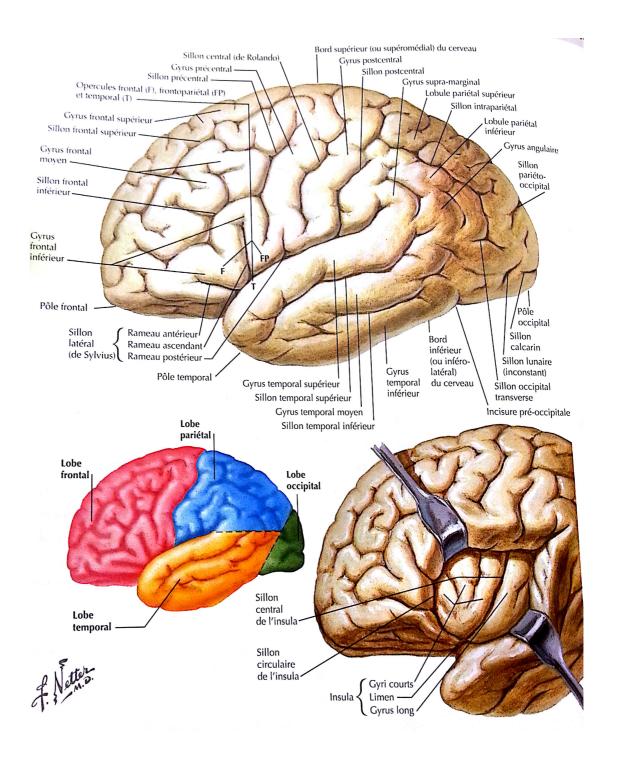
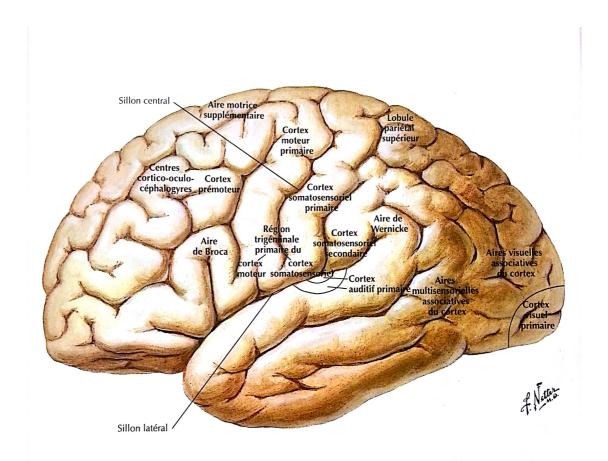
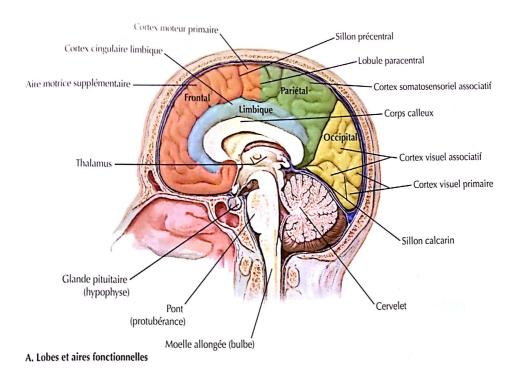
ANNEXE I: Vue latérale du cerveau (Felten, D.L. & Shetty, A. N., 2011)



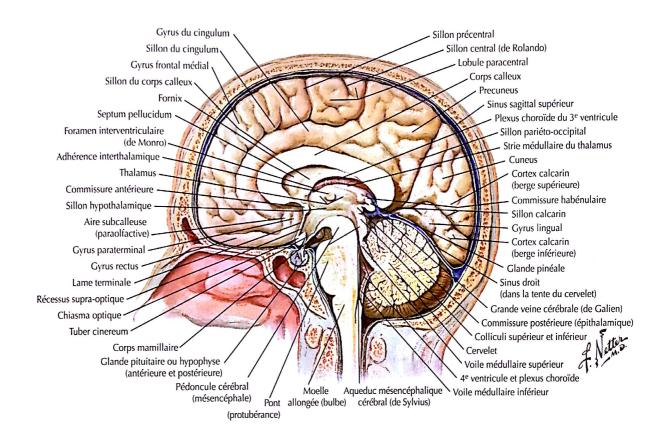
ANNEXE II: Vue latérale du cerveau régions fonctionnelles (Felten, D.L. & Shetty, A. N., 2011)



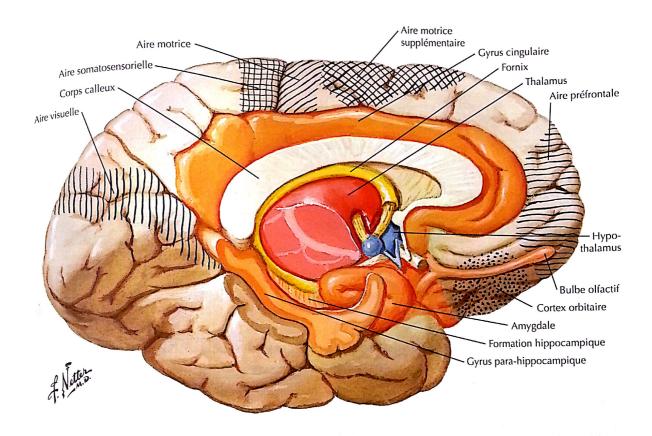
ANNEXE III: Vue médiale du cerveau (Felten, D.L. & Shetty, A. N., 2011)



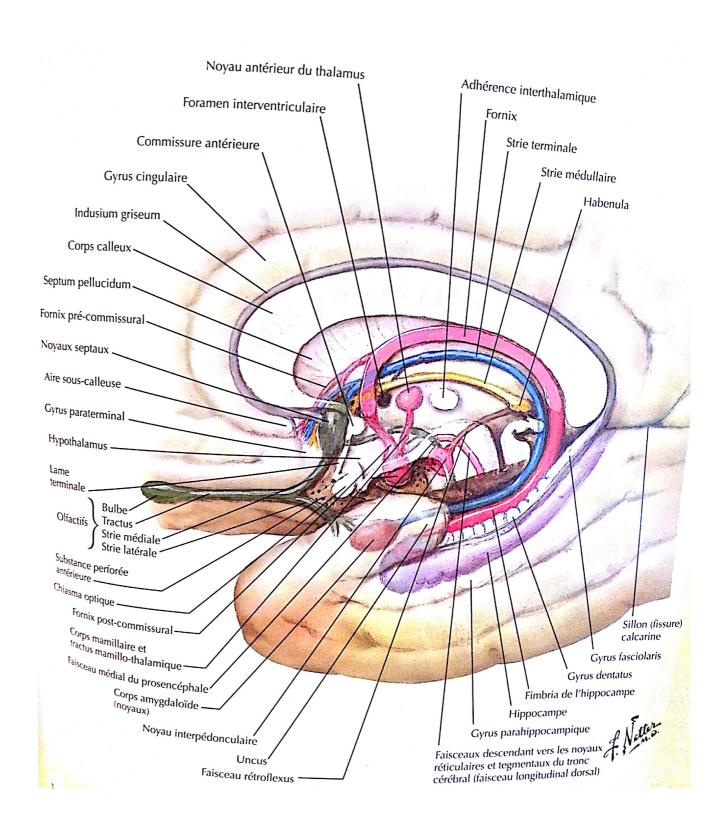
ANNEXE IV: Vue sagittale médiane du cerveau (Felten, D.L. & Shetty, A. N., 2011)



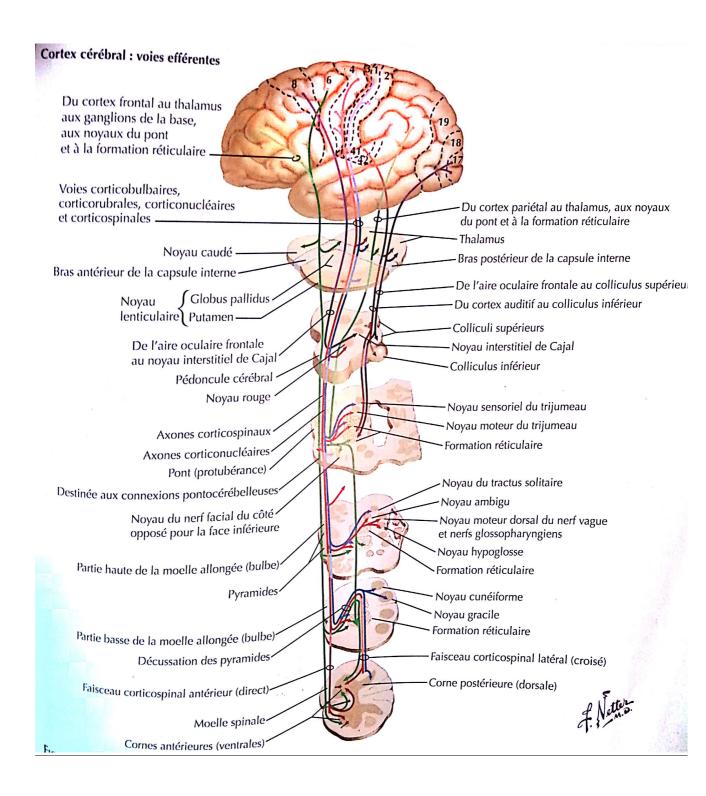
ANNEXE V : Régions du prosencéphale associées à l'hypothalamus (Felten, D.L. & Shetty, A. N., 2011)



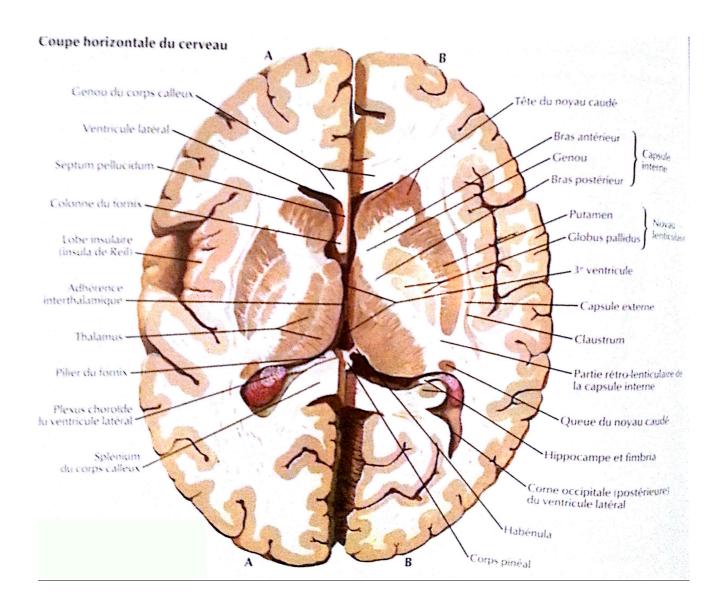
ANNEXE VI: Anatomie du système limbique (Felten, D.L. & Shetty, A. N., 2011)



ANNEXE VII: Voies efférentes corticales (Felten, D.L. & Shetty, A. N., 2011)



ANNEXE VIII: Noyaux de la base du cerveau (Ganglions) (Netter, F. H., 2003)



ANNEXE IX: Interpersonal Reactivity Index (IRI; Davis, 1980)

INTERPERSONAL REACTIVITY INDEX

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

Α	В	С	D	E
DOES NO	T			DESCRIBES ME
DESCRIB	E ME			VERY
WELL				WELL

- 1. I daydream and fantasize, with some regularity, about things that might happen to me. (FS)
- 2. I often have tender, concerned feelings for people less fortunate than me. (EC)
- 3. I sometimes find it difficult to see things from the "other guy's" point of view. (PT) (-)
- 4. Sometimes I don't feel very sorry for other people when they are having problems. (EC) (-)
- 5. I really get involved with the feelings of the characters in a novel. (FS)
- 6. In emergency situations, I feel apprehensive and ill-at-ease. (PD)
- 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (FS) (-)
- 8. I try to look at everybody's side of a disagreement before I make a decision. (PT)
- 9. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)
- 10. I sometimes feel helpless when I am in the middle of a very emotional situation. (PD)
- I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)

- 12. Becoming extremely involved in a good book or movie is somewhat rare for me. (FS) (-)
- 13. When I see someone get hurt, I tend to remain calm. (PD) (-)
- 14. Other people's misfortunes do not usually disturb me a great deal. (EC) (-)
- If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT) (-)
- 16. After seeing a play or movie, I have felt as though I were one of the characters. (FS)
- 17. Being in a tense emotional situation scares me. (PD)
- When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC) (-)
- 19. I am usually pretty effective in dealing with emergencies. (PD) (-)
- 20. I am often quite touched by things that I see happen. (EC)
- 21. I believe that there are two sides to every question and try to look at them both. (PT)
- 22. I would describe myself as a pretty soft-hearted person. (EC)
- 23. When I watch a good movie, I can very easily put myself in the place of a leading character. (FS)
- 24. I tend to lose control during emergencies. (PD)
- 25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)
- 26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. (FS)
- 27. When I see someone who badly needs help in an emergency, I go to pieces. (PD)
- 28. Before criticizing somebody, I try to imagine how <u>I</u> would feel if I were in their place. (PT)

NOTE: (-) denotes item to be scored in reverse fashion

PT = perspective-taking scale

FS = fantasy scale

EC = empathic concern scale

PD = personal distress scale

A = 0

B = 1

C = 2

D = 3

E = 4

Except for reversed-scored items, which are scored:

A = 4

B = 3

C = 2

D = 1

E = 0

HOGAN EMPATHY SCALE (HES)

Reference:

Hogan, R. (1969). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, 33, 307–316.

Description of Measure:

Defines empathy as "the intellectual or imaginative apprehension of another's condition or state of mind (Hogan, 1969)."

64-item scale composed of 31 items selected from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943), 25 items selected from the California Psychological Inventory (CPI; Gough, 1964) and 8 items created by Hogan and colleagues.

Abstracts of Selected Related Articles:

Choplan, B. E., McCain, M. L., Carbonell, J. L., & Hagen, R. L. (1985). Empathy: Review of available measures. *Journal of Personality and Social Psychology*, 48, 635-653.

This article reviews measures of empathy with a focus on the two most recent and widely used measures, the Hogan Empathy Scale and the Questionnaire Measure of Emotional Empathy (QMEE). The development and validity of each scale is discussed as well as the scales' relation to measures of personality and moral conduct and character. Although both the Hogan Empathy Scale and QMME have adequate validity, they seem to measure different aspects of empathy.

Greif, E. B., & Hogan, R. (1973). The theory and measurement of empathy. *Journal of Counseling Psychology*, 20, 280-284.

This paper reviewed several studies that (a) supported the idea that empathy is an important aspect of interpersonal behavior and moral conduct and (b) provided further evidence for the validity of an empathy scale. In addition, Minres factor analyses were performed to determine the underlying structure of the empathy scale and its relationship to the California Psychological Inventory (CPI) from which it can be scored. The items on the scale were sorted into three factors: tolerant, eventempered disposition; ascendant, sociable interpersonal style; and humanistic sociopolitical attitudes. With regard to the CPI, the scale was most closely related to the factor labeled interpersonal adequacy. Characteristics of empathic persons and uses of the empathy scale in future research were discussed.

Johnson, J. A., Cheek, J. M., & Smither, R. (1983). The structure of empathy. *Journal of Personality and Social Psychology*, 45, 1299-1312.

Factor analysis of Hogan's Empathy Scale, scored in Likert format, yielded four factors: Social Self-Confidence, Even Temperedness, Sensitivity, and Nonconformity. Correlations with 16 different personality measures and a set of 12 adjective rating scales confirmed the factors' unique psychological meanings. Empathy subscales, created from items loading primarily on one factor, accounted for roughly equal amounts of variance in Hogan's original Q-set empathy criterion, although the Sensitivity and Nonconformity factors appeared to be slightly more important. Implications discussed include ways to improve the scoring of the Empathy Scale for future research and several broader measurement issues: the costs and benefits of using sophisticated statistics, the importance of manifest item content, and the importance of scale homogeneity.

Scale:

A. Items in the CPI:

4(T), 8(T), 25(F), 52(T), 67(F), 79(F), 81(F), 84(T), 86(T), 97-(T), 98(F), 100(T), 127(T), 186(F), 191(T), 194(F), 198(T), 239(T), 247(F), 255(F), 271(F), 275(T), 287(T), 359(T), 361(F), 363(F), 364(F), 403(T), 421(F), 442(F), 463(F).

B. Items in the MMPI:

15(F), 26(F), 57(T), 73(F), 78(T), 79(F), 100(T), 129(F), 170(F), 204(T), 231(T), 244(F), 248(T), 254(T), 327(F), 336(F), 355(T), 372(T), 399(T), 404(F), 407(T), 410(T), 417(F), 463(F), 478(F).

C. Additional 8 Items:

- As a rule I have little difficulty in "putting myself into other people's shoes." (T)
- I have seen some things so sad that I almost felt like crying. (T)
- Disobedience to the government is never justified. (F)
- It is the duty of a citizen to support his country, right or wrong. (F)
- I am usually rather short-tempered with people who come around and bother me with foolish questions. (F)
- I have a pretty clear idea of what I would try to impart to my students if I were a teacher. (T)
- I enjoy the company of strong-willed people. (T)
- I frequently undertake more than I can accomplish. (T)

ANNEXE XI: Empathy Quotient (Lawrence et al., 2004)

How to fill out the questionnaire

Below are a list of statements. Please read each statement very carefully and rate how strongly you agree or disagree with it by circling your answer. There are no right or wrong answers, or trick questions.

IN ORDER FOR THE SCALE TO BE VALID, YOU MUST ANSWER EVERY QUESTION.

E	xamples				
E	I would be very upset if I couldn't listen to music every day.	strongly agree	slightly	slightly disagree	strongly disagree
E	2. I prefer to speak to my friends on the phone rather than write letters to them.	strongly agree	slightly agree	slightly disagree	strongly disagree
Е	3. I have no desire to travel to different parts of the world.	strongly agree	slightly	slightly disagree	strongly disagree
Е	4. I prefer to read than to dance.	strongly agree	slightly agree	slightly disagree	strongly disagree
	I can easily tell if someone else wants to enter a conversation.	strongly agree	slightly agree	slightly disagree	strongly disagree
	2. I prefer animals to humans.	strongly agree	slightly agree	slightly disagree	strongly disagree
3.	I try to keep up with the current trends and fashions.	strongly agree	slightly agree	slightly disagree	strongly disagree
4.	I find it difficult to explain to others things that I understand easily, when they don't understand it first time.	strongly agree	slightly agree	slightly disagree	strongly disagree
5.	I dream most nights.	strongly agree	slightly agree	slightly disagree	strongly disagree
6.	I really enjoy caring for other people.	strongly agree	slightly agree	slightly disagree	strongly disagree
7.	I try to solve my own problems rather than discussing them with others.	strongly agree	slightly agree	slightly disagree	strongly disagree
8.	I find it hard to know what to do in a social situation.	strongly agree	slightly agree	slightly disagree	strongly disagree
9.	I am at my best first thing in the morning.	strongly agree	slightly agree	slightly disagree	strongly disagree
10.	People often tell me that I went too far in driving my point home in a discussion.	strongly agree	slightly agree	slightly disagree	strongly disagree
11.	It doesn't bother me too much if I am late meeting a friend.	strongly agree	slightly agree	slightly disagree	strongly disagree
12.	Friendships and relationships are just too difficult, so I tend not to bother with them.	strongly agree	slightly agree	slightly disagree	strongly disagree

13.	I would never break a law, no matter how minor.	strongly agree	slightly agree	slightly disagree	strongly disagree
14.	I often find it difficult to judge if something is rude or polite.	strongly agree	slightly agree	slightly disagree	strongly disagree
15.	In a conversation, I tend to focus on my own thoughts rather than on what my listener might be thinking.	strongly agree	slightly agree	slightly disagree	strongly disagree
16.	I prefer practical jokes to verbal humour.	strongly agree	slightly agree	slightly disagree	strongly disagree
17.	I live life for today rather than the future.	strongly agree	slightly agree	slightly disagree	strongly disagree
18.	When I was a child, I enjoyed cutting up worms to see what would happen.	strongly agree	slightly agree	slightly disagree	strongly disagree
19.	I can pick up quickly if someone says one thing but means another.	strongly agree	slightly agree	slightly disagree	strongly disagree
20.	I tend to have very strong opinions about morality.	strongly agree	slightly agree	slightly disagree	strongly disagree
21.	It is hard for me to see why some things upset people so much.	strongly agree	slightly agree	slightly disagree	strongly disagree
	I find it easy to put myself in somebody else's shoes. I think that good manners are the most important thing a parent can teach their child.	strongly agree strongly agree	slightly agree slightly agree	slightly disagree slightly disagree	strongly disagree strongly disagree
24.	I like to do things on the spur of the moment.	strongly agree	slightly agree	slightly disagree	strongly disagree
25.	I am good at predicting how someone will feel.	strongly agree	slightly agree	slightly disagree	strongly disagree
26.	I am quick to spot when someone in a group is feeling awkward or uncomfortable.	strongly agree	slightly agree	slightly disagree	strongly disagree
27.	If I say something that someone else is offended by, I think that that's their problem, not mine.	strongly agree	slightly agree	slightly disagree	strongly disagree
28.	If anyone asked me if I liked their haircut, I would reply truthfully, even if I didn't like it.	strongly agree	slightly agree	slightly disagree	strongly disagree
29.	I can't always see why someone should have felt offended by a remark.	strongly agree	slightly agree	slightly disagree	strongly disagree
30.	People often tell me that I am very unpredictable.	strongly agree	slightly agree	slightly disagree	strongly disagree
31.	I enjoy being the centre of attention at any social gathering.	strongly agree	slightly agree	slightly disagree	strongly disagree
32.	Seeing people cry doesn't really upset me.	strongly agree	slightly agree	slightly disagree	strongly disagree

33.	I enjoy having discussions about politics.	strongly agree	slightly agree	slightly disagree	strongly disagree
34.	I am very blunt, which some people take to be rudeness, even though this is unintentional.	strongly agree	slightly agree	slightly disagree	strongly disagree
35.	I don't tend to find social situations confusing.	strongly agree	slightly agree	slightly disagree	strongly disagree
36.	Other people tell me I am good at understanding how they are feeling and what they are thinking.	strongly agree	slightly agree	slightly disagree	strongly disagree
3	7. When I talk to people, I tend to talk about their experiences rather than my own.	strongly agree	slightly agree	slightly disagree	strongly disagree
3	8. It upsets me to see an animal in pain.	strongly agree	slightly agree	slightly disagree	strongly disagree
3	9. I am able to make decisions without being influenced by people's feelings.	strongly agree	slightly agree	slightly disagree	strongly disagree
40.	I can't relax until I have done everything I had planned to do that day.	strongly agree	slightly agree	slightly disagree	strongly disagree
41.	I can easily tell if someone else is interested or bored with what I am saying.	strongly agree	slightly agree	slightly disagree	strongly disagree
42.	I get upset if I see people suffering on news programmes.	strongly agree	slightly agree	slightly disagree	strongly disagree
43.	Friends usually talk to me about their problems as they say that I am very understanding.	strongly agree	slightly agree	slightly disagree	strongly disagree
44.	I can sense if I am intruding, even if the other person doesn't tell me.	strongly agree	slightly agree	slightly disagree	strongly disagree
45.	I often start new hobbies but quickly become bored with them and move on to something else.	strongly agree	slightly agree	slightly disagree	strongly disagree
46.	People sometimes tell me that I have gone too far with teasing.	strongly agree	slightly agree	slightly disagree	strongly disagree
47.	I would be too nervous to go on a big roll-ercoaster.	strongly agree	slightly agree	slightly disagree	strongly disagree
48.	Other people often say that I am insensitive, though I don't always see why.	strongly agree	slightly agree	slightly disagree	strongly disagree
49.	If I see a stranger in a group, I think that it is up to them to make an effort to join in.	strongly agree	slightly agree	slightly disagree	strongly disagree
50.	I usually stay emotionally detached when watching a film.	strongly agree	slightly agree	slightly disagree	strongly disagree
51.	I like to be very organised in day to day life and often make lists of the chores I have to do.	strongly agree	slightly agree	slightly disagree	strongly disagree
52.	I can tune into how someone else feels rapidly and intuitively.	strongly agree	slightly agree	slightly disagree	strongly disagree
53.	I don't like to take risks.	strongly agree	slightly agree	slightly disagree	strongly disagree
54.	I can easily work out what another person might want to talk about.	strongly agree	slightly agree	slightly disagree	strongly disagree

55.	I can tell if someone is masking their true emotion.	strongly agree	slightly agree	slightly disagree	strongly disagree
56.	Before making a decision I always weigh up the pros and cons.	strongly agree	slightly agree	slightly disagree	strongly disagree
57.	I don't consciously work out the rules of social situations.	strongly agree	slightly agree	slightly disagree	strongly disagree
58.	I am good at predicting what someone will do.	strongly agree	slightly agree	slightly disagree	strongly disagree
59.	I tend to get emotionally involved with a friend's problems.	strongly agree	slightly agree	slightly disagree	strongly disagree
60.	I can usually appreciate the other person's viewpoint, even if I don't agree with it.	strongly agree	slightly agree	slightly disagree	strongly disagree

THE QUESTIONNAIRE MEASURE OF EMOTIONAL EMPATHY

Table 1 presents the items of the measure of empathic tendency used in the present experiments Response to each item of Table 1 is on a +4 (very strong agreement) to -4 (very strong disagreement) scale, and the (+) and (-) signs preceding each item indicate the direction of scoring The items were selected

from a larger set on the basis of (a) insignificant correlations with the Crowne and Marlowe (1960) social desirability scale, (b) significant or level correlations with the total score on the scale, and (c) content validity inferred in part from factor analyses of a larger pool of items.

The final set of items in Table 1 represents intercorrelated subscales which measure related aspects of emotional empathy. The subscales consist of "Susceptibility to Emotional Contagion" as measured by items such as (10) and (20) of Table 1; "Appreciation of the Feelings of Unfamiliar and Distant Others" represented by items such as (15) and (28), "Extreme Emotional Responsiveness" represented by items such as (8) and (23), "Tendency To Be Moved by Others' Positive Emotional Experiences" measured by items such as (14) and (22), "Tendency To Be Moved by Others' Negative Emotional Experiences" measured by items such as (16) and (30), "Sympathetic Tendency" represented by items such as (26) and (33), and "Willingness To Be in Contact with Others Who Have Problems" represented by items such as (12) and (21).

The subscale intercorrelations are all significant at the .01 level and exceed 0 30 in all instances. The split-half reliability for the entire measure is 0 84. The total empathy scale has a correlation of 0.06 with the Crowne and Marlowe (1960) social desirability scale.

To compute a total empathy score, the signs of a subject's responses on the negative (-) items are changed and then an algebraic sum of all 33 responses to the scale is obtained. For a sample which included equal numbers of males and females, mean = 33 and standard deviation = 24. However, since males and females differ significantly in their empathic tendency (the correlation between empathy and sex, male = 1 and female = -1, was -.42 for one sample of 202 subjects) separate statistics may be necessary in some cases. For males, M = 23, SD = 22, for females, M = 44, SD = 21.

The experiments described in the following two sections explored the validity of the measure of emotional empathy in Table 1. In the first section, experiments investigated the correlates of emotional empathy in situations involving aggression, in the

Table 1. Questionnaire measure of empathic tendency.

```
1 It makes me sad to see a lonely stranger in a group
2 People make too much of the feelings and sensitivity of animals.

    2 People make too much of the feelings and sensin
    3 I often find public displays of affection annoying

    4 I am annoyed by unhappy people who are just sorry for themselves.

 (+) 5 I become nervous if others around me seem to be nervous

    6 I find it stilly for people to cry out of happiness
    7 I tend to get emotionally involved with a friend's problems

(+) 8 Sometimes the words of a love song can move me deeply
(+) 9 I tend to lose control when I am bringing bad news to people

    (+) 10 The people around me have a great influence on my moods.
    (-) 11 Most foreigners I have met seemed cool and unemotional

 (+) 12 I would rather be a social worker than work in a job training center
 (-) 13 I don't get upset just because a friend is acting upset
 (+) 14 I like to watch people open presents.
 (-) 15 Lonely people are probably unfriendly.
(+) 16 Seeing people cry upsets me
(+) 17. Some songs make me happy
 (+) 18 I really get involved with the feelings of the characters in a novel
(+) 19 I get very angry when I see someone being ill-treated

    (-) 20 I am able to remain calm even though those around me worry.
    (-) 21 When a friend starts to talk about his problems, I try to steer the

conversation to something else (--) 22. Another's laughter is not catching for me
(-) 23 Sometimes at the movies I am amused by the amount of crying and
              sniffling around me
(-) 24 I am able to make decisions without being influenced by people's feelings.
(+) 25 I cannot continue to feel OK if people around me are depressed.

(-) 26 It is hard for me to see how some things upset people so much
(+) 27 I am very upset when I see an animal in pain.
(-) 28 Becoming involved in books or movies is a little silly

(+) 29. It upsets me to see helpless old people
(-) 30 I become more irritated than sympathetic when I see someone's tears.
(+) 31 I become very involved when I watch a movie
 -) 32 I often find that I can remain cool in spite of the excitement around me
(-) 33 Little children sometimes cry for no apparent reason.
```

second section, an experiment investigated its relation to helping To test construct validity, it was first necessary to consider relevant research in each section and thereby develop hypotheses bearing on emotional empathy.

ANNEXE XIII: Balanced empathy emotional scale (Williams, B. R., 2010)

*** BEES Instrument Administered to Carla Harris Instructions:
1. Rate yourself on each item with a beside it. 2. Use the respective 0-5 Assets Scale and Liabilities Scale to rate yourself. 3. Calculate the difference between your asset score and your liability score Assets Scale 0Not at all 1Very little 2 Moderate 3 Sufficient 4 Very good 5 Excellent Energy Assets — established and lasting energy resources
Healthy mental processes: 1. Self-knowledge—how well you know your strengths and weaknesses 2. Spiritual and philosophical beliefs that bring comfort, peace and tranquility 3. Grounded optimism—a basically positive view of yourself and the world that is inclusive of "the big picture" 4. Self-enhancing beliefs—belief systems that give you energy, strengthen your faith and optimism, and get you through the difficult times
Healthy emotional patterns: 1. Self-empathy—the ability to see your deep emotions clearly, and to have compassion for yourself (without self pity) 2. Self-esteem—your reserve of good feelings about yourself in general 3. Resilience—the ability to bounce back from physical and emotional stress and difficulty 4. Stability—your level of consistency regarding your emotional response patterns, value systems and relationships
Healthy, established behavior patterns 1. Exercise/fitness program 2. Healthy diet 3. Contact with nature 4. Self-reflection, journaling 5. Meditation, prayer, spiritual practice
Meaningful work/professional life 1. Work satisfaction 2. Alignment between work and sense of purpose 3. Balance of work with home/family/social life
Fulfilling relationships 1. Good communication skills 2. Established community Family 3. Friends a. One or more very close friend's b. A variety of casual friendships c. A number of friendly acquaintances

4. Larger community identity affiliations
Liabilities Scale 0N/A 1Very little 2Moderate 3Noticeable 4Significant 5Major Concern Energy Liabilities Patterns and processes that drain your energy
Unhealthy mental processes 1. Low level of self-knowledge—little knowledge of your strengths and/or weaknesses 2. Insufficient or negative spiritual and philosophical belief systems 3. Pessimism, skepticism, cynicism re. Self, others, life, the world 4. Self-limiting beliefs
Unhealthy emotional patterns 1. Negative self image 2. Depression, residual anger, chronic fear/anxiety 3. Emotional volatility
Unhealthy behavior patterns 1. Lack of self-discipline—impulsivity 2. Lack of self-motivation—poor initiative and follow-through 3. Lack of self-empathy—self-loathing, self-denigration 4. Compulsive-addictive behaviors (food, sex, TV, internet, work, alcohol, drugs)
Work/professional life 1. High work-related stress levels 2. Work does not match your values/vision 3. Do not like your work/profession ———————————————————————————————————
Relationships 1. Poor communication skills 2. Poor social skills 3. Social isolation 4. Dysfunctional relationships a. Codependency b. Dependency c. Victim-persecutor-rescuer triangles
Total Energy Assets Score: Total Energy Liabilities Score = Emotional Energy Balance:
Assessing your Emotional Balance The following are merely guidelines for self-assessment. If anything does not fit, disregard it. Use your own judgment and intuition to assess your assets and liabilities. Use this tool only to the extent that it is helpful to you.
Less than zero: You are in an energy depletion condition. This may be an excellent time for preventive health care. You probably need to take immediate action to work toward better balance in your life. Read, research and/or seek professional help to accomplish your goals and overcome your difficulties.

0-15: You may be "running on fumes." This is a survival mode, where you may feel you are just barely keeping your head above water. This can work for a lifetime, and may seem "normal," but you can certainly improve on your condition by increasing your assets and reducing your liabilities.

16-33: You probably are not having a lot of fun. It may seem that you are just barely staying ahead of your problems, or maybe a little behind. You have some energy to work with, and it would be a good idea to build on your strengths and look to reducing the things in your life that drain you.

- **34-51:** You have a lot going for you. Healthy beliefs and patterns are serving you well. You may be concerned about some energy drains that just won't seem to go away. Consider the possibility that you can reach all of your dreams, by working diligently to grow your assets and reduce your liabilities.
- **52-69:** You are close to "the top of your game." You add energy to the lives of others, and your participation in any project is an asset to your associates. You will receive great benefit from helping others and sharing your knowledge and skills. Continue what you are doing, with a close eye on managing your assets and liabilities, and you are likely to prosper in many ways.
- **70-85**: You are in a fortunate and blessed position in life. Your energy flows freely from within and all around you and you have much to give to this world. There is great freedom and responsibility that goes with your level of health and emotional wealth. Your freedom is in how you choose to use your abundant energy, and your responsibility is to give back to this world that has blessed you. You will receive as you give. You are a plus to the world.

ANNEXE XIV: Toronto empathy questionnaire scale (Spreng, & al., 2009)

Toronto Empathy Questionnaire instructions

Below is a list of statements. Please read each statement *carefully* and rate how frequently you feel or act in the manner described. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

- 1. When someone else is feeling excited, I tend to get excited too
- 2. Other people's misfortunes do not disturb me a great deal
- 3. It upsets me to see someone being treated disrespectfully
- 4. I remain unaffected when someone close to me is happy
- 5. I enjoy making other people feel better
- **6.** I have tender, concerned feelings for people less fortunate than me
- 7. When a friend starts to talk about his\her problems, I try to steer the conversation towards something else
- 8. I can tell when others are sad even when they do not say anything
- 9. I find that I am "in tune" with other people's moods
- 10. I do not feel sympathy for people who cause their own serious illnesses
- 11. I become irritated when someone cries
- 12. I am not really interested in how other people feel
- 13. I get a strong urge to help when I see someone who is upset
- 14. When I see someone being treated unfairly, I do not feel very much pity for them
- 15. I find it silly for people to cry out of happiness
- 16. When I see someone being taken advantage of, I feel kind of protective towards him \her *Scoring* Item responses are scored according to the following scale for positively worded items 1, 3, 5, 6, 8, 9, 13, 16. Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4. The following negatively worded items are reverse scored: 2, 4, 7, 10, 11, 12, 14, 15. Scores are summed to derive total for the Toronto Empathy Questionnaire.

ANNEXE XV : Bryan't index of empathy (Bryant, 1982)

INDEX OF EMPATHY FOR CHILDREN AND ADOLESCENTS

Statement	Response
1. It makes me sad to see a girl who can't find anyone to play with.* (1)	(+)
2. People who kiss and hug in public are silly. (3)	(-)
 People who kiss and hug in public are silly. (3) Boys who cry because they are happy are silly.* (6) 	(-)
4. I really like to watch people open presents, even when I don't get a present myself. (14)	(+)
5. Seeing a boy who is crying makes me feel like crying * (16)	(+)
6. I get upset when I see a girl being hurt.* (19)	(+)
7. Even when I don't know why someone is laughing, I laugh too. (22)	(+)
8. Sometimes 1 cry when 1 watch 1 V. (23)	(+)
9. Girls who cry because they are happy are silly.* (6)	(-)
10. It's hard for me to see why someone else gets upset. (26)	(-)
11. I get upset when I see an animal being hurt. (27)	(+)
12. It makes me sad to see a boy who can't find anyone to play with.* (1)	(+)
13. Some songs make me so sad I feel like crying. (17)	(+)
14. I get upset when I see a boy being hurt.* (19)	(+)
15. Grown-ups sometimes cry even when they have nothing to be sad about. (33)	(-)
16. It's silly to treat dogs and cats as though they have feelings like people. (2)	(-)
17. I get mad when I see a classmate pretending to need help from the teacher all the time, (4)	(-)
18. Kids who have no friends probably don't want any. (15)	(-)
19. Seeing a girl who is crying makes me feel like crying.* (16)	(+)
20. I think it is funny that some people cry during a sad movie or while reading a sad book. (23)	(-)
21. I am able to eat all my cookies even when I see someone looking at me wanting one. (24)	(-)
22. I don't feel upset when I see a classmate being punished by a teacher for not obeying school rules. (7)	(-)