

Effort-Reward Imbalance (ERI) short version (SLOSH 2005-2018)

Preliminary version

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Full name: Effort-Reward Imbalance short form		
Abbreviated name: ERI – short version		
Availability in SLOSH: 2006-2018, i.e. waves 1-7		
<p>Short description:</p> <p>The model of effort-reward imbalance (ERI) claims that failed reciprocity in terms of high efforts spent and low rewards received in turn is likely to elicit recurrent negative emotions and sustained stress responses in exposed people. Conversely, positive emotions evoked by appropriate social rewards promote well-being, health and survival.</p> <p>A major specification of this theoretical perspective concerns the work role, and in particular its contractual basis. So far, a majority of research evidence concerns ERI at work. More recently, this perspective has been applied to additional social roles in adult life.</p> <p>According to the model, effort at work is spent as part of a social contract that reciprocates effort by adequate reward. Rewards are distributed by three transmitter systems: money, esteem, and career opportunities including job security. Each one of these components of work-related rewards was shown to matter for health.</p>		
<p>Note on use of the scale:</p> <p>SLOSH used one version of the short Effort-Reward Imbalance scale in wave 1 (in 2008), and an updated version from Wave 3 (in 2010) onwards. The script below has been checked through wave 7 (i.e. 2018). Please note that values before and after the change cannot necessarily be compared.</p> <p>This scale is only included in the version of the SLOSH questionnaire that are aimed at respondents working gainfully at least 30% of full time.</p> <p>Please note that as a default we deliver data where missing or invalid values are represented by system missing (often seen as a dot in the data matrix). Please check that your data contains only valid values, cf. the coding of the response options below. By request, we may also deliver specific codes for different types of missing, invalid and double markings.</p> <p>Computing indices based on incomplete data may result in problems at the analytic stage, including false positive results due to restricted variance. In general, we recommend either complete case analysis or multiple imputation to handle internal missing.</p> <p>The methods used to compute indices are possibilities, but by no means the only ones. It is up to the user to decide whether to use the versions suggested here or to modify the scripts.</p> <p>The time invariance of this scale has been established between 2010 and 20xx (Leineweber et al, 10xx).</p>		
Items (Swedish)	Items (English)	Variable name (SLOSH) <i>X to be replace by wave number, cf. below</i>

a. På grund av den höga arbetsbelastningen arbetar jag ofta under stor tidspress.	<i>I have constant time pressure due to heavy workload</i>	loadtime_x
b. Jag blir ofta avbruten och störd i mitt arbete.	<i>I have many interruptions and disturbances in my job</i>	interrup_x
c. Jag har fått allt mer att göra på arbetet under de senaste åren		
d. Jag får det erkännande av mina överordnade som jag förtjänar.		
e. Möjligheterna till befordran inom mitt arbetsområde är små.		
f. Jag upplever för närvarande eller förväntar mig en försämring i min arbetssituation.		
g. Mitt arbete är hotat.		
h. Med tanke på den möda jag har lagt ned och allt jag har uträttat, så får jag i mitt arbete det erkännande som jag förtjänar.		
i. Med tanke på den möda jag har lagt ned och allt jag har uträttat, är mina möjligheter att avancera inom yrkeslivet rimliga.		
j. Med tanke på allt jag har uträttat, har jag en rimlig lön.		
Response options (Swedish)	Response options (English)	Coding
Stämmer helt och hållet		1
Stämmer ganska bra		2
Stämmer inte särskilt bra		3
Stämmer inte Alls		4

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data /* The name of the output file*/;
set /* The name of the input file containing the items of the ERI scale */;

/* Before the scale can be computed, missing values and other misclassifications are removed. The
following code help us select those
who answered one alternative (1,2,3,4) on ALL ten items. */

where loadtime_7 in (1,2,3,4) and interrup_7 in (1,2,3,4) and morework_7 in (1,2,3,4) and
manaackn_7 in (1,2,3,4)
and possprom_7 in (1,2,3,4) and impair_7 in (1,2,3,4) and workthre_7 in (1,2,3,4) and acknowle_7
in (1,2,3,4)
and advance_7 in (1,2,3,4) and salaryok_7 in (1,2,3,4);

/* Effort */
/* Due to that higher values indicate more effort, the three variables measuring effort need to be
inverted. This is done by the following
equation: inverted value = 5 - current value. The three variables measuring effort are loadtime_7,
interrup_7 and morework_7*/

loadtime_7_new = 5 - loadtime_7;
interrup_7_new = 5 - interrup_7;
morework_7_new = 5 - morework_7;

/* The score of the total effort are obtained by summarizing the three inverted variables. */

effort_7 = loadtime_7_new + interrup_7_new + morework_7_new;

/* Reward */
/* Due to that higher values indicate more rewhard, SOME of the variables measuring reward
need to be inverted, not all! The variables
measuring rewhard are manaackn_7, possprom_7, impair_7, workthre_7, acknowle_7, advance_7,
salaryok_7. The following four needs to be
inverted: manaackn_7, acknowle_7, advance_7 and salaryok_7. This is done by the following
equation: inverted value = 5 - current value. */

manaackn_7_new = 5 - manaackn_7;
acknowle_7_new = 5 - acknowle_7;
advance_7_new = 5 - advance_7;
salaryok_7_new = 5 - salaryok_7;

/* The score of the total reward are obtained by summarizing the seven variables measuring
reward. Keep in mind that some are inverted
and some are not. */

reward_7 = possprom_7 + impair_7 + workthre_7 + manaackn_7_new + acknowle_7_new +
advance_7_new + salaryok_7_new;

/* Finally, the Effort Reward Imbalance variable is computed by the following formula: ERI =
Effort/(Reward*C), where C = is a correction
factor: C = (# of items in effort_7 / # of items in reward_7). In this case C = 3/7. */

ERI_7 = effort_7/(reward_7*(3/7));

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run;

Version history (earlier versions can be found here [\[hyperlink\]](#)
0.90 – current example version

Key references:

Siegrist J, Wege N, Puhlhofer F, Wahrendorf M (2009). A short generic measure of work stress in the era of globalization: effort-reward imbalance. *Int Arch Occup Environ Health*, 82, 8, 1005-1013 (There`s a mistake in table 2. The items ERI5 and ERI8 have been confused).

Leineweber C, Wege N, Westerlund H, Theorell T, Wahrendorf M, Siegrist J (2010). How valid is a short measure of effort-reward imbalance at work? A replication study from Sweden. *Occupational and environmental medicine*, 67, 8, 526-531.

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