

Adolescents' coping mechanisms in an experimental context

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Basic definitions

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company, Inc.

Stress:

«Psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being» (p. 19)

Coping:

«...constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person» (p. 141)

Material:

Experimental computer game, created with the « Geneva Appraisal Manipulation Environment », (Kaiser and Wehrle, 1996), FN project (no. 5004-47771).

Basic functioning:

«Pacman» type game, where the subject manipulates an agent on the maze, with which he has to complete several conflictual tasks, while trying to achieve 2 main goals: preserve his agent's lives, and win a maximum of points.

During the 8 levels of this game, the subject also interacts with different kinds of characters (friend, helper, enemies), and has to answer automatic questionnaires addressing his cognitive appraisal of the encountered stressful situations.

Operationalization of theoretical concepts:

- 3 types of stressful situations: loss, challenge, threat + different levels of inherent difficulty
- Various tools equally disponible, each allowing different strategies + interaction with several characters providing help + possibility to use environmental properties

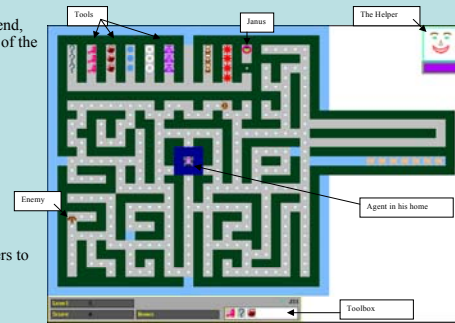
Experimental specificity:

- Scenario developed on a theoretical basis /contemporary models of psychology
- Standardized situations and means for all subjects
- Automatic recording of the situations' characteristics and of the subjects' behaviors and answers to « pop up » questionnaires

Population

48 adolescents: 29 females, 19 males;
 Age: 13 – 18 ($M_{Females} = 15.86$, $SD_{Females} = .23$;
 $M_{Males} = 15.82$, $SD_{Males} = .27$)

Example: Level 5



Results / Coping

3 coping dimensions:

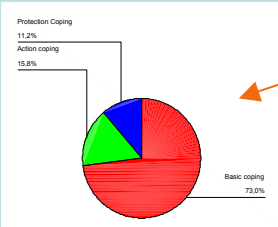
- **Basic coping:** elementary strategies, previously learned and trained
- **Action coping:** innovative strategies, require reflexion and anticipation, durably modify the characteristics of the situations
- **Protection coping:** innovative, momentarily reduce the vulnerability

Capacity of adaptation to the circumstances of stressful situations:

- Important interindividual differences:
 Adaptation score: min. = .17, max. = .54, $M = .34$, $SD = .09$

3 groups of subjects:

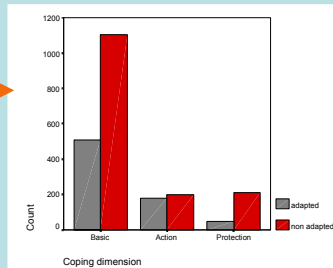
- Classification based on the use of Action and Protection Coping (All subjects use many Basic coping strategies)



Proportion of 3 dimensions

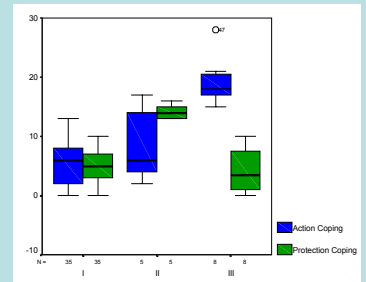
Adapted vs. non adapted strategies per coping dimension:

Total of observed strategies N = 2251



Links

- No correlation between action and protection coping
- Both action and protection weakly linked to basic coping: $r = .25$, $p < 1.0$; $r = .32$, $p < .05$
- Only action coping: correlated with adaptation capacity: $r = .618$, $p < .000$



Coping and success in the experiment

r =	Basic coping	Action coping	Protection coping	Adaptation score
Game duration	.263 [†]	.396**	.134	.227
Final score	.153	.658**	.020	.576**
Victories	.464**	.696**	.007	.524**
Losses	-.049	-.513**	-.119	-.535**
Number of high risk situations	.223	.111	.221	-.046
Duration of high risk situations	-.313*	-.456**	-.080	-.275 [†]

Notes: [†] = $p < 1.0$; * = $p \leq .05$; ** = $p \leq .01$; *** = $p \leq .001$.

Appraisal + coping

• Action coping significantly linked to self confidence: $r = .311$, $p < .05$, + to self-satisfaction: $r = .374$, $p < .05$.

• Adaptation score negatively linked to internal causal attribution of negative events: $r = -.334$, $p < .05$

Gender Differences:

Frequency of strategies from 3 dimensions by gender

Observed count	Group I	Group II	Group III	Total
Males	11 57.89 %	3 15.79%	5 26.32%	19 = 100%
Females	24 82.76%	2 6.90%	3 10.34%	29 = 100%

Conclusions:

1. The coping dimensions found in this experiment are very similar to coping styles described in the literature (cf. Seiffge-Krenke / CASQ), and there is a significant correlation ($r = .540$, $p < .01$) between functional coping in the questionnaire and in the experiment (a + b/c):

experiment:

- a) basic → active
- b) action → internal
- c) protection → withdrawal

literature:

3. Our results support the self-esteem protecting effect of external attributions in negative situations. The more the participants attributed the occurrence of negative experimental situations of loss or failure to external causes (others, chance), the less they present problematic behaviors and symptoms as measured with the Brief Symptom Inventory (BSI; Franke, 1998).
4. Participants who made external attributions in the negative game situations had higher scores on measures of family functioning (FACES III).