The Long-term Impacts of Child Abduction Trauma on Women in N. Uganda

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with

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Motivation

Recent Conflicts Around the World

- Year 2022 = Deadliest year since the Rwandan genocide (1994)
- Almost 100% increase in war-related fatalities
- Primarily due to wars in Ukraine (>80K deaths) & Ethiopia (>100K deaths)

Source: Uppsala Conflict Data Project (UCDP)

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- Over 20,000 deaths and over 50,000 injured in the Gaza conflict

- Majority women and children

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Motivation

- Large literature on the socio-economic and (more recently) psychological impacts of war violence
  - Negative effects on health and education; More recent focus on marital status and IPV Citations
  - *Identification*: Distance to conflict areas (using e.g., ACLED data)

- Large literature on the impact of war violence on preferences:
  - Risk aversion(↑), Pro-sociality ↑, trustworthiness(↑) and cooperativeness (↑) Citations
  - *Identification*: Self-reported victimization and behavioral games

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- **Violence against women and girls – and in particular sexual violence – is widespread during armed conflicts**
  - Little work on the long-term impacts of gender-based war violence, especially when the victims are children

- We study women who were abducted as children during the LRA conflict (1980s-2000s) in Uganda

Research Question and Methodology

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- **Methodology**:
    - Sample of 277 women abducted as children and 264 women not abducted from same villages in Northern Uganda
        - Heavily affected areas during the civil war against the Lord Resistance Army (LRA), in 1986-2006.
    - Identification strategy:
        - Abductions **as good as random** (Blattman and Annan, 2010)
        - We compare **abducted** and **not-abducted** women
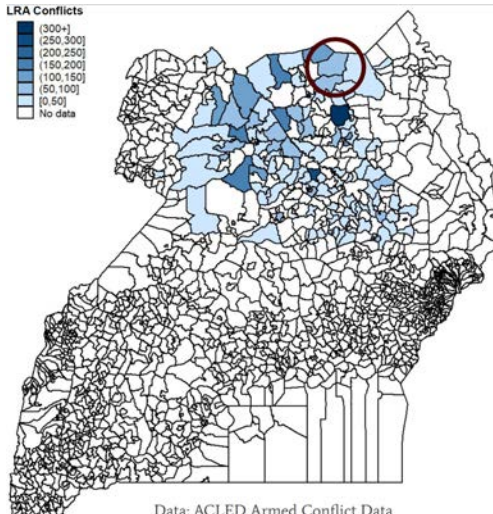
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- **Data:**
  - Mental Health
  - Education and economic activities
  - Marital status, children, social support
  - Grit *(incentivized game)*
  - Risk attitudes *(incentivized game)*
  - Pro-sociality *(incentivized game)*
  - Competitiveness *(incentivized game)*

Context

- The conflict between the Lord Resistance Army (LRA) and the Ugandan Army:
    - 1986 to 2006
    - The LRA was a rebel army that formed in the late 80s
    - Started when President Museweni overthrew a government made primarily of Acholi people
    - Joseph Kony formed the LRA and sustained fighting primarily through widespread abductions in the North (Acholi)

- Between 50,000 and 80,000 people in N. Uganda from 1980-2006
    - More than half were **children**
    - Boys: Child soldiering
    - Girls: Forced marriages

- Annan et al. (2011) estimate that about **one sixth of all girls** were abducted in Northern Uganda
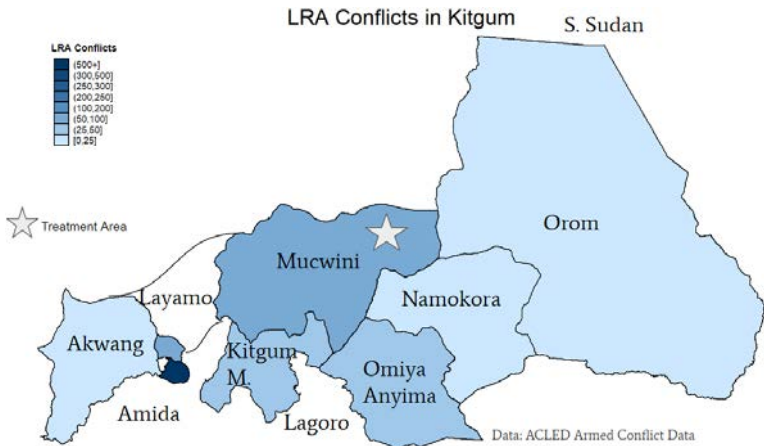   - We think **more** in our area of study

War Intensity in Northern Uganda

- SubCounty-level war intensity (1996-2006)
- 167 counties
- We collect data in Kitgum county.

LRA Conflicts
(300+]
(250,300]
(200,250]
(150,200]
(100,150]
(50,100]
[0,50]
No data

Data: ACLED Armed Conflict Data

Methodology and Data Collection

- We involved nearly 550 women in a Kitgum subcounty of Mucwini, one of the most heavily affected sub-counties
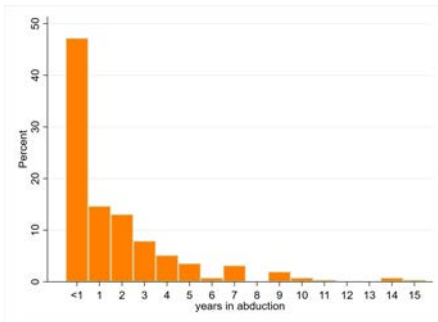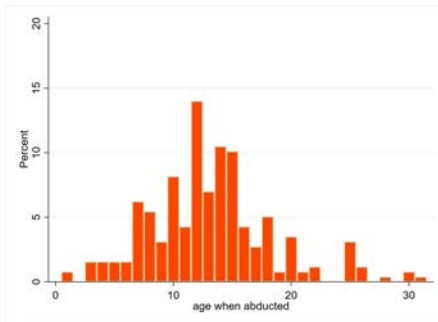

LRA Conflicts in Kitgum

Data Collection

- **30 workshops involving about 20 women per workshop**:
  - 12 out of 36 villages in the subcounty

- **Data Collection in 3 waves throughout 2022**

- Each workshop took **about 5 hours**:
  - A *comprehensive survey* conducted one on one, in private.
  - 4 incentivized behavioral games, conducted in a group setting.

- **Compensation**:
  - We arranged and paid for transportation
  - We paid about 8 USD per woman plus earnings from game (another 8-10 USD on average)
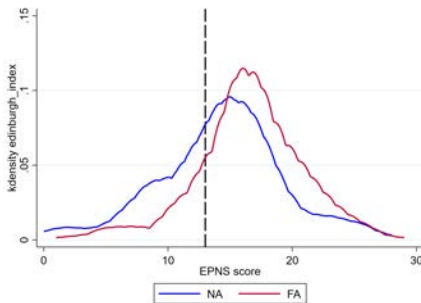 - Refreshments (lunch)

Sample

A total of **541 women** in the 18-50 age range

- NOT ABDUCTED (NA): 264 women
- FORMERLY ABDUCTED (FA): 277 women
    - Average age when abducted: 13.
    - Average time in abduction: 1.8 years

Results: Impact on Mental Health

- We use the Edinburgh Post-Natal Depression Scale (EPNS) Index
- Score>13 indicates likely depression
- FA = Formerly Abducted; NA = Not Abducted.

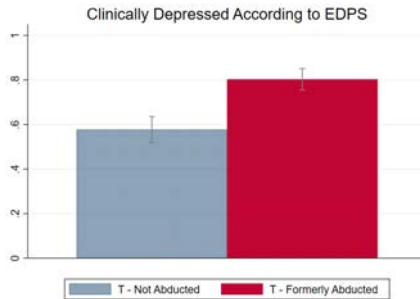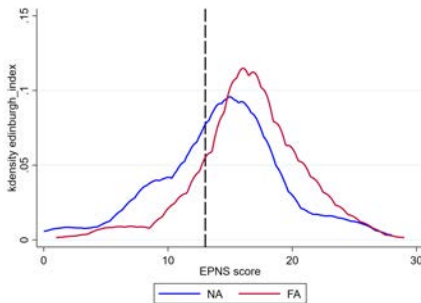# Results: Impact on Mental Health

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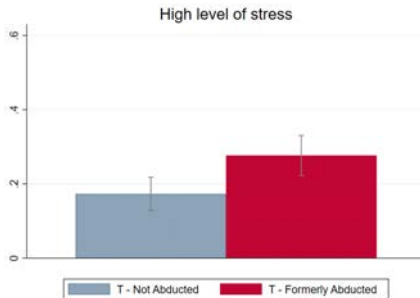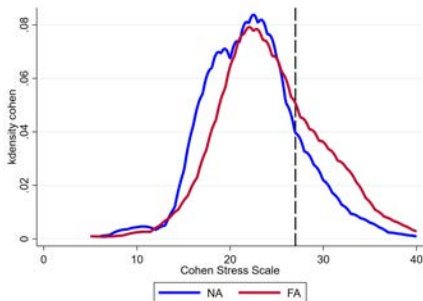- Formerly abducted women significantly more likely to be clinically depressed.

Results: Impact on Mental Health

- We use the Cohen Stress index (Cohen Index)
- Score>=27 indicates severe stress.

- Formerly abducted women significantly more likely to be severely stressed.

Results: Impact on Mental Health

- Likelihood of depression 30% higher for FA women
- Likelihood of severe stress 50% higher for FA women

	Edinburgh Scale	Edinburgh Scale	Depressed (EPNS>13)	Depressed (EPNS>13)	Cohen Index	Cohen Index	Stressed (Cohen>26)	Stressed (Cohen>26)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Abducted	1.846***	1.721***	0.196***	0.175***	1.266**	1.117*	0.096**	0.082*
	(0.418)	(0.456)	(0.037)	(0.041)	(0.519)	(0.558)	(0.041)	(0.046)
Observations	526	525	526	525	501	500	501	500
Not Abd. Mean	14.287	14.287	0.597	0.597	22.370	22.370	0.187	0.187
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Village FE	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	29	29	29	29	29	29	29	29

Standard errors, in parentheses, are clustered at the workshop level. Controls only include age and an indicator for data collection wave, as the data collection occurred in three waves: January/February 2022, May 2022 and June/July 2022. *** p<0.01, ** p<0.05, * p<0.1.

Education, Marital Status, Economic Outcomes, Social Support

- The abduction did not impact education, marital status, income generating activities
- Abducted women have less social support (Index) and more children
  - Why? *(work in progress)*

	≥ Primary Edu	Married	N. of Children	Social Support Index	Farm Worker	No Income (last yr)
	(1)	(2)	(3)	(4)	(5)	(6)
Abducted	-0.063	0.010	0.319**	-1.149**	-0.005	0.046
	(0.037)	(0.044)	(0.123)	(0.501)	(0.034)	(0.046)
Observations	540	540	540	430	540	540
Not Abd. Mean	0.397	0.588	2.801	19.644	0.892	0.375
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Village FE	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	29	29	29	29	29	29

Standard errors, in parentheses, are clustered at the workshop level. Controls only include age and an indicator for data collection wave, as the data collection occurred in three waves: January/February 2022, May 2022 and June/July 2022. *** p<0.01, ** p<0.05, * p<0.1.

Impacts on Preferences: Grit, Risk, Competitiveness, Giving

- We conducted 4 incentivized behavioral games:
  - **Grit Task**
    - Inspired by Alan et al. (2019)
    - 3 rounds of a Raven Task `See it`
    - R1: 5 matrices in 5 minutes, incentivized
    - Before R2, enumerators assess individual performances (on desk)
    - In R2: Choice between 5 easy and 5 hard matrices
    - In R3: Choice between easy and hard matrix to solve at the payment stage (and can practice)

  - **Risk Preference Task** (Eckel and Grossman, 2008) `See it`

  - **Competitiveness Task** (Gneezy et al., 2007)
    - Throw a ball 5 times into a basket 3 meters away
    - Choose to be paid 1 USD per success or 4 USD per success if performing better than unknown woman competitor

  - **Pro-sociality Task** (Cassar et al., 2007):
    - 4 allocation decisions: FA woman, NA woman, woman from same village, man from same village. `Visual Aid`

Impacts on Preferences: Grit, Risk, Competitiveness, Giving

- Some evidence of increased grit
- No impact on risk tolerance and competitiveness
- Suggestive evidence that abduction may decrease giving

	Grit Measure 1	Grit Measure 2	Decision to Compete	Risk Aversion	% to Given to FA	Always Gives 0
	(1)	(2)	(3)	(4)	(5)	(6)
Abducted	0.612***	0.075*	0.067	0.031	-0.034*	0.068*
	(0.173)	(0.040)	(0.044)	(0.137)	(0.018)	(0.038)
Observations	520	518	518	539	486	540
Not Abd. Mean	2.029	0.668	0.307	3.264	0.253	0.274
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Village FE	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	28	28	28	29	28	29

Standard errors, in parentheses, are clustered at the workshop level. Controls only include age and an indicator for data collection wave, as the data collection occurred in three waves: January/February 2022, May 2022 and June/July 2022. 'Grit measure 1 is the number of hard matrices attempted in Round 2 of the Raven Task. "Grit Measure 2" is a dummy equal to 1 if the woman chose to solve a hard matrix in Round 3 of the Raven Task. "FA" stands for "Formerly Abducted." "Always Gives 0" is a dummy equal to 1 if the participant kept the money in all 4 allocation decisions. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Summary

- We exploit the quasi-randomness of girls' abductions to examine **causal impact** of **childhood abductions** on a large set of economic, social and psychological outcomes.

- **We find persistent negative impacts on mental health**:
  - The abduction increases the likelihood of depression by 30%
  - and the likelihood of severe stress by 50%

- **No impact on human capital, economic outcomes, marital outcomes, poverty**
  - All women in the sample are highly (and equally) vulnerable
  - No differences in marital status
  - but abducted women have more children

- **No strong evidence of impact on preferences**
  - Some evidence of higher grit and lower pro-sociality

- **Negative impact on social support** (coming primarily from spouse/family)

Next Steps

What we plan to do next:

- **More Data Analysis**:
  - ⬦ Heterogeneity by time in abduction and age when abducted.
  - ⬦ More measures of intra-household bargaining power
  - ⬦ We have data on polygamy
  - ⬦ Impact on children (eventually)
  - ⬦ Correction for multiple hypothesis testing

- **Phase 2: RCT on an expanded sample**
  - We are about to launch an RCT which will test the impact of:
  - ⬦ Weekly cash transfers
  - ⬦ Cash plus Standard Group Coaching Intervention
  - ⬦ Cash plus Mental Health Counseling (Group)
  - ⬦ Cash plus Mental Health Counseling (Individual)

THANK YOU!
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Evidence of War Impacts On Mental Health

- More recent literature:

    ◇ Ethiopia: Favara et al. (2022)

    ◇ Germany (WW2): Akbulut-Yuksel et al (2022 NBER wp)

    ◇ Vietnam: Singhal (2019, JDE)

    ◇ USA: Veterans of Afghanistan and Iraq wars (Cesur et al, 2013)

- Important work by Jeannie Annan and Chris Blattman in Northern Uganda *(more later)*:
    - Annan et al. (2009)
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    - Survey in mid-2000s of about 600 boys and 600 girls in N. Uganda
        - Half were abducted during the conflict with the Lord Resistance Army (LRA)
        - Abduction = random

Evidence of Impacts on Preferences

- Large literature, for the most part disjoint from studies focusing on health, education and labor outcomes;

- Incentivized lab in the field experiments (behavioral games) with samples of individuals living in war-affected areas - usually ADULTS.

  - **Risk aversion tends to ↑:**
    - ◇ Early work in Burundi showed ↓ risk seeking (Voors et al. 2012, AER)
    - ◇ Other work, e.g., in Afghanistan (Callen et al., 2014 AER) and Kenya (Jakiela and Ozier, 2019 RESTAT) shows ↑ risk aversion.

  - **Trust (?) and trustworthiness ↑:**
    - ◇ Uganda: Lower trust (Rohner et al, 2013 JEG)
    - ◇ Tajikistan: Lower trust (Cassar et al., 2013 JEG)
    - ◇ Uganda: Ex-combatants are more trustworthy (Bauer et al, 2017 EJ)
    - ◇ Nepal: Higher trust and trustworthiness (Gilligan et al. AJPS)

    Back

Evidence of Impacts on Preferences

- Use of incentivized lab in the field experiments:
  - **Cooperativenes, social capital, civic engagement ↑**:
    - ◇ Literature review and meta-study: Bauer et al. (2016, JEP)
    - ◇ Voting and group membership increase. Null effects on trust game.
  - **Pro-sociality ↑ (kind of)**:
    - ◇ Nepal: More giving in a Dictator Game (Gilligan et al. 2014 AJPS)
    - ◇ More giving to in-group members only found in Georgia and Sierra Leone (Bauer et al. 2013)
    - ◇ Robust result in the meta-analysis (Bauer et al 2016 JEP)
  - **Competitiveness (?)**:
    - ◇ Sierra Leone: Lower competitiveness, except for mothers (Cassar et al. 2023)
    - ◇ Sierra Leone: More competitiveness - study is on young men only (Cecchi et al. 2015 EDCC)
  - **Anti-social preferences ↑ (by men)**:
    - ◇ Assam (Indian state): Men but not women more likely to destroy others' money (Islam et al. 2023 JEBO)
    - ◇ Cambodia: Direct experience of violence → more anti-social (Gangadharan et al. 2022 WD)

Evidence of War Impacts On Health and Education

- **Identification Strategy**: Location and time variation of the conflict, and exposure of different birth cohorts.

- **Health**:
  - War exposure during childhood $\rightarrow$ lower height for age
    - ◇ Burundi: Bundervoet et al (2009, JHR)
    - ◇ Côte d'Ivoire: Minoiu and Shemyakina (2014, JDE)
    - ◇ Ethiopia: Akresh et al. (2012, JDE)
    - ◇ Peru: Grimard and Laszlo (2014, WD)
    - ◇ Germany: Akbulut-Yuksel (2014, JHR)
    - ◇ Nigeria: Akresh et al. (2014, AER P&P) Back

- **Education**:
    - ◇ Guatemala: Chabarmagwala and Moran (2011, JDE)
    - ◇ Nepal: Valente (2014, WBER)
    - ◇ Nigeria: Bertoni et al. (2019, JDE)
    - ◇ Punjab - India: Singh and Shemyakina (EER, 2016)
    - ◇ Peru: Leon (2012, JHR)
    - ◇ Rwanda: La Mattina (2019, JDE) - caught up 16 yrs later
    - ◇ Tajikistan: Shemyakina (2011, JDE)

Women: Additional Impacts?

- **Marriage Outcomes and Gender Norms**
  - Unmarried women:
    - ◇ Fewer men (survivors) → more unmarried women
    - ◇ Fewer men (survivors) → men have more bargaining power in the marriage market; women have less control over resource allocation (La Mattina, 2019 JDE)
    - ◇ Caveat: Also male-biased sex ratios could ↑ IPV (Grosjean and Khattar 2019 RESTAT; Amaral and Balotra 2019)
  - Married women (pre-war)
    - ◇ More likely to lose husband → poverty, vulnerability
    - ◇ BUT - more women as household heads could lead to more gender equality in the long term
    - ◇ Evidence in Paraguay (Alix-Garcia et al 2022 JEBO) and Rwanda (Rogall & Zarrate-Barrera, 2022)

- **Domestic Violence**
  - Less bargaining power → more domestic violence
  - More exposure to violence → more IPV
    - ◇ Angola: War veterans more prone to IPV (Stojetz and Brück 2023)
    - ◇ Turkey: Deployment to conflict zone → More IPV

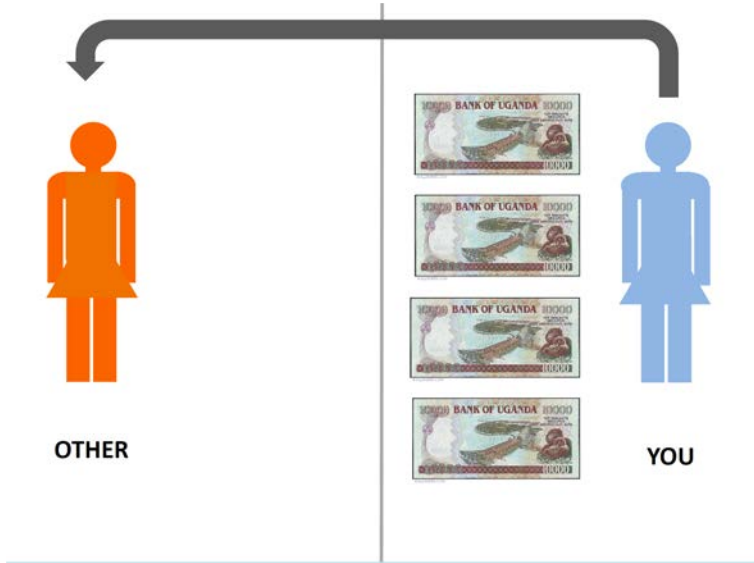# Evidence of War Impacts On Mental Health

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Summary: Status of the Literature

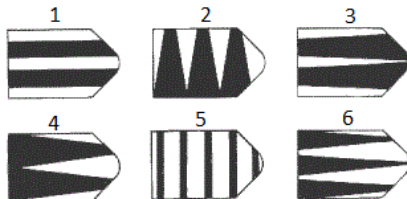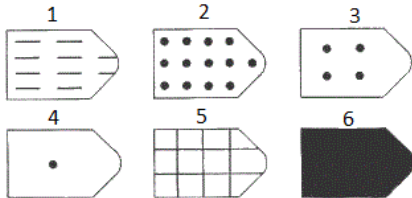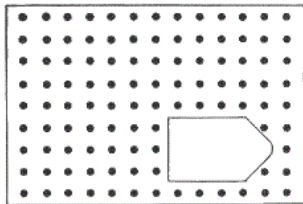**Two distinct large bodies of literature**

- *Geolocation of conflict events data*:
    - Linked to national individual-level data, large samples
    - BUT can't differentiate among levels of victimization in an area (property damage vs. family death vs. own abduction?)
    - Limited outcome variables
- *Smaller-scale studies of preferences*:
    - Look at individual experiences of victimization
    - BUT smaller samples, more expensive
    - Less able to exploit (possibly exogenous) location- and time-variation in exposure to war violence
    - Tends to ignore other outcomes

- **Can we join the two strands of the literature?**
    - We can try!
    - Young Lives has been doing amazing job following over 10,000 children in Ethiopia, India, Peru and Vietnam since 2001

Raven Matrix Examples

Preferences: Risk, Competitiveness, Giving

- *Risk Preference Task* (Eckel and Grossman, 2008)
    - Choose one of 6 Lotteries to play
    - Ticket 1 is the safe bet.
    - Expected value increases, but also diff. in prizes.
    - At the end of the workshop the outcome of the chosen lottery is randomly decided

	HEAD	**TAIL**
Ticket 1:	35,000	35,000
Ticket 2:	30,000	45,000
Ticket 3:	25,000	55,000
Ticket 4:	20,000	65,000
Ticket 5:	15,000	75,000
Ticket 6:	5,000	95,000

Edinburgh Depression Scale

1. Have you been able to laugh and see the funny side of things
   a. As much as you always could   b. Not quite so much now   c. Definitely not so much now   d. Not at all.

2. Have you looked forward to the enjoyment of things
   a. As much as you ever did   b. Rather less than you used to   c. Definitely less than you used to   d. Hardly at all

3. Have you blamed yourself unnecessarily when things went wrong
   a. Yes, most of the time   b. Yes, some of the time   c. Not very often   d. No, never

4. Have you been anxious or worried for no good reason
   a. No, not at all   b. Hardly ever   c. Yes, sometimes   d. Yes, very often

5. Have you felt scared or panicky for no very good reason
   a. Yes, quite a lot   b. Yes, sometimes   c. No, not much   d. No, not at all

6. Things have been getting on top of you
   a. Yes, most of the time you haven't been able to cope at all
   b. Yes, sometimes you haven't been coping as well as usual
   c. No, most of the time you have coped quite well
   d. No, have been coping as well as ever

7. Have you been so unhappy that you have had difficulty sleeping
   a. Yes, most of the time   b. Yes, sometimes   c. Not very often   d. No, not at all

8. Have you felt sad or miserable
   a. Yes, most of the time   b. Yes, quite often   c. Not very often   d. No, not at all

9. Have you been so unhappy that you have been crying
   a. Yes, most of the time   b. Yes, quite often   c. Only occasionally   d. No, never

10. The thought of harming yourself has occurred to you
    a. Yes, quite often   b. Sometimes   c. Hardly ever   d. Never

Cohen Scale

Cohen Stress Scale

	0=never	1= Rarely	2=some of the times	3= Most of the times	4=Always
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	

Social Support Index

For each of the following statements, tell me how you feel about the support you have right now. If you do not have the person mentioned in the question in your life currently, please state N/A.

	Always	Most of the time	Some of the time	Rarely	Never
A. I have good friends who support me	5	4	3	2	1
B. My family is always there for me	5	4	3	2	1
C. My spouse/partner helps me a lot	5	4	3	2	1
D. There is conflict with my spouse/ partner	5	4	3	2	1
E. I feel controlled by my spouse/partner	5	4	3	2	1
F. I feel loved by my spouse/partner	5	4	3	2	1

back