Fig 6: Interaction graph of anxiety and anger frequencies with WORK and IFOTES contexts.

**Post-hoc comparisons**

In WORK context, anxiety frequency ($M_{2.97}, SD_{.13}$) is similar to anger frequency ($M_{2.92}, SD_{.09}$)

In IFOTES context, anxiety frequency ($M_{2.04}, SD_{.10}$) is greater than anger frequency ($M_{1.56}; SD_{.07}$)
Anxiety frequency in WORK context (M 2.97, SD .13) is greater than anxiety frequency in IFOTES context (M 2.04, SD .10)
Anger frequency in WORK context (M 2.92, SD .09) is greater than anger frequency in IFOTES context (M 1.56, SD .07)

To summarize:
- Globally, emotions’ frequency is lower in IFOTES context than in both FAMILY and WORK contexts.
- The frequency of all emotions, except disgust, is significantly different in FAMILY-IFOTES contexts comparisons. The frequency of all emotions, except disgust, shame, hostility and sadness, is significantly different in WORK-IFOTES contexts comparisons.
- Positive emotions are more frequent than negative emotions in the three contexts.
- Positive emotions, negative emotions and the four modalities of anger are more frequent in FAMILY context than in IFOTES context.
- Positive emotions, negative emotions and the four modalities of anger are more frequent in WORK context than in IFOTES context.
- Anxiety is more frequent than anger in both FAMILY and IFOTES contexts. In WORK context, anxiety and anger exhibit similar frequency.
- Anxiety and Anger are more frequent in FAMILY and in WORK contexts than in IFOTES context.

In order to investigate if the difference in emotions’ frequencies among FAMILY, WORK and IFOTES contexts is dependent of the number of volunteering hours per month \([M 19.4, SD 14; \text{min. } = 0; \text{max. } = 200])\], we computed a correlation between emotions’ frequencies and the number of hours of volunteering.

Pearson’s correlations among the emotions’ frequencies and the quantity of hours of volunteering at telephone services per month are significant for two positive emotions only: satisfaction \((r = .105, p < .05)\) and being appreciated \((r = .158, p < .01)\).

When we compute separately these correlations in FAMILY context group (volunteers who answered questions about their private life) and in WORK context group (volunteers who answered questions about their life at work), we find that satisfaction \((r = .158, p < .05)\) and being appreciated \((r = .229, p < .01)\), are significantly correlated with the number of volunteering hours for FAMILY group. Whereas for the WORK context group, the only significant correlation appears between hostility and the number of volunteering hours \((r = .238, p < .01)\).
All these statistical tests support the existence of differences in the frequency of emotions’ experience in the IFOTES, FAMILY and WORK contexts. But they also support that similarities exist between the three contexts. And patterns of emotions’ frequency are quite similar, as shown in figure 7:

Fig 7: Pattern of emotions’ frequency in FAMILY, WORK and IFOTES contexts.

‡ The three contexts, FAMILY, WORK and IFOTES exhibit patterns of emotion frequencies quite similar.
2. Emotions most difficult to deal with

2.1 Emotions most difficult to deal with: FAMILY-IFOTES comparisons

A Repeated measures ANOVA test was used to compare the frequency means of the emotions that were considered as difficult to deal with in FAMILY and IFOTES contexts. The results exhibit:

- a not significant main effect of context: that means that the frequency of emotions most difficult to deal with is similar in both contexts
- a main effect of emotion: $F(14, 3206) = 36.60, p < .001$: that means that frequencies are different for every emotion
- a significant context*emotion interaction: $F(14, 3206) = 5.83, p < .001$: that means that frequency of emotions considered as most difficult to deal with, vary according the context.

Patterns of frequency of emotions most difficult to deal with in comparison FAMILY-IFOTES is shown in figure 8:

![Fig. 8: Patterns of frequency of the emotions most difficult to deal with, in the FAMILY context and in IFOTES context.](image)

The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 4:
Table 4
Post-hoc tests of frequency of the "emotions most difficult to deal with" in FAMILY and IFOTES contexts

<table>
<thead>
<tr>
<th>Emotion</th>
<th>FAMILY (M, SD)</th>
<th>IFOTES (M, SD)</th>
<th>NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger at circumstances</td>
<td>Family (M .24, SD .03) &lt; IFOTES (M .26, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Anger at organization</td>
<td>Family (M .25, SD .03) &gt; IFOTES (M .18, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Anger at other</td>
<td>Family (M .36, SD .03) &gt; IFOTES (M .26, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Anger at yourself</td>
<td>Family (M .30, SD .03) &gt; IFOTES (M .27, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>Family (M .40, SD .03) &gt; IFOTES (M .33, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>Family (M .05, SD .01) &lt; IFOTES (M .07, SD .02)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Disgust</td>
<td>Family (M .09, SD .02) &lt; IFOTES (M .24, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>Family (M .28, SD .03) &gt; IFOTES (M .15, SD .02)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td>Family (M .12, SD .02) &lt; IFOTES (M .26, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>Family (M .27, SD .03) &lt; IFOTES (M .28, SD .03)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Being appreciated</td>
<td>Family (M .04, SD .01) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Happiness</td>
<td>Family (M .10, SD .02) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>Family (M .08, SD .02) &gt; IFOTES (M .06, SD .02)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Being respected</td>
<td>Family (M .05, SD .01) &gt; IFOTES (M .02, SD .01)</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Being satisfied</td>
<td>Family (M .07, SD .02) &lt; IFOTES (M .08, SD .02)</td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

Post-hoc comparisons exhibit significant differences for disgust, guilt and hostility. In IFOTES context, disgust and hostility are considered more frequently as emotions difficult to deal with than in FAMILY context. Contrarily, guilt is considered as most difficult to deal with in FAMILY context compared to IFOTES context.

2.1.1 Emotions most difficult to deal with: anger frequency, positive emotions' frequency and negative emotions' frequency in FAMILY-IFOTES contexts comparisons

In the same way that for emotions frequency, new variables were created to compare overall anger (mean of anger at circumstances, anger at organisation, anger at other and anger at yourself), overall positive emotions (mean of being appreciated, happiness, pride, being respected and satisfaction) and overall negative emotions (mean of all kind of anger as well as anxiety, shame, disgust, guilt, hostility and sadness).

A repeated measures ANOVA was used to compare the frequency with which positive emotions and negative emotions were considered as difficult to deal with in IFOTES and FAMILY contexts.
The results exhibit:
- a main effect of context: \( F(1, 229) = 5.05, p < .05 \): that means that frequency of emotions most difficult to deal with is different across FAMILY (\( M = .15, SD = .005 \)) and IFOTES (\( M = .14, SD = .006 \)) contexts
- a main effect de valence \( F(1, 229) = 329.72, p < .001 \): that means that frequency with which positive emotions are considered as most difficult to deal with (\( M = .06, SD = .009 \)) is different than frequency with which negative emotions are considered as most difficult to deal with (\( M = .23, SD = .007 \))
- a non significant context*valence interaction: that means that frequency with which emotions are considered as most difficult to deal with, do not vary according to the context.

Taken together, the four modalities of anger are more frequently considered as emotions difficult to deal with in FAMILY context (\( M = .29, SD = .02 \)) than in IFOTES context (\( M = .24, SD = .02 \)) \( F(1, 229) = 3.96, p = .05 \).

2.2 Emotions most difficult to deal with: WORK-IFOTES\(^3\) comparisons

A Repeated measures ANOVA test was used to compare the frequency means which with emotions are mentioned as difficult to deal with, in WORK and IFOTES contexts.

The results exhibit:
- a main effect of context: \( F(1, 182) = 17.04, p < .001 \): that means that frequency of emotions most difficult to deal with is different across WORK and IFOTES context
- a main effect of emotion: \( F(13, 2366) = 44.14, p < .001 \): that means that frequency with which emotions were considered as most difficult to deal with were different across the emotions
- a significant interaction context*emotion: \( F(13, 2366) = 15.82, p < .001 \): that means that frequency of emotions considered as most difficult to deal with vary according the context.

Patterns of frequency of emotions most difficult to deal with in WORK-IFOTES comparison is shown in figure 9:

\(^3\) In this comparison, happiness has been eliminated because its variance is zero.
Fig. 9: Patterns of frequency of the emotions most difficult to deal with, in WORK and in IFOTES contexts.

The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 5:

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Work (M, SD)</th>
<th>IFOTES (M, SD)</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger at circumstances</td>
<td>WORK (M .42, SD .04) &gt; IFOTES (M .24, SD .03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger at organization</td>
<td>WORK (M .54, SD .04) &gt; IFOTES (M .16, SD .03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger at other</td>
<td>WORK (M .52, SD .04) &gt; IFOTES (M .30, SD .03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger at yourself</td>
<td>WORK (M .30, SD .03) &lt; (M .36, SD .04) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>WORK (M .21, SD .03) &gt; IFOTES (M .20, SD .03) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shame</td>
<td>WORK (M .07, SD .02) &lt; IFOTES (M .11, SD .02) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disgust</td>
<td>WORK (M .14, SD .03) &lt; IFOTES (M .33, SD .04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>WORK (M .10 , SD .02) &lt; IFOTES (M .12, SD .02) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td>WORK (M .20, SD .03) &lt; IFOTES (M .33, SD .03) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>WORK (M .17, SD .03) =IFOTES (M .17, SD .03) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being appreciated</td>
<td>WORK (M .03, SD .01) &gt; IFOTES (M .01, SD .01) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>WORK (M .05, SD .02) &gt; IFOTES (M .02, SD .01) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being respected</td>
<td>WORK (M .04, SD .02) &gt; IFOTES (M .01, SD .01) NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Being satisfied</td>
<td>WORK (M .02, SD .01 &lt; IFOTES (M .03, SD .01) NS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Post-hoc comparisons exhibit significant differences for three modalities of anger (anger at circumstances, anger at organisation and anger at other), and for disgust. Anger at circumstances, anger at organisation and anger at other are more frequently considered as an emotion difficult to deal with in WORK context than in IFOTES context. Contrarily, disgust is more frequently considered as an emotion difficult to deal with in IFOTES context compared to WORK context.

### 2.2.1 Emotions most difficult to deal with: anger frequency, positive emotions’ frequency and negative emotions’ frequency in WORK-IFOTES contexts comparisons

In the same way that for emotions frequency, new variables were created to compare overall anger (mean of anger at circumstances, anger at organisation, anger at other and anger at yourself), overall positive emotions (mean of being appreciated, pride, being respected and satisfaction) and overall negative emotions (mean of all modalities of anger as well as anxiety, shame, disgust, guilt, hostility and sadness).

A Repeated measures ANOVA test was used to compare the frequency with which positive emotions and negative emotions are considered as difficult to deal with in IFOTES and WORK contexts.

The results exhibit:

- a main effect of context: $F (1, 182) = 22.74, p < .001$: that means that frequency of emotions most difficult to deal with is different across WORK context ($M .15, SD .005$) and IFOTES context ($M .12, SD .007$)

- a main effect of valence $F (1, 182) = 687.29, p < .001$: that means that frequency with which positive emotions are considered as most difficult to deal with ($M .025, SD .007$) is different to the frequency with which negative emotions are considered as most difficult to deal with ($M .25, SD .008$)

- a non significant context*valence interaction: that means that the frequency with which emotions are considered as most difficult to deal with do not vary according to the context.

Taken together, the four modalities of anger are more frequently considered as most difficult to deal with in WORK context ($M .44, SD .02$) than in IFOTES context ($M .26, SD .02$) $F (1, 182) =53.59, p < .001$.

### Emotions most difficult to deal with, summary:

- The frequency of emotions considered as most difficult to deal with vary according to the FAMILY, WORK or IFOTES contexts.
- In FAMILY-IFOTES contexts comparisons, significant differences appear among three emotions frequencies: disgust, guilt and hostility. Whereas disgust and hostility are considered more frequently as most difficult to deal with in IFOTES context, guilt is more frequently mentioned as an emotion difficult to deal with in FAMILY context.

- In WORK-IFOTES contexts comparisons, significant differences are found for three modalities of anger (at circumstances, at organisation, at other) and for disgust. Whereas anger at circumstances, anger at organisation and anger at other are considered more frequently as most difficult to deal with in WORK context, disgust is more frequently mentioned as an emotion difficult to deal with in IFOTES context.

- So, disgust is considered more frequently as most difficult to deal with, in IFOTES context compared to FAMILY and WORK contexts.

- Taken together, the four modalities of anger are more frequently considered as most difficult to deal with, in FAMILY and WORK contexts, than in IFOTES context. Quite logically, negative emotions are mentioned in the three contexts more frequently as most difficult to deal with, than positive emotions.

Patterns of frequencies of the emotions considered as most difficult to deal with in the three contexts, is shown in figure 10:

![Figure 10: Patterns of frequency of the emotions most difficult to deal with, in FAMILY, WORK and IFOTES contexts.](image-url)
3. Emotions more easy to deal with

3.1 Emotions more easy to deal with: FAMILY-IFOTES comparisons

A Repeated measures ANOVA test was used to compare the frequency means of the emotions that were considered as easy to deal with in FAMILY and IFOTES contexts. The results exhibit:

- a significant main effect of context: $F (1, 229) = 4.20, p < .05$: that means that the frequency of emotions more easy to deal is different across FAMILY and IFOTES contexts
- a main effect of emotion: $F (14, 3206) = 113.56, p < .001$: that means that frequencies are different across the emotions
- a significant context*emotion interaction: $F (14, 3206) = 3.10, p < .001$: that means that frequency of emotions considered as more easy to deal with vary according the context.

Patterns of frequency of emotions more easy to deal with in FAMILY-IFOTES comparison is shown in figure 11:

![Fig. 11: Patterns of frequency of the emotions more easy to deal with, in the FAMILY context and in IFOTES context.](image)

The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 6:
Table 6
Post-hoc tests of frequency of the “emotions more easy to deal with” in FAMILY and IFOTES contexts

<table>
<thead>
<tr>
<th>Emotion</th>
<th>FAMILY (M, SD) &gt; IFOTES (M, SD)</th>
<th>NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger at circumstances</td>
<td>Family (M .09, SD .02) &gt; IFOTES (M .02, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Anger at organization</td>
<td>Family (M .07, SD .02) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Anger at other</td>
<td>Family (M .08, SD .02) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Anger at yourself</td>
<td>Family (M .05, SD .01) &gt; IFOTES (M .04, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Family (M .13, SD .02) &gt; IFOTES (M .09, SD .02)</td>
<td>NS</td>
</tr>
<tr>
<td>Shame</td>
<td>Family (M .02, SD .01) = IFOTES (M .02, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Disgust</td>
<td>Family (M .06, SD .02) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Guilt</td>
<td>Family (M .05, SD .01) &gt; IFOTES (M .04, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Hostility</td>
<td>Family (M .05, SD .01) &gt; IFOTES (M .03, SD .01)</td>
<td>NS</td>
</tr>
<tr>
<td>Sadness</td>
<td>Family (M .07, SD .02) &lt; IFOTES (M .10, SD .02)</td>
<td>NS</td>
</tr>
<tr>
<td>Being appreciated</td>
<td>Family (M .39, SD .03) &lt; IFOTES (M .47, SD .03)</td>
<td>NS</td>
</tr>
<tr>
<td><strong>Happiness</strong></td>
<td>Family (M .52, SD .03) &gt; IFOTES (M .41, SD .03)</td>
<td></td>
</tr>
<tr>
<td>Pride</td>
<td>Family (M .13, SD .02) &lt; IFOTES (M .15, SD .02)</td>
<td>NS</td>
</tr>
<tr>
<td>Being respected</td>
<td>Family (M .24, SD .03) &lt; IFOTES (M .30, SD .03)</td>
<td>NS</td>
</tr>
<tr>
<td>Being satisfied</td>
<td>Family (M .53, SD .03) = IFOTES (M .53, SD .03)</td>
<td>NS</td>
</tr>
</tbody>
</table>

The post-hoc comparisons exhibit significant differences only for happiness. In FAMILY context, happiness was considered more frequently as an emotion most easy to deal with compared to IFOTES context.

**3.1.1 Emotions more easy to deal with: anger frequency, positive emotions’ frequency and negative emotions’ frequency**

In the same way that for emotions frequency, new variables were created to compare overall anger (mean of anger at circumstances, anger at organisation, anger at other and anger at yourself), overall positive emotions (mean of being appreciated, happiness, pride, being respected and satisfaction) and overall negative emotions (mean of all modalities of anger, anxiety, shame, disgust, guilt, hostility and sadness).

A Repeated measures ANOVA was used to compare the frequency with which positive emotions and negative emotions are considered as more easy to deal with in IFOTES and FAMILY contexts.

The results exhibit:
- a not significant main effect of context: that means that emotions are considered as more easy to deal with, with similar frequency in FAMILY context and in IFOTES context
- a main effect of valence $F(1, 229) = 458.51, p < .001$: that means that frequency with which positive emotions are considered as more easy to deal with ($M .37, SD .02$), is different than frequency with which negative emotions are considered as more easy to deal with ($M .06, SD .007$)
- a non significant context*valence interaction: that means that frequency with which emotions are considered as more easy to deal with, do not vary according to the context.

Taken together, the four modalities of anger are more frequently considered as emotions easy to deal with in FAMILY context ($M .07, SD .01$) than in IFOTES context ($M .03, SD .006$) $F(1, 229) =12.68, p < .001$

### 3.2 Emotions more easy to deal with: WORK-IFOTES comparisons

A Repeated measures ANOVA test was used to compare the frequency means which with emotions are considered as more easy to deal with, in WORK and IFOTES contexts.

The results exhibit:

- a main effect of context: $F(1, 182) = 9.60, p < .01$: that means that frequency with which emotions are considered as more easy to deal with is different in WORK context ($M .17, SD .01$) compared to IFOTES context ($M .14, SD .02$)
- a main effect of emotion: $F(13, 2534) = 95.21, p <.001$: that means that frequencies are different across the emotions
- a not significant context*emotion interaction: that means that frequency of emotions considered as more easy to deal with, do not vary according the context.
Patterns of frequency of emotions more easy to deal with in WORK-IFOTES comparison is shown in figure 12:

![Emotions more easy to deal with](image)

Fig. 12: Pattern of frequency of the emotions more easy to deal with, in WORK context and in IFOTES context.

3.2.1 Emotions more easy to deal with: anger frequency, positive emotions’ frequency and negative emotions’ frequency in WORK-IFOTES contexts comparisons

In the same way that for emotions frequency, new variables were created to compare overall anger (mean of anger at circumstances, anger at organisation, anger at other and anger at yourself), overall positive emotions (mean of being appreciated, pride, being respected and satisfaction) and overall negative emotions (mean of all modalities of anger as well as anxiety, shame, disgust, guilt, hostility and sadness).

A repeated measures ANOVA was used to compare the frequency with which positive emotions and negative emotions are considered as more easy to deal with in IFOTES and WORK contexts.

The results exhibit:

- a main effect of context: $F(1, 181) = 7.77, p < .01$: that means that frequency with which emotions are considered as more easy to deal with is different in WORK context ($M .23, SD .006$) compared to IFOTES context ($M .20, SD .01$)
- a main effect de valence $F(1, 181) = 473.60, p < .001$: that means that frequency with which positive emotions are considered as more easy to deal with ($M .38, SD .02$), is different to the frequency with which negative emotions are considered as more easy to deal with ($M .05, SD .008$).

- a non significant context*valence interaction: that means that the frequency with which emotions are considered as more easy to deal with do not vary according to the context.

Taken together, the four modalities of anger are considered as more easy to deal with, with similar frequency in WORK and IFOTES contexts. Meanwhile we observed that anger frequency in WORK context ($M .07, SD .01$) is greater than anger frequency in IFOTES context ($M .05, SD .01$): not significant difference but tendency, $F(1, 181) = 2.76, p = .10$

**Emotions more easy to deal with, summary:**

- The frequency of emotions considered as more easy to deal with vary according to the context in FAMILY-IFOTES comparisons only.
- The frequency of emotions considered as more easy to deal with does not vary according to the context in WORK-IFOTES comparisons.
- In FAMILY-IFOTES comparisons, significant differences appear among emotions’ frequencies for happiness only. Happiness is considered as an emotion more easy to deal with more frequently in IFOTES context than in FAMILY context.

Whereas anger is more frequently considered as easier to deal with in FAMILY context than in IFOTES context, we observe only a tendency to considerer anger as more easy to deal with in WORK context than in IFOTES context when we compare those two contexts.

Positive emotions are mentioned quite logically more frequently than negative emotions as more easy to deal with, in the three contexts: FAMILY, WORK and IFOTES.

In FAMILY-IFOTES comparisons and WORK-IFOTES comparisons, the context*valence interaction is not significant.

Patterns of emotions more easy to deal with in the three contexts are shown in figure 13:
The difficulty and the facility to deal with emotions vary with the context. Regarding the emotions most difficult to deal with, we observed a significant context*emotion interaction, for FAMILY-IFOTES as well as for WORK-IFOTES contexts comparisons. Regarding emotions more easy to deal with, the context*emotion interaction is significant for FAMILY-IFOTES contexts comparisons only.
**Results (2)**

**WORK–IFOTES and FAMILY-IFOTES comparisons.**
As in the second session of questionnaires volunteers were asked to answer questions regarding either FAMILY context or WORK context (but not regarding to both contexts at the same time), the comparative analyses were done either between FAMILY and IFOTES contexts or WORK and IFOTES contexts. Comparative analyses among the three contexts simultaneously were not possible.

For each comparison, context IFOTES is represented by the volunteers which answered either the questions concerning FAMILY (N= 230) or WORK (N= 183) contexts.

**1st Hypothesis**

\(H_1: \) Volunteers use strategies to regulate other’s emotions depending on the context (work, home, volunteering) and on the emotions (anger, anxiety)

The three strategies used by the volunteers to appease the other’s emotion, were:

- **Strategy 1:** talks to the person about the reasons for his or her anger (or anxiety)
- **Strategy 2:** talks to someone else about the situation of anger (or anxiety)
- **Strategy 3:** does something to appease (or diminish or have disappeared) the person’s anger (or anxiety)

Before going further, we are going to compare the frequencies of utilization of those three strategies used in IFOTES context to regulate anxiety or anger. Note that these comparisons take into account the whole population of 527 volunteers.

The patterns of frequencies of strategies’ utilization are shown in the figures 14 to 16:

![Fig. 14 Pattern of strategy 1 in IFOTES context](image-url)
The comparisons of patterns of utilization of strategies to regulate anger and anxiety in the IFOTES context, show that:

- strategy 1 *talks to the person about the reasons for his or her emotion* is used right away to regulate the other’s anger and the other’s anxiety.

- strategy 2 *talks to someone else about the emotional situation* is rarely used to regulate the other’s anger and the other’s anxiety.

- strategy 3 *does something to appease (or diminish or have disappeared) the person’s emotion* is rather used to regulate the other’s anxiety than to regulate the other’s anger.

Results are summarized in table 7:
Table 7
Frequency of utilisation of the three strategies in IFOTES context

<table>
<thead>
<tr>
<th></th>
<th>Strategy 1 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Talk to the person about the reason for emotion</td>
</tr>
<tr>
<td>Anger</td>
<td>46</td>
</tr>
<tr>
<td>Anxiety</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>Strategy 2 (%)</td>
</tr>
<tr>
<td></td>
<td>Talk to someone else</td>
</tr>
<tr>
<td>Anger</td>
<td>41.4</td>
</tr>
<tr>
<td>Anxiety</td>
<td>54.8</td>
</tr>
<tr>
<td></td>
<td>Strategy 3 (%)</td>
</tr>
<tr>
<td></td>
<td>Do something to appease the other’s emotion</td>
</tr>
<tr>
<td>Anger</td>
<td>56.6</td>
</tr>
<tr>
<td>Anxiety</td>
<td>37.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Anger</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, right away</td>
<td>49.8</td>
<td>14.5</td>
</tr>
<tr>
<td>Yes, shortly after</td>
<td>1.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Yes, several hours after</td>
<td>0.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Yes, one or more days</td>
<td>2.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Strategies of anger regulation and anxiety regulation in IFOTES context

We have compared the strategies’ frequency used in IFOTES context for deal with the other’s anger and the other’s anxiety.

The two-way loglinear analysis produced a final model that retained the main effects of strategy and emotion and the effect of interaction. The likelihood ratio of this model was $\chi^2(0) = 0, p = 1$. This indicated that the interaction strategy*emotion was significant $\chi^2(57) = 131.22, p < .001$.

The significant strategy*emotion interaction reveals that:
- strategy 1 *talk to the person* ($M = 1.54, SD = .5$) is more used that strategy 3 ($M = 1.43, SD = .5$) to deal with the other’s anger $\chi^2(1) = 24.9, p < .001$
- strategy 2 *talk to someone else* was used more frequently for deal with the other’s anger ($M = 1.58, SE = .5$) than to deal with the other’s anxiety ($M = 1.45, SD = .5$), $\chi^2(1) = 29.15, p < .001$
- strategy 3 *do something to appease the other’s emotion* was more used for deal with the other’s anxiety ($M = 1.63, SD = .5$) than for deal with the other’s anger ($M = 1.43, SD = .5$), $\chi^2(1) = 6.96, p < .01$

Taken together strategy 1 *talk to the person* (to deal with anger and to deal with anxiety) are used more frequently that strategy 2 *talk to someone else* (to deal with anger and to deal with anxiety) $t = 5.6, p < .001$ and strategy 3 *do something to appease the other’s emotion* (to deal with anger and to deal with anxiety) $t = 6.33, p < .001$. We did not found differences between strategies 1 and 2.
H1.1 FAMILY-IFOTES contexts comparisons

A Repeated measures ANOVA test was conducted in order to compare the strategies’ frequencies in FAMILY and IFOTES contexts. The results exhibit:

- a main effect of strategy $F(2, 458) = 20.51, p < .001$: that means that strategies are not used with similar frequency
- a main effect of context: $F(1, 229) = 39.40, p < .001$: that means that strategies are used with different frequencies in each context, $F(2, 458) = 20.51, p < .001$
- a non significant effect of emotion $F < 1$: that means that strategies are used with similar frequency for anxiety and for anger
- a significant strategy*context interaction $F(2, 458) = 6.03, p < .01$: that means that strategies are used depending on the context. This significant interaction is shown in figure 18:

![Graph showing interaction of the three strategies with the FAMILY and the IFOTES contexts](image)

Fig 18: Graph showing interaction of the three strategies with the FAMILY and the IFOTES contexts

- a significant strategy*emotion interaction $F(2, 458) = 7.99, p < .001$: that means that strategies are used depending on the emotion. This significant interaction is shown in figure 19:

For comparisons FAMILY-IFOTES and WORK IFOTES, we used des recoded variables as shown in the method part: **Strategies used when confronted with anger and anxiety.**
Fig 19: Graph showing interaction of the three strategies with anger and anxiety in FAMILY and IFOTES contexts

-a not significant context*emotion interaction: $F < 1$: that means that emotion do not vary according to the context.
-a triple significant strategy*context*emotion interaction $F (82, 458) = 13.70, p < .001$: that means that strategies’ frequencies vary according to context and emotion. This significant triple interaction is shown in figure 20:

Fig 20: Graph showing the triple interaction of the three strategies with anger and anxiety in FAMILY and IFOTES contexts
Main effect of strategy:
Globally, strategy 1 *talk to the person* \((M \ 1.22, \ SD \ .07)\) is used more frequently than strategy 2 *talk to someone else* \((M \ 1.10, \ SD \ .07)\) and strategy 3 *do something to appease other’s emotion* \((M \ 1.12, \ SD \ .06)\)
Strategy 2 *talk to someone else* \((M \ 1.10, \ SD \ .07)\) is used with similar frequency than strategy 3 *do something to appease the other’s emotion* \((M \ 1.12, \ SD \ .06)\)

Main effect of context:
Globally, the three strategies are used more frequently in FAMILY context \((M \ 1.26, \ SD \ .08)\) than in IFOTES context \((M \ 1.03, \ SD \ .10)\),

Strategy*context interaction:
In FAMILY context, strategy 1 *talk to the person* \((M \ 1.37, \ SD \ .05)\) is used more frequently than strategies 2 *talk to someone else* \((M \ 1.18, \ SD \ .05)\) and 3 *do something to appease other’s emotion* \((M \ 1.24, \ SD \ .05)\)
Strategies 2 *talk to someone else* \((M \ 1.18, \ SD \ .05)\) and 3 *do something to appease the other’s emotion* \((M \ 1.24, \ SD \ .05)\), are used with similar frequency.
In IFOTES context, the three strategies *talk to the person* \((M \ 1.07, \ SD \ .06)\), *talk to anyone else* \((M \ 1.01, \ SD \ .06)\) and *do anything to appease the other’s emotion* \((M \ 1.00, \ SD \ .06)\), are used with similar frequency.

Strategy*emotion interaction:
Globally, strategy 1 *talk to the person* is used more frequently for anxiety regulation \((M \ 1.28, \ SD \ .08)\) than for anger regulation \((M \ 1.16, \ SD \ .07)\)
Strategy 2 *talk to someone else* is used with similar frequency for anxiety regulation \((M \ 1.09, \ SD \ .07)\) and for anger regulation \((M \ 1.11, \ SD \ 06)\)
Strategy 3 *do something to appease the other’s emotion* is used with similar frequency for anxiety regulation \((M \ 1.15, \ SD \ .07)\) and for anger regulation \((M \ 1.09, \ SD \ .06)\)

Strategy*context*emotion interaction:
In the FAMILY context,
Strategy 1 *talk to the person* is used more frequently than strategy 2 *talk to someone else* to regulate the other’s anger and to regulate the other’s anxiety.
Strategy 1 *talk to the person* is used more frequently than strategy 3 *do something to appease the other’s emotion* to regulate anxiety.

In the IFOTES context,
Strategy 2 *talk to someone else* is used more frequently than strategy 3 *do something to appease the other’s emotion* to regulate anger.

The Bonferroni test of probabilities for Post Hoc Tests, are shown in table 8:

Table 8
Post-hoc tests of “strategies to regulate the other’s emotions” frequencies in FAMILY context and in IFOTES context.

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>MEAN</th>
<th>SD</th>
<th>Post hoc tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAMILY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.34</td>
<td>0.06</td>
<td><strong>Strategy 1 more frequent than</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Strategy 2</strong></td>
</tr>
<tr>
<td>2</td>
<td>1.16</td>
<td>0.05</td>
<td>1 &gt; 3 NS</td>
</tr>
<tr>
<td>3</td>
<td>1.25</td>
<td>0.05</td>
<td>3 &gt; 2 NS</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.41</td>
<td>0.06</td>
<td><strong>Strategy 1 more frequent than</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Strategy 2</strong></td>
</tr>
<tr>
<td>2</td>
<td>1.21</td>
<td>0.06</td>
<td><strong>Strategy 1 more frequent than</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Strategy 3</strong></td>
</tr>
<tr>
<td>3</td>
<td>1.22</td>
<td>0.06</td>
<td>3 &gt; 2 NS</td>
</tr>
<tr>
<td>IFOTES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.98</td>
<td>0.06</td>
<td>2 &gt; 1 NS</td>
</tr>
<tr>
<td>2</td>
<td>1.07</td>
<td>0.06</td>
<td><strong>Strategy 2 more frequent than</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Strategy 3</strong></td>
</tr>
<tr>
<td>3</td>
<td>0.93</td>
<td>0.05</td>
<td>1 &gt; 3 NS</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.16</td>
<td>0.06</td>
<td>1 &gt; 3 NS</td>
</tr>
<tr>
<td>2</td>
<td>0.96</td>
<td>0.05</td>
<td>1 &gt; 2 <strong>tendency</strong></td>
</tr>
<tr>
<td>3</td>
<td>1.08</td>
<td>0.06</td>
<td>1 &gt; 3 NS</td>
</tr>
</tbody>
</table>

Strategy 1: *Talk to the person*
Strategy 2: *Talk to someone else*
Strategy 3: *Do something to appease the other’s emotions*

**H₁,2. WORK-IFOTES contexts comparisons**

A Repeated measures ANOVA test was conducted in order to compare the strategies’ frequency in WORK and IFOTES contexts.
The results exhibit:
- a main effect of strategy: \( F (2, 362) = 25.69, p < .001 \): that means that strategies’ frequencies are not similar
- a main effect of context: $F(1, 181) = 30.43, p < .001$: that means that strategies are used with a different frequency in each context
- a main effect of emotion $F(1, 181) = 9.47, p < .01$: that means that strategies are used with a different frequency for each emotion
- a not significant strategy*context interaction: that means that strategies are used regardless of the context
- a significant strategy*emotion interaction $F(2, 363) = 24.11, p < .001$: that means that strategies are used depending on the emotion. This significant interaction is shown in the figure 21:

![Graph showing interaction of the three strategies with anger and anxiety in WORK and IFOTES contexts](image)

- a not significant context*emotion interaction $F < 1$: that means that emotion does not vary according to the context.
- a not significant triple interaction strategy*context*emotion, $F < 1$

**Post hoc comparisons WORK- IFOTES**

**Main effect of strategy:**
Globally, strategy 1 *talk to the person* ($M 1.28, SD .08$) is used more frequently than strategies 2 *talk to someone else* ($M 1.11, SD 0.07$) and 3 *do something to appease the other’s emotion* ($M 1.15, SD 0.08$)
Strategies 2 *talk to someone else* (M 1.11, SD 0.07) and 3 *do something to appease the other’s emotion* (M 1.15, SD 0.08) are used with similar frequency.

**Main effect of context:**
The three strategies are used more frequently in WORK context (M 1.28, SD 0.09) than in IFOTES context (M 1.08, SD .11)

**Main effect of emotion:**
The three strategies are used more frequently for anxiety regulation (M 1.28, SD .11) than for anger regulation (M 1.08, SD .13)

**Strategy*emotion interaction:**
Strategy 1 *talk to the person* is used more frequently for anxiety regulation (M 1.45, SD 0.07) than for anger regulation (M 1.11, SD 0.08)
Strategy 2 *talk to someone else* is used with similar frequency for anxiety regulation (M 1.13, SD .06) and for anger regulation (M 1.10, SD .08)
Strategy 3 *do something to appease the other’s emotion* is used more frequently for anxiety regulation (M 1.25, SD .07) than for anger regulation (M 1.04, SD .08)

**To summarize:**
- In IFOTES context, the main effects of emotion and strategy, and the emotion*strategy interaction are significant.
- Emotion*strategy interaction are also significant in FAMILY-IFOTES contexts comparisons and in WORK-IFOTES contexts comparisons.
- In IFOTES context, strategy 1 *talk to the person* is more used that strategy 3 *do something to appease the other’s emotion* to deal with anger. Whereas strategy 2 *talk to someone else* was used more frequently to deal with the other’s anger than to deal with the other’s anxiety, strategy 3 *do something to appease the other’s emotion* was used more frequently to deal with the other’s anxiety than to deal with the other’s anger.
- When we compare FAMILY-IFOTES and WORK-IFOTES contexts, we see that strategy 1 *talk to the person* is used more frequently than strategies 2 *talk to someone else* and 3 *do something to appease the other’s emotion*. Strategies 2 and 3 are used with similar frequency.
- In the same way, when we analyse the IFOTES context alone, we see that strategy 1 *talk to the person*, is used more frequently than strategy 2 *talk to someone else*. Strategy 1 is used more frequently than strategy 3 *do something to appease the other’s emotion*. Strategies 2 and 3 are used with similar frequency.
- The three strategies are used more frequently in FAMILY and in WORK contexts than in IFOTES context.
- A main effect of emotion appears in the WORK-IFOTES contexts comparison. This effect does not appear in FAMILY-IFOTES contexts comparisons.
- Strategy*context interaction is significant in FAMILY-IFOTES contexts comparisons only. Whereas in FAMILY context, strategy 1 talk to the person is used more frequently than strategies 2 talk to someone else and 3 do something to appease the other’s emotion, in IFOTES context, the three strategies are used with similar frequencies. Strategies 2, talk to someone else and 3, do something to appease other’s emotion are used with the same frequency.
- So, strategies are not used according to the context in WORK-IFOTES contexts comparisons.
- Strategy 3, do something to appease the other’s emotion is used more frequently for anxiety regulation than for anger regulation in IFOTES context and in WORK-IFOTES contexts comparisons.
- The significant triple strategy*context*emotion interaction reveals that in FAMILY context, strategy 1 talk to the person is used more frequently than strategy 2 talk to someone else for both anxiety regulation and anger regulation. But strategy 1 talk to the person is used more frequently than strategy 3 do anything to appease other’s emotion in FAMILY context for anxiety regulation only.

Patterns of frequencies of strategies’ utilisation in FAMILY, WORK and IFOTES contexts are shown in figures 22 A) and 22 B):
Frequencies of utilisation of strategies vary according to the emotions and to the contexts.

$\ddagger$ $H_1$ is confirmed.

2nd Hypothesis

$H_2$: Individuals high in empathy will use different strategies to regulate anxiety and anger than individuals low in empathy.

We established that strategies to regulate anger and anxiety vary according to the context and to the emotion.

We now propose to investigate if there is a possibility that the empathy scores have an influence on strategies’ uses. To that purpose we are going to first analyse volunteers’ empathy scores, as measured with The Basic Empathy Scale (Jollife, 2005). This scale, with its 20 items, gives the possibility to get cognitive and affective sub-scores. The empathy scores are shown in table 9:
Table 9
Empathy scores measured with The Basic Empathy Scale (Jollife, 2005)

<table>
<thead>
<tr>
<th></th>
<th>BES - Affective score</th>
<th>BES - Cognitive score</th>
<th>BES - Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Valid</td>
<td>452</td>
<td>453</td>
<td>447</td>
</tr>
<tr>
<td>N Missing</td>
<td>75</td>
<td>74</td>
<td>80</td>
</tr>
<tr>
<td>Mean</td>
<td>3.46</td>
<td>4.10</td>
<td>3.75</td>
</tr>
<tr>
<td>Median</td>
<td>3.45</td>
<td>4.11</td>
<td>3.75</td>
</tr>
<tr>
<td>Mode</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.494</td>
<td>.416</td>
<td>.359</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>25 Percentiles</td>
<td>3.09</td>
<td>3.89</td>
<td>3.55</td>
</tr>
<tr>
<td>50 Percentiles</td>
<td>3.45</td>
<td>4.11</td>
<td>3.75</td>
</tr>
<tr>
<td>75 Percentiles</td>
<td>3.82</td>
<td>4.33</td>
<td>3.95</td>
</tr>
</tbody>
</table>

A Paired sample T-test reveals a significant difference between sub-scores of cognitive and affective empathy: the volunteers' cognitive empathy score ($M = 4.10, SD = .42$) is greater than their affective empathy score ($M = 3.46, SD = .49$) $t = -23.388$, $d.f = 446$, $p < .001$. Moreover, cognitive empathy and affective empathy scores are significantly correlated $r = .183$, $p < .01$.

As expected, we found a significant correlation among sub-score of “cognitive empathy” and “understanding the emotion of the caller”: $r = .186$, $p < .01$. We found also a significant correlation among sub-scores of “affective empathy” and “feeling the same emotion as the caller”: $r = .244$, $p < .001$.

Moreover, the correlation among sub-scores of “affective empathy” and “understanding the emotion of the caller” is not significant: $r = .04$, N.S. Similarly, the correlation among sub-score of “cognitive empathy” and “feeling the same emotion of the caller” is not significant either: $r = .047$ N.S.

**H2.1 Comparison of two groups with either high or low BES total scores**
In order to analyze differences of strategies’ uses, we draw a mean split to create two groups of high and low total empathy score (cut-off = 3.75). We then compared the frequencies with which the three strategies were used to regulate either anger or anxiety, by mean of a T-test independent sample.

We did not find significant differences between the high BES total score group and the low BES total score group in the frequency of use of the strategies 1 talk to the person and 2 talk to someone else for anger and for anxiety. T-test NS. And we did not find significant differences between the high BES total score group and the low BES total score group in the frequency of use of the strategy 3 do something to appease the other’s emotion to regulate anger either.

But to the contrary, we find significant differences in the frequency of use of strategy 3 do something to appease the other’s emotion to regulate anxiety: the low empathy group uses strategy 3 more frequently (\( M = 1.67; SD = .38 \)) than the high empathy group (\( M = 1.57; SD = .41 \)), \( t = -2.07, p < .05 \).

**H2.2 Comparison of two groups with either high or low BES cognitive scores**

We also draw a mean split to create two groups of high and low cognitive empathy score (cut-off =4.10). We then compared the frequencies with which the three strategies were used, by mean of a T-test independent sample.

We did not find significant differences between the high BES cognitive score group and the low BES cognitive score group in the frequency of use of the three strategies. T-test NS.

**H2.3 Comparison of two groups with either high or low BES affective score**

Further on we draw a mean split to create two groups of high and low affective empathy score (cut-off =3.46). And we compared the frequencies with which the three strategies were used by mean of a T-test independent sample.

We did not find significant differences between the high BES affective score group and the low BES affective score group in the frequency of use of strategy 1 talk to the person (about the reason of the emotion) to regulate anger, t-test NS.

But we observed a tendency to use more frequently strategy 1 talk to the person (about the reason of the emotion) to regulate anxiety by the group of high affective empathy (\( M = 1.63; \))
SD .39), when compared to the group of low affective empathy (M 1.55; SD .42), t = 1.76, p = .08
We did not find significant differences between the high BES affective score group and the low BES affective score group in the frequency of use of strategy 2 *talk to someone else* to regulate either anger or anxiety.
We find a significant difference between the high and the low affective score groups for strategy 3: low affective empathy group uses more frequently strategy 3 *do something to appease other's anger* (M 1.60, SD .40) than high affective empathy group (M 1.48, SD .38), t = -2.67, p < .01

**H$_2$.4 Comparison of extreme groups with high or low BES total score, high or low cognitive score and high or low affective score**

We classify the total population in percentiles relatively to BES scores, and retain the classes 0-25 and 75-100, that is,
- scores in rank 0-3.55 and rank 3.95-5.00 for total BES,
- scores in rank 0-3.89 and rank 4.33- 5.00 for cognitive BES
- scores in rank 0- 3.09 and rank 3.82- 5.00 for affective BES.
We then compare the frequencies with which the three strategies are used by mean of a T-test independent sample.
We do not find significant differences between the high BES total score group and the low BES total score group in the frequency of use of the three strategies for either anger or for anxiety. t-test NS. But we observe a tendency to use more frequently strategy 3 *do something to appease the other's emotion* to regulate anxiety by the group of low empathy (M 1.64; SD .39) when compared with the group of high empathy (M 1.53; SD .42), t = -1.92, p = .056
Similarly, we do not find significant differences between the high BES cognitive score group and the low BES cognitive score group in the frequency of use of the three strategies for either anger or anxiety. But we observe a tendency to use more frequently strategy 3 *do something to appease the other's emotion* to regulate anxiety by the group of low cognitive empathy (M 1.67; SD .38) when compared with the group of high cognitive empathy (M 1.56; SD .42), t = -1.77, p = .08
Regarding the affective score, we find again the tendency to use more frequently strategy 3 *do something to appease the other emotion* to regulate anxiety by the low affective empathy group (M 1.65; SD .39) when compared with the high affective empathy group (M 1.52; SD .43), t = -1.79, p = .075
Results are summarized in the table 10:

Table 10
Frequency of strategies used to regulate other people’s anger and anxiety for high and low empathy score groups.

<table>
<thead>
<tr>
<th></th>
<th>Strategy 1 : talk to the person</th>
<th>Strategy 2: talk to someone else</th>
<th>Strategy 3: do something to appease the other's emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ANGER</td>
<td>ANXIETY</td>
<td>ANGER</td>
</tr>
<tr>
<td></td>
<td>ANXIETY</td>
<td>ANXIETY</td>
<td>ANXIETY</td>
</tr>
<tr>
<td></td>
<td>Mean split</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BES TOTAL</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BES COGNITIVE</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BES AFFECTIVE</td>
<td>NS</td>
<td></td>
<td>More often used by low empathy group (M 1.67, SD .38) than by high empathy group (M 1.57, SD .41)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -2.07, p &lt; .05</td>
</tr>
<tr>
<td></td>
<td>More often used by low empathy group (M 1.64;SD .39) than by high empathy group (M 1.55; SD .42)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -1.92, p = .056</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -1.77, p = .08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -2.67, p &lt; .01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>More often used by low empathy group (M 1.67, SD .38) than by high empathy group (M 1.56; SD .42)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -1.77, p = .08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>More often used by low empathy group (M 1.65; SD .39) than by high empathy group (M 1.52; SD .43)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>t = -1.79, p = .075</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To summarize:
Comparisons of the groups with high and low BES total score exhibit only significant differences for strategy 3 *do something to appease the other’s emotion* to regulate anxiety; that is, both groups, high and low total empathy, use the three strategies with similar frequency to regulate anger but not to regulate anxiety. Differences exist in the utilisation of the strategy whose purpose is to appease the other’s emotion.
Comparisons of groups high and low BES cognitive score do not exhibit significant differences for any of the three strategies nor for the two emotions anger and anxiety. That means that the groups with high and low cognitive empathy use the three strategies with similar frequency, regardless if the emotion being anger or anxiety.
Comparisons of groups high and low BES affective score exhibit a significant difference for strategy 3 *do something to appease the other’s emotion* to regulate anger. The group of low affective empathy uses more frequently strategy 3 *do something to appease the other’s emotion* than the group of high affective empathy. We observe a tendency to use more frequently strategy 1 *talk to the person about the reasons for the emotion* to regulate anxiety by the high affective empathy group.
When we analyse extreme groups we observe a tendency to use more frequently strategy 3 *do something to appease the other’s emotion* by the group with low affective empathy to regulate anxiety. This tendency is present in the three extreme groups: total empathy score, cognitive empathy score and affective empathy score.

Differences exist in the utilisation of strategies to regulate the other’s emotions according to the sub-scores of empathy. The strategies are used to regulate anxiety and anger in a different way between the groups high and low empathy. \( H_2 \) is confirmed

3rd Hypothesis

\( H_3 \) : Volunteers with high empathy perceive their behaviours to regulate anger and anxiety of other people as more efficient than volunteers with low empathy.

We establish comparisons of mean of success indicators between groups high BES (total, cognitive and affective) and low BES (total, cognitive and affective) created by mean split, that is, 3.75 for BES total, 4.10 for BES cognitive and 3.46 for BES affective.
We also compare groups extremes: high BES (total, cognitive and affective) and low BES (total, cognitive and affective) constituted by the population classified into percentiles 0-25 and 75-100, that is, the scores in rank 0-3.55 and rank 3.95-5.00 for total BES, rank 0-3.89 and rank 4.33- 5.00 for cognitive BES and rank 0- 3.09 and rank 3.82- 5.00 for affective BES. Comparisons of efficiency to regulate other’s emotions were realised by mean of a T-test independent sample.

We find significant differences regarding efficiency to regulate the other’s emotions when we compare high and low empathy sub scores groups (cognitive and affective) but not when we compare high and low total empathy score groups.

The high cognitive empathy group appears to be more efficient to regulate anxiety ($M = 3.99; SD = .68$) than the low cognitive empathy group ($M = 3.84, SD = .56$), $t = 2.09, p < .05$

The low affective empathy group appears to be more efficient to regulate anger ($M = 3.56; SD = .87$) than the high affective empathy group ($M = 3.37; SD = .74$) $t = -2.11, p < .05$. We find similar results in comparisons between mean split groups and extreme groups.

Results are shown in table 11.

Table 11
Comparisons of the efficiency at regulating the other’s anger and anxiety by groups high and low empathy

<table>
<thead>
<tr>
<th></th>
<th>ANGER</th>
<th>ANXIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BES TOTAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean split</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Extreme groups</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td><strong>BES COGNITIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean split</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>Extreme groups</td>
<td>More often perceived by high empathy group ($M = 3.99, SD = .68$) than by low empathy group ($M = 3.84, SD = .56$) $t = 2.09, p &lt; .05$</td>
<td></td>
</tr>
<tr>
<td><strong>BES AFFECTIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean split</td>
<td>More often perceived by low empathy group ($M = 3.56, SD = .87$) than by high empathy group ($M = 3.37, SD = .74$) $t = -2.11, p &lt; .05$</td>
<td>NS</td>
</tr>
<tr>
<td>Extreme groups</td>
<td>More often perceived by low empathy group ($M = 3.26, SD = .77$) than by high empathy group ($M = 3.36, SD = .89$) $t = 2.55, p &lt; .05$</td>
<td>NS</td>
</tr>
</tbody>
</table>
Detailed tables, showing separately success indicators, contexts and emotions are presented in the annexe: see tables 1, 2 and 3.

Volunteers with a high empathy do not appear to be definitely more efficient in regulating people’s anxiety and anger than volunteers with a low empathy → H₃ is partially confirmed.

Discussion

Our first hypothesis postulates that emotions appear with similar frequencies across the FAMILY, WORK and IFOTES contexts. The analyses we performed exhibit some differences but globally the patterns of emotions’ frequencies are quite analogous. Disgust is the only emotion that appears with similar frequency across the three contexts. WORK and IFOTES contexts present similar frequencies for three other emotions (on top of disgust), i.e. shame, hostility and sadness. Thus WORK and IFOTES contexts exhibit similarities on four negative emotions. This finding supports the idea the affective life during volunteer work is pretty much the same as the affective life during salaried work (note that WORK-IFOTES comparisons are realised with volunteers who are salaried in their WORK context, and who answered questions about this very context).

And, if affective life is similar in WORK in IFOTES contexts, we can expect that after a day of work, the tolerance to negative emotions will be diminished and that some kind of saturation could favour the more frequent apparition of some negative emotions.

Globally, emotions’ frequencies are lower in IFOTES context than in both FAMILY and WORK contexts. The patterns of emotions’ frequencies share some features, and for example, positive emotions are more frequent than negative emotions in the three contexts; positive emotions as well as negative emotions, anxiety and the four modalities of anger are more frequent in both FAMILY and WORK contexts than in IFOTES context. In WORK context, anxiety and anger exhibit similar frequencies, contrarily to FAMILY or IFOTES contexts, where anxiety is more frequent than anger.

Scherer, Wranik, Sangsue, Tran and Scherer (2004) found that disgust, guilt, shame and pride are emotions with a relative low frequency. For these authors, the socializing emotion “shame” could be disappearing as a consequence of a growing individualism parallel to a decreasing importance of social norms in the western culture.
Our findings support the preceding outcome: in the three contexts we studied, the four emotions that appear less frequently are disgust, hostility, shame and guilt. The apparition’s frequencies of these four emotions vary between “rarely or never” and “about once a month”. The relative rarity of apparition of those emotions could explain why disgust appears with similar frequency in the three contexts, and why shame and hostility show no difference between WORK and IFOTES contexts.

Volunteers live mostly more often in FAMILY or WORK contexts than in IFOTES context, and this probably explains the differences in emotions’ frequency between contexts. To investigate if this is really the case, we computed a correlation between emotions’ frequencies and the number of volunteering hours per month. At this point, it is interesting to note that emotions’ frequencies in IFOTES context are not entirely correlated to the mean of hours of volunteering per month. Indeed, Pearson’s correlations among the emotions’ frequencies and the quantity of hours of volunteering at telephone services per month are significant for only two positive emotions: satisfaction and being appreciated. Omoto (1995, cited by Chacon, 1998) says that the degree of satisfaction at volunteering is a sign that permits to predict how long a volunteering activity will last. Chacon et al. (1998) found strong correlations between Satisfaction and Duration of Service or Permanence in a study with AIDS volunteers. These volunteers were, as in the present study, working for a long time in the organisation and the author supposes that all of them have a high degree of Motivation\textsuperscript{5}. The significant positive correlation between the volunteers’ age and the number of volunteering years suggests that volunteers keep on volunteering steadily all along their life.

Another interesting outcome appears when we compute separately the correlations for the group of volunteers who answered the questions about their private life (FAMILY context) and the group of volunteers who answered the questions about their life at work (WORK context). As expected, we find for the FAMILY context group, that satisfaction and being appreciated are significantly correlated with the number of volunteering hours. Whereas for the WORK context group, the only significant correlation appears between hostility and the number of volunteering hours. This means that the higher the number of volunteering hours is, the more frequently hostility will be felt. And this supports what we mentioned above: WORK and IFOTES contexts have enough common characteristics to somehow add the effects of the negative emotions on the affective life and cause a kind of “saturation”.

\textsuperscript{5} Satisfaction, Duration of Service or Permanence and Motivation being the variables retained by Chacon
If the affective life in our group of volunteers is similar in the three contexts, we can infer that the emotions most difficult to deal with, and the emotions easiest to deal with, appear with similar frequencies in the three contexts.

We already found that the frequencies of emotions considered as most difficult to deal with vary according to the FAMILY, WORK or IFOTES contexts. Contrarily, frequencies of emotions considered as easiest to deal with vary according to the context in FAMILY-IFOTES comparisons only. That means that in salaried and in volunteer work contexts, the emotions considered as easiest to deal with are the same.

The frequencies with which positive emotions and negative emotions are mentioned as most difficult or easiest to deal with, are not dependent of context either.

For the three contexts, and quite logically, negative emotions are mentioned more frequently as most difficult to deal with, than positive emotions. To the contrary, positive emotions are mentioned more frequently than negative emotions as easiest to deal with.

We found earlier that disgust, guilt, shame and hostility appear with a rather low frequency, and here we find that three of these emotions (disgust, guilt and hostility) exhibit significant differences in the frequencies with which they are considered as emotions most difficult to deal with, in IFOTES and in FAMILY contexts: dealing with disgust and hostility is more difficult in the context of volunteer work than in the private life context, and dealing with guilt is more difficult in the private life context than in the volunteer work context.

Three modalities of anger (toward circumstances, organisation, or toward other people) are more difficult to deal with in the context of salaried work than in the context of volunteer work. To the contrary, disgust is more difficult to deal with in the volunteer work than in the salaried work. Disgust is the only emotion which is considered as more difficult to deal with within the context of volunteer work than within the private life or salaried work contexts.

The four modalities of anger are considered as being more difficult to deal with within the private life and salaried work contexts than within the volunteer work context. At the same time, curiously, the four modalities of anger are mentioned more frequently as easier to deal with in the context of private life than in the context of volunteer work. When we compare the context of salaried work with the context of volunteer work a difference also appears, but as a tendency only. This finding may suggest that within the context of volunteer work, anger is a somehow “characterless” emotion in that it is neither more difficult, nor easier to deal with.

Fitness (2000) found that immoral behaviour and lack of respect from colleagues, as well as job incompetence from subordinates are sources of anger at the workplace. Unfair treatment by supervisors, when tending to remain unresolved, is a key source of employees’ anger.
Those situations are not encountered very often in the context of volunteering. We saw above that anger’s frequency is significantly higher in the private life and in the salaried work contexts than in the volunteer work context. In the private life and in the salaried work context volunteers experience anger from about once a month to several times a month or about once a week. But in the volunteer work context, volunteers experience anger from rarely or never to about once a month. This suggests that the frequency of apparitions of angry events defines the emotion as difficult to deal with, rather than the experience of anger itself.

Regarding the emotions easier to deal with, we found that happiness only is considered more frequently as easier to deal with within the context of private life than within the context of volunteer work. All the other emotions are mentioned with similar frequencies in the three contexts.

There are no differences between the salaried work and volunteer work contexts concerning the frequency with which emotions are mentioned as easier to deal with. We find once more similarities between those two contexts. And this supports the idea that salaried and volunteer work contexts share a certain amount of characteristics.

Whereas patterns of frequencies of emotions more difficult to deal with are quite different across the three contexts (and especially for the negative emotions), patterns of frequencies of emotions easier to deal with are quite overlapping for all emotions.

To understand which strategies are used by the volunteers to regulate anger and anxiety in the different contexts, we analysed the answers to the questions concerning a situation of anger or anxiety.

It appeared that strategy 1 talk to the person about the reasons for his or her emotion is globally used more frequently than strategies 2 talk to someone else or 3 do something to appease the other’s emotion. When we analysed separately the strategies used in IFOTES context, we found that volunteers use more frequently strategy 1 than strategies 2 and 3. We did not find differences between the frequency of utilisation of strategies 2 and 3. Thus, in IFOTES context, the strategy that consists in talking to the person is preferred to the strategy that consists in talking to someone else. This occurs despite the fact that volunteers can participate in supervision sessions in the IFOTES context.

In the case of anger however, volunteers postpone the management of the callers’ emotions. Thus, in a difficult situation, they prefer to wait until they are able to talk to someone else (a supervisor or a colleague in the volunteer work) about the emotional event. Keep in mind that we are speaking here of the management of the other’s emotion, and not about the emotions felt by the volunteer.
Volunteers may eventually talk again later on with the same caller, or with another caller, and find themselves in a similar situation again. On this later occasion, volunteers will use a "direct" strategy (talk to the person or do something to appease the other’s emotion). We could suppose that when volunteers answered questions about the use of strategies, they had a particularly difficult situation in mind, and that in this situation, the better choice was “wait and talk to someone else” before acting, later on, in a direct way.

The importance of supervision is widely accepted in therapeutic interventions. The very nature of volunteer work on telephone emergency services could favour the utilisation of the “indirect” strategy with the aim of enhancing the efficacy of the next interaction with the caller, be it the same or another person in the same situation.

Globally, the three strategies are used more frequently in FAMILY and in WORK contexts than in IFOTES context. Which may be explained by the fact that frequencies of anger and anxiety are higher in the private life as well as in the salaried work contexts than in the volunteer work context. A main effect of “emotion” does not appear in the frequency of the three strategies taken together in FAMILY-IFOTES contexts comparisons either. That means that in these contexts, taken together, strategies are used with similar frequency for the emotions anger and anxiety.

Conversely, the effect of the emotion appears in the IFOTES context and in WORK-IFOTES contexts comparison: taken together, the three strategies are used more frequently to deal with anxiety than to deal with anger in these contexts. We found a significant interaction between “strategies” and “context”, in the comparisons of the private life and volunteer work contexts. This interaction is not significant in the comparisons between salaried and volunteer work contexts. This last finding, together with the finding stated above concerning the emotion main effect in IFOTES and WORK contexts supports the idea that salaried and volunteer work contexts share certain similarities regarding the responses to the other’s emotions.

Generally, when confronted with the others’ anger, therapists and educators recommend communication and problem-solving strategies. They also recommend to first take appropriate measures to protect oneself from any potential violence and to eventually take a “time-out period” with the aim to reduce the hostility level. Emotion regulation is an important component in the definition of emotional intelligence. An efficient emotion regulation will take into account what we know about the other’s emotion.
Wranik et al. 2007, propose that some individuals regulate emotions effectively because they have a working-memory of high capacity, and thus a higher ability to control attention during controlled information processing. These authors argue that individual differences in the working-memory capacity reflect differences in the cognitive activities skills such as reading, language understanding or problem solving. Working-memory capacity is strongly related to the fluid intelligence as defined by Cattell (1943) as the aptitude to reason, to solve novel situations, or to adapt to them (Conway, Cowan, Bunting, Therriault & Minkoff, 2002; Engle, Tuholski, Laughlin & Conway, 1999; Kyllonen & Christal, 1990, cited by Wranik, 2007).

In IFOTES context strategy 2, talk to someone else is used more frequently for anger regulation than for anxiety regulation. We must remember here that volunteers answered to the questions about strategies in the two next situations: “a caller was angry with you” and “a caller was feeling worried or anxious”. Thus in the anger situation, the volunteer was the “anger object”. That probably may explain why strategies 1 and 3 (direct action) are used less frequently in the anger situation (the volunteer adopts a “low” profile), while in the anxiety situation, the specificity of the context of volunteer work invites to adopt strategies that are congruent with the purpose of the IFOTES institution which spells “offer an emotional support, immediately accessible, to any person suffering from loneliness, or in a state of psychological crisis, or contemplating suicide” (IFOTES, online). Consequently, strategies 1 and 3, which infer a direct and immediate action, are used more frequently to appease the other’s anxiety.

In the private life context, strategy 1, talk to the person, is used more frequently (for both anger and anxiety regulation) than the two other strategies. We assume that the necessary negotiations in private life, as well as the interpersonal closer relationships, could favour this communicational strategy.

In the context of volunteer work, strategy 2 talk to someone else is used more frequently to regulate anger. To the contrary we observe a tendency to use strategy 1 talk to the person more frequently that strategy 2 talk to someone else to regulate anxiety.

All these findings support the hypothesis that strategies aimed at regulating the other’s emotions vary in parallel to strategies aimed at regulating one’s own emotions, depending on the emotion and/or the contexts.

Regarding salaried work and volunteer work contexts, we do not find that strategies vary according to these two contexts. An explanation could be that these two contexts are not truly different and that the volunteer’s affective life is similar in both salaried and volunteer work contexts.
Actual models of one's own emotions' regulation integrate a cognitive step, which is dependent of contextual factors (Gross, 1998). In the case of the regulation of the other’s emotions, we wonder: did the volunteers make an effective difference between strategy 1 *talk to the person* (cognitive strategy: reappraisal), and strategy 3 *do something* (any action to diminish, or let disappear altogether the other’s anger or anxiety) *to appease the other’s emotion*, which stands closer to the suppression strategy but is not quite the same? Indeed, “talk to the person” could signify “do something” in all cases. But, “do something” could signify “talk to the person”, only if the volunteers used a cognitive strategy to diminish the caller’s anger or anxiety. If this was true, the results would not permit us to distinguish strategies 1 and 3.

Our results enable us to satisfactorily measure the frequency of utilisation of the cognitive strategy (strategy 1, *talk to the person*), and to precisely estimate the frequency with which volunteers differ dealing with the other’s emotion by mean of strategy 2 *talk to someone else*.

We analysed above the frequency with which volunteers use the three strategies to regulate the other’s emotions. We have postulated that the strategy’s choice vary according to the empathy grade of the volunteers.

When we measured the empathy, we found that the cognitive sub-score is significantly higher than the affective empathy score. Which is coherent with the principles of IFOTES (1973) that stipulate that its collaborators must be the object of a selection made on the basis of their understanding capacity, their empathy and their sense of solidarity. Another IFOTES principle demands that when a volunteer react to a message from a caller, he or she communicates to the caller whatever he or she understood of the experience as related. The communication of an understanding is called “empathy” (Carkhuff, 1972, cited by Cibanal, 1993).

In our participants’ sample, and as expected, cognitive empathy and affective empathy scores are significantly correlated. Indeed, some authors (Hoffman, 1987; Marshall, Hudson, Jones & Fernandez, 1995; Strayer, 1987; cited by Jollife, 2005) mention that “to feel” the other’s emotions (affective empathy) may lead, but not necessarily, toward an understanding of the other’s emotions (cognitive empathy).

Jollife validated this scale for a population of 15 years old teenagers. The participants to our study are different in that they are adults, aged from 21 to 86 years. We wonder if empathy is an emotional competency that develops with age, across the whole life span, and if the affective and cognitive components of empathy are getting more and more differentiated with the years. Future researches should try to understand how empathy develops across the whole life span.
We observed significant correlations among sub-score of “cognitive empathy” and “understanding the emotion of the caller” as well as among sub-scores of “affective empathy” and “feeling the same emotion as the caller”. But we observed no significant correlations among sub-scores of “affective empathy” and “understanding the emotion of the caller”, or among sub-score of “cognitive empathy” and “feeling the same emotion as the caller”. These findings support the idea that empathy is constituted of at least two components.

We then constituted two groups of volunteers named “high empathy” and “low empathy” to investigate if differences between the two groups at noticeable regarding the choice of strategies. We found that “high total empathy score” and “low total empathy score” groups use with similar frequency the strategy that consists in talking with a person about the reasons of his or her anger or anxiety to regulate those emotions. Similarly the “high total empathy score” and “low total empathy score” groups use with similar frequency the strategy that consists in talking to someone else to regulate anger or anxiety of a third person. But the “low total empathy score” group uses more frequently the strategy that consists in appeasing the other’s emotion in the case of anxiety regulation but not in the case of anger regulation. We cannot interpret this finding because neither the cognitive empathy sub-score nor the affective empathy sub-score confirm this outcome. We can merely suppose that a high empathy leads to try to appease the other’s anxiety. In emergency situations, and especially when anxiety is involved, volunteers very probably use strategy 3, do something to appease the other’s emotion, to help the suffering person; their intervention would not fill its « emergency service » function otherwise.

We found that “high cognitive empathy score” and “low cognitive empathy score” groups, use the strategies to regulate the other’s anger and/or anxiety with similar frequency. But we found significant differences in the strategies’ choices between the “high affective empathy score” group and the “low affective empathy score” group. Indeed, the group low affective empathy uses more frequently strategy 3 do something to appease the other’s emotion in the case of anger regulation. This suggests that the group of volunteers that “feels” less the other’s anger is more able to appease the other’s anger. Keep in mind that we are in a situation where the person who uses the strategy is at the same time the anger-object.

If a strong emotional contagion occurs, it seems quite logical, that strategy 2, talk to someone else, could have a primary function, that is, to first appease the volunteer’s emotion, and then, in a second step, to appease the caller’s emotion.

Another result is in that the “low cognitive empathy” group (volunteers who “understand” less strongly the other’s emotion) and the “low affective empathy” group (volunteers who “feel”
less strongly the other’s emotion) show a tendency to use more frequently strategy 3 *do something to appease the other’s emotion* in the case of anxiety only.

It is difficult to interpret these results. As we know that cognitive and affective scores are significantly correlated, we can infer that the “low affective empathy” group also exhibits a low cognitive empathy score and, consequently, that strategy 3, *do something to appease the other’s emotions* could consist in any non-cognitive action. If this was not the case, we would have found significant differences between “high affective empathy score” and “low affective empathy score” groups in the frequency of use of strategy 1 *talk to the person*. But there we found only a tendency of the “high empathy affective score” group to use the cognitive strategy 1, *talk to the person about the reasons of his or her anxiety*, more frequently that the “low empathy affective score” group.

Whatever the explanation, these differences in frequency of use of strategy 3 and strategy 1 are only tendencies. Future researches will eventually permit to confirm this.

The second hypothesis, proposing that strategies of anger and anxiety regulation are used differently by the groups high and low empathy, is only partially confirmed.

The third hypothesis postulates that volunteers with a high empathy score are more efficient in regulating the other’s anxiety and anger. Note here that the volunteers evaluate themselves their success in regulating the other’s emotions. It would be impossible, for ethical reasons, to obtain this information from the callers.

Our success indicators were the evaluation of the volunteers about the efficacy of their actions and about if the situation was successfully resolved, and the modifications of the strategy used if the same situation appears another time (if the strategy is not modified, we assume that the volunteers evaluate their intervention as being successful).

Only two significant differences appear between the groups “high” and “low” cognitive empathy in the case of anxiety regulation and between the “high” and “low” affective empathy in the case of anger regulation.

The group “high cognitive empathy” (volunteers who “understand” better the other’s emotions) evaluates its success as being more important than the group “low cognitive empathy” does, when it comes to regulate anxiety.

The group “low affective empathy” (volunteers who “feel” less strongly the other’s emotions) evaluates its success as being more important than the group “high affective empathy” does when it comes to regulate anger. We also observed this outcome for the extreme groups. In order to investigate the meaning of this finding, we did new comparisons, using now success indicators separately, emotions anger and anxiety separately, and our three contexts (FAMILY, WORK and IFOTES) separately.
We found significant differences, for anger only, between the groups “high” and “low” empathy in their private life and salaried work contexts. Differences were not observed in the context of volunteering.

In the private life context, the group “low affective empathy” evaluates that it has more success in regulating the other’s anger when using one of the three strategies than the group “high affective empathy”. The success is indicated by the answers to the questions: was the situation successfully resolved? and will they use the strategies in a similar way next time? We did not observe these results for the extreme groups.6

In the salaried work context, the group “low total empathy” evaluates that it has more success in regulating the other’s anger when using one of the three strategies than the group “high total empathy”. Success is indicated by the answers to the question: will they use the strategies in a similar way next time? Here we observe these results for the extreme groups also.

In the salaried work context, the group “high cognitive empathy” evaluates that it has more success in regulating the other’s anger when using one of the three strategies than the group “low cognitive empathy”. Success is indicated by the answers to the question: do they consider their actions as effective? The extreme group “low affective empathy” evaluates that it has more success in regulating the other’s anger when using one of the three strategies than the extreme group “high affective empathy score”. Success is indicated by the answers to the question: will they use the same strategies next time?

It seems that the differences we find between the groups “high empathy” and “low empathy” may be due to the cognitive and affective sub-scores. It seems that the affective empathy sub-score plays an important role in the volunteer’s perception of his or her success when he or she deals with a situation of anger.

We did not find significant differences in the volunteering context, and this may be due to the fact that in this specific context (with its short periods of listening, its exclusively oral communication and its absence of feedback) the volunteers have little occasion to ascertain if they are successful or not.

Generally speaking, it is not totally absurd to expect that people with low empathy tend to overestimate their success. Indeed, a person who does not feel or understand emotional signs of distress could interpret the psychological state of his or her interlocutor in a wrong way and infer that the action taken will necessarily lead toward success. This does certainly not apply to the participants to this study, precisely because the empathy score of the

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6 We observed many tendencies, but no significant differences (see tables in annexe)
volunteers is arguably high. As all empathy scores are rather high, their values do not differ very much. It is not surprising then that the differences in the frequencies of use or in the evaluation of the success of the three strategies, when associated to the differences in empathy scores, show non-significant or unclear results.

In the present study, strategies 1 talk to the person and 3 do something to appease the other's emotion were limited to verbal modality actions. Our analysis focuses on the situations in the volunteer work context. Even if these strategies refer to two different actions (cognitive action for strategy 1, any other action for strategy 3), it is not impossible that volunteers answered to the questions without doing a real distinction.

All actions implying body postures, gestures or concrete actions (to prepare a cup of tea for example) are impossible to apply in strategy 3. In some situations, understanding the other's emotional state could be associated with a kind of non-verbal action through which the person or caller infers that he or she has been understood.

Future researches could establish comparisons between very different groups in what the empathy scores concerns and include someone else's feedback to assess the success of the actions taken to appease the other's emotion. Moreover a qualitative analysis of actions aiming at appeasing the other's anger or anxiety could lead more appropriately toward an understanding of the strategies used in regulating the other's emotion. Another hint would be to take individual differences into account in a future research.

**Conclusion**

Our exploratory study suggests that the affective life in the salaried and volunteer work contexts show important similarities. And this finding may contribute to a better understanding of volunteering, as the barriers between those contexts are much lower than commonly expected. We found first that emotions' frequencies and frequencies of emotions most difficult or easiest to deal with are similar in the two contexts. Second, we found that the volunteers who have a salaried work are the only volunteers who are going to feel more hostility when they increase the number of volunteering hours per month. And third we found that satisfaction is associated with the number of hours per month of volunteering in the same way that job satisfaction is a predictor of physical and psychological well being.

We argue that the similarities between the contexts of salaried work and volunteer work are due to the fact that volunteers engage in a long-term experience when they start volunteering. So that another trail to follow in a future research could be to establish a comparison of the affective life between “short term" and “long term" volunteer work contexts.
A concern of this study is the regulation of the other’s emotions. We found that this regulation is depending on the context and on the emotions, as is the regulation of one’s own emotions. The place of empathy in the regulation of the other’s emotions is not yet perfectly clear. Our findings suggest that empathy is a construct with at least two components: cognitive and affective. Our findings also suggest that the choice of the strategies, as well as their corresponding success to regulate the other’s emotions is well explained by those components of empathy.

We are confident in the findings of our study because it relies on a large number of participants, who share common principles and are volunteering in the same perspective.
Bibliography


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Annexes

Fig. 1: Difference in level of education between women and men.

Fig 2: Graph of volunteering number of years
Fig 3: Graph of volunteering number of hours per month
Table 1 Comparisons of success’ indicators by groups: Total high BES VS low, Cognitive high BES VS low, and Affective high BES VS low, and by extreme groups in FAMILY context.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>ANGER</th>
<th>ANXIETY</th>
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<tbody>
<tr>
<td><strong>Total BES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split high BES less success than low BES <strong>tendency</strong>: $t = -1.949, p = .05$</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>c) If you could do it again you would...</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
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<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td><strong>Cognitive BES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>c) If you could do it again you would...</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td><strong>Affective BES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split high BES less success than low BES <strong>t</strong>: $t = -1.982, p &lt; .05$</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>c) If you could do it again you would...</td>
<td>mean split high BES less success than low BES <strong>t</strong>: $t = -2.234, p &lt; .05$</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
</tbody>
</table>
Table 2 Comparisons of success’ indicators by mean split groups: Total high BES VS low, Cognitive high BES VS low and Affective high BES VS low and by extreme groups in WORK context.

<table>
<thead>
<tr>
<th>BES Type</th>
<th>Indicators</th>
<th>ANGER</th>
<th>ANXIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split: high BES = low BES NS</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>Total BES</td>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split: high BES more success than low BES</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>c) If you could do it again you would…</td>
<td>mean split: high BES less success than low BES</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>Cognitive BES</td>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split: high BES more success than low BES</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split: high BES = low BES NS</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>c) If you could do it again you would…</td>
<td>mean split: high BES = low BES NS</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>Affective BES</td>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split: high BES = low BES NS</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split: high BES = low BES NS</td>
<td>mean split: high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>c) If you could do it again you would…</td>
<td>mean split: high BES less success than low BES</td>
<td>mean split: high BES less success than low BES</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES less success than low BES tendency: $t = -1.794, p = 0.085$</td>
<td>high BES = low BES NS</td>
</tr>
</tbody>
</table>
Table 3 Comparisons of success’ indicators by mean split groups: Total high BES VS low, Cognitive high BES VS low and Affective high BES VS low and by extreme groups in IFOTES context.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>IFOTES</th>
<th>ANGER</th>
<th>ANXIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total BES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td>c) If you could do it again you would…</td>
<td>mean split</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td><strong>Cognitive BES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
<td>mean split</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
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<tr>
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<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
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<tr>
<td>b) Do you think that the overall situation or event was successfully resolved?</td>
<td>mean split</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
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<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
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<td>c) If you could do it again you would…</td>
<td>mean split</td>
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<td></td>
<td>extreme group</td>
<td>high BES = low BES NS</td>
<td>high BES = low BES NS</td>
</tr>
<tr>
<td><strong>Affective BES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>a) How effective do you think your actions were in making this person’s feelings of anger or anxiety diminish?</td>
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<td>extreme group</td>
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</tr>
</tbody>
</table>

Tendency: \( t = 1.874, p = 0.06 \)