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Testing the stability of careless and insufficient effort responding over time

Inés Tomás, Ana Hernández, Clara Cuevas, Vicente González-Romá

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Careless /Insufficient effort responding

occurs when respondents fail to give sufficient attention to item content, resulting in data that does not accurately reflect actual levels of the constructs being measured

(Meade & Craig, 2012; Podsakoff et al., 2012; Ward & Meade, 2018, 2022)

Careless respondents

Careless responses

Careless responses

- Source of bias

Reduce data quality
(psychometric properties of the scales)

Threaten the validity of the substantive research results

The need to pay attention to CARELESS / INSUFFICIENT EFFORT RESPONDING has been emphasized: prevention, detection, and management

(e.g., Arthur et al., 2021; Edwards, 2019; Ward & Meade, 2022)

Self-report measures

Online questionnaire

The nature of Careless / Insufficient Effort Responding (C/IER) remains unclear

→ **Is it a stable trait?**

(Meade & Craig, 2012)

→ **Is it a transient state?**

(Maniaci & Rogge, 2014)

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A recent study (Tomás et al., 2024)
using a sample of adult workers paid for their participation,
identified subpopulations with distinct C/IER patterns:
some showing stable C/IER behaviors, others exhibiting changes over time.

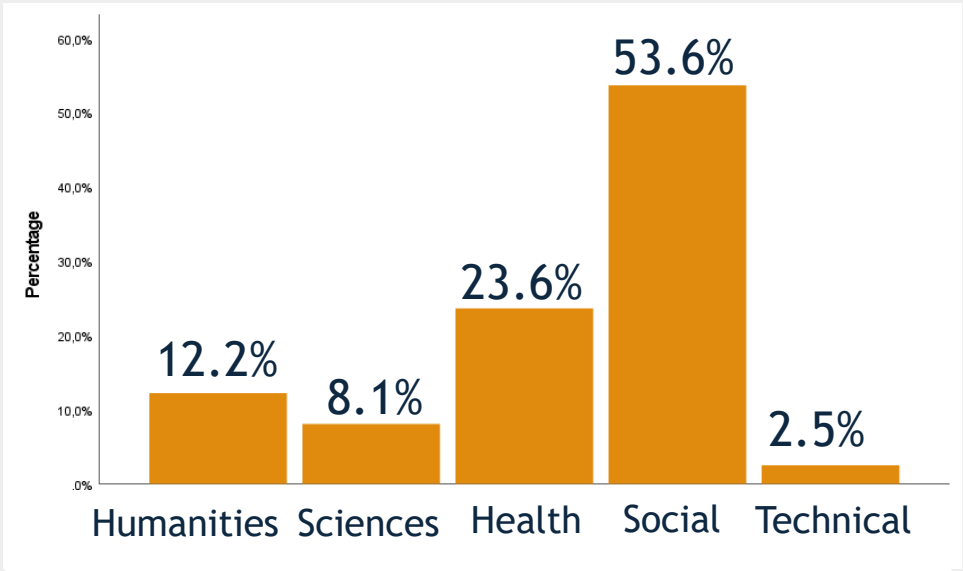
Research Goals

1) Deepen the understanding of C/IER's nature and dynamics
   analyzing its patterns over time
   in a sample of university students
   who were not financially compensated

2) Examine whether C/IER operates as a trait or
   state for the entire population
   or if distinct subpopulations exist

Participants and Procedure

- 360 Spanish graduates (61.1%) and Master students (38.9%)
- 71.7% women
- Average age = 25.6 years (SD = 6.3)
- Online survey
- Free training course in exchange
- Degree field:



Measures

Careless / Insufficient effort responding → **3 Instructed-Response Items (IRI)**

Measures

Careless / Insufficient effort responding → 3 Instructed-Response Items (IRI)

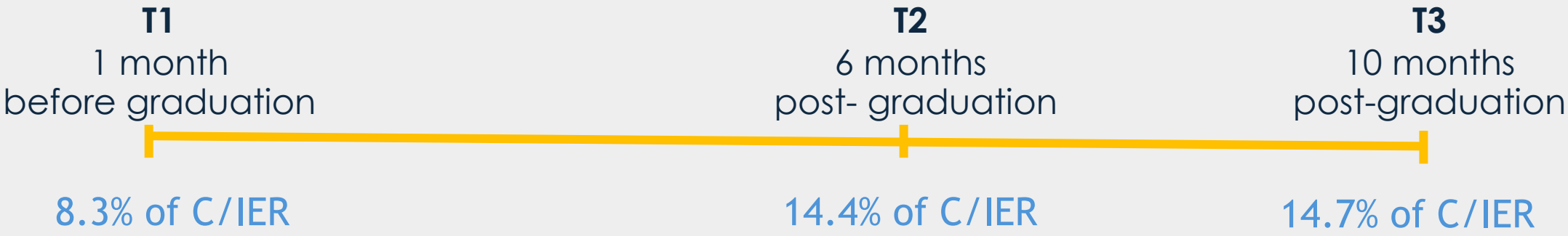
Please indicate your level of agreement with each of the following statements:

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
1. In many ways, my life is close to my ideal	o	o	o	o	o	o
2. The conditions of my life are excellent	o	o	o	o	o	o
3. I am satisfied with my life.	o	o	o	o	o	o
4. So far, I have gotten the important things I want in life	o	o	o	o	o	o
5. If I could live my life over, I would change almost nothing	o	o	o	o	o	o
6. To control the quality of the survey responses, check now the option “strongly disagree”.	●	o	o	o	o	o

Number of wrong responses when answering the three IRIs (values range from 0-3)

Design & Statistical Analysis

- Within-subject longitudinal design
- 3 data collection points:



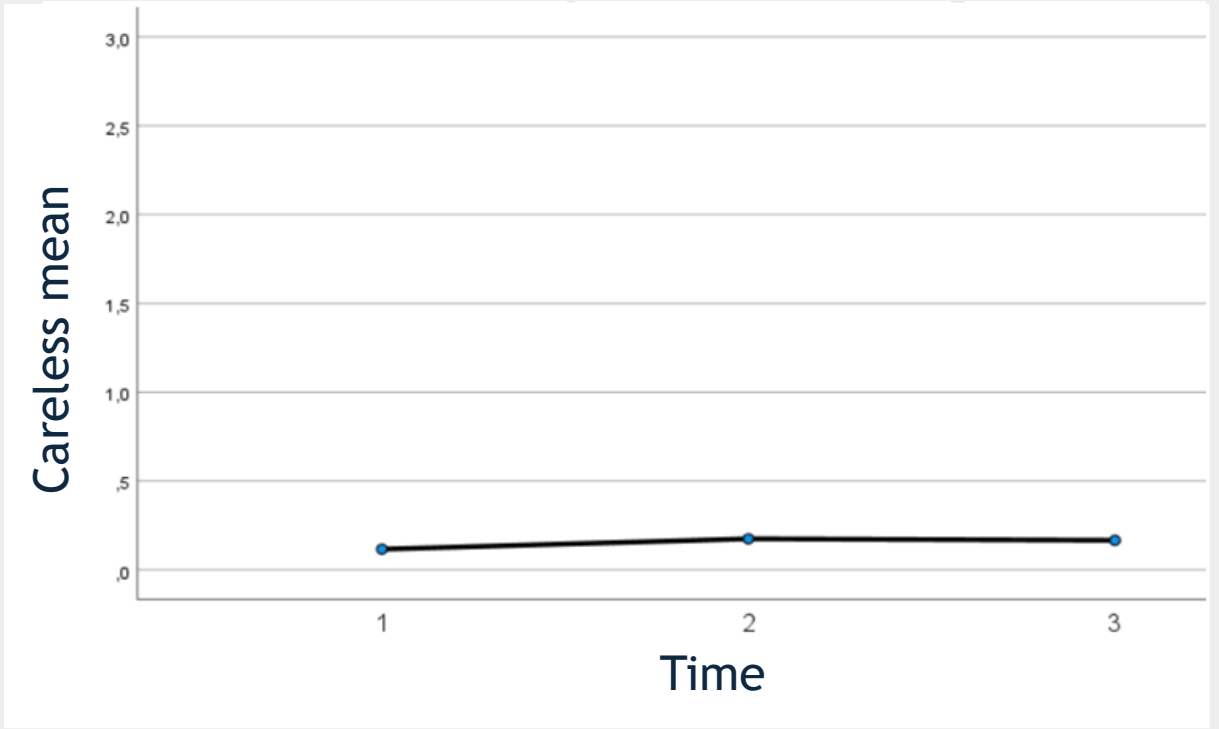
- Latent Growth Modeling (LGM): a single growth trajectory represents the population
- Latent Class Growth Analysis (LCGA): heterogeneity of trajectories (subpopulations)
- Mplus 8.11 (Muthén & Muthén, 1998-2017)

Results

- Latent Growth Model

	LINEAR Model	
	MEAN	VARIANCE
INTERCEPT	0.12** (p<.001)	0.04 (p=.06)
SLOPE	0.03 (p=.10)	0.00 (fixed to 0)

$\chi^2 = 15.03$, df = 3, $p < .01$
RMSEA = .000; SRMR = .030
CFI = 1.00; TLI = 1.00



Aligned with previous research
(Tomás et al., 2024),
results suggest that C/IER represents a stable response pattern over time when analyzing the entire population

Results

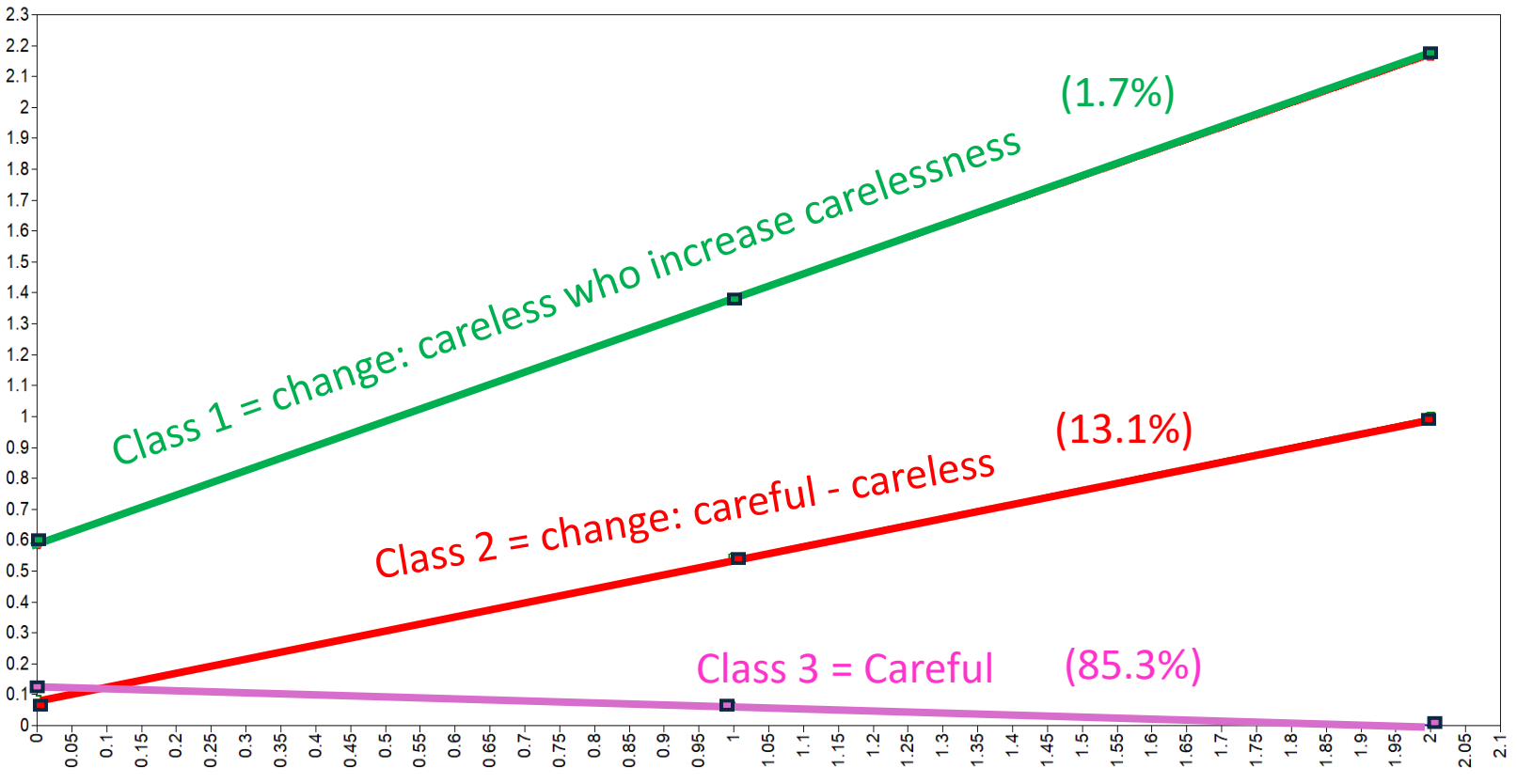
- Latent Class Growth Models

	BIC		LMR-LRT	BLRT
2 Classes	931.45	1 vs 2 classes	p = .66	p < .001
3 Classes	141.14	2 vs 3 classes	p =.83	p < .001
4 Classes	158.80	3 vs 4 classes	p = .50	p = 1.00

Model comparison

- Bayesian information criterion (BIC)
- Lo, Mendell, and Rubin (2001) Likelihood Ratio Test (LMR-LRT)
- Bootstrap Likelihood Ratio Test (BLRT)

• Latent Class Growth Model: Three-Class Model



✓ Successful convergence.
Entropy = 1.00

✓ No less than 1% of total count in a class.

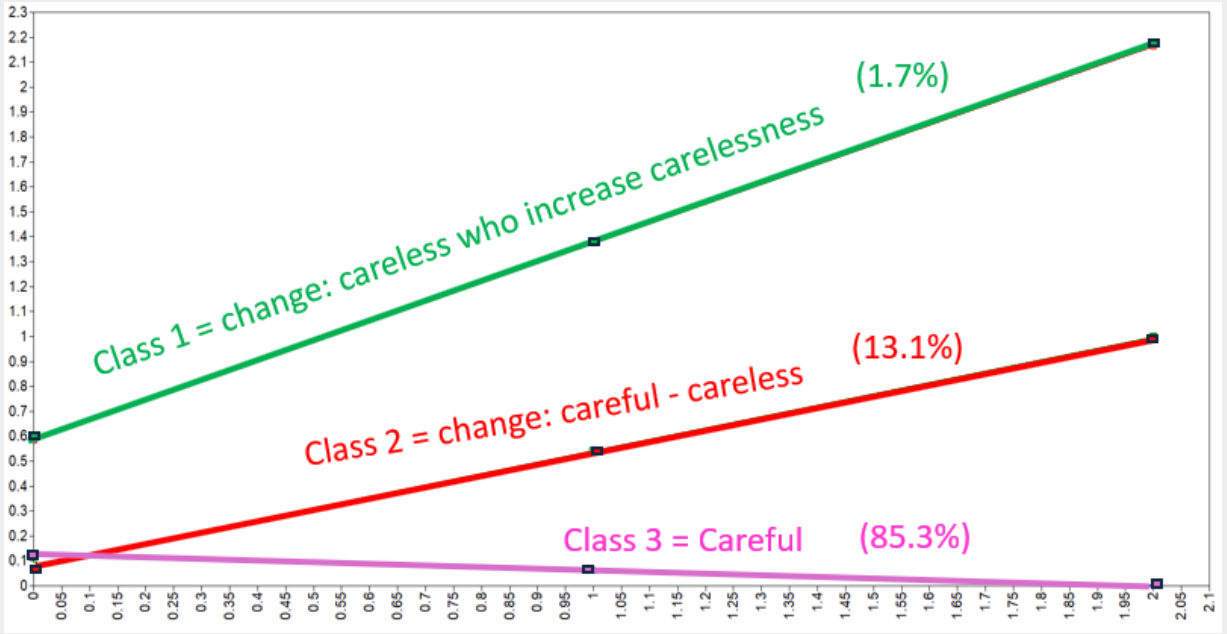
✓ High posterior probabilities.

	1	2	3
1	1.000	0.000	0.000
2	0.000	1.000	0.000
3	0.000	0.000	1.000

Three subpopulations are identified: a stable group (careful) &
two for which the C/IER pattern change over time

The present study

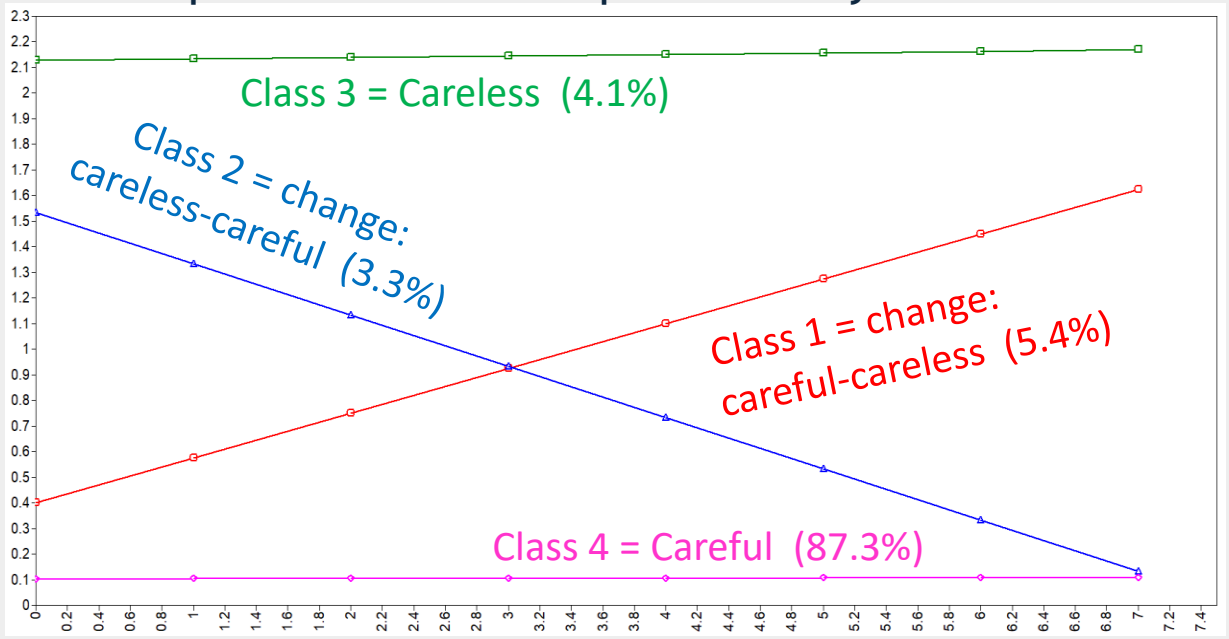
Unpaid university graduates (71.7% women).
3 time points over a total period of 10 months



Three subpopulations are identified:
a stable group (careful) and
two with C/IER pattern change over time

Tomás et al. (2024)

Panel-recruited adults (49.6% women) .
8 time points over a total period of 1 year and 9 months



Four subpopulations were identified:
two stable groups (careful & careless) and
two with C/IER pattern change over time

The present study

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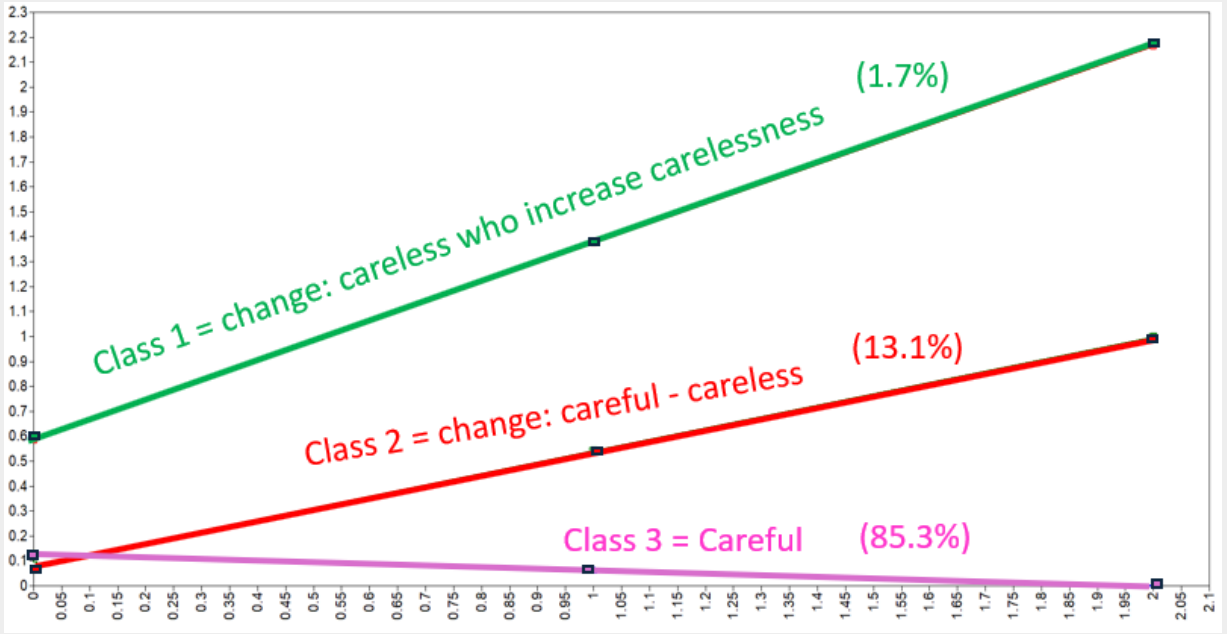
3 time points over a total period of 10 months



Three subpopulations are identified:
a stable group (careful) and
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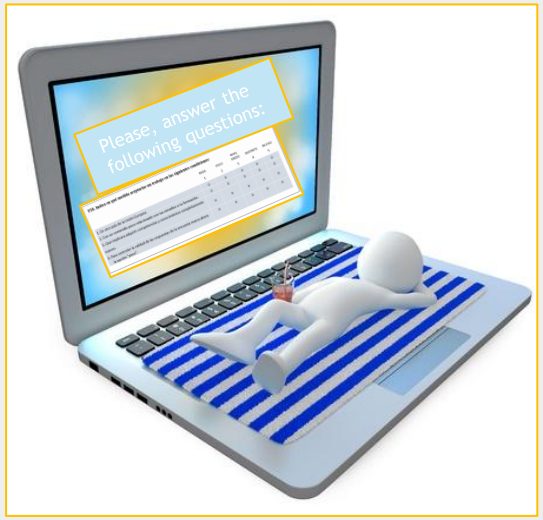
Conclusions



- The study contributes to understanding the nature and dynamics of C/IER behavior…
- … by highlighting the role of **personal characteristics** (e.g., age, gender) and **contextual factors** (e.g., participation compensation, study duration) in shaping C/IER patterns over time.
- In line with previous research, subpopulations with changing C/IER patterns of trajectories over time are identified.

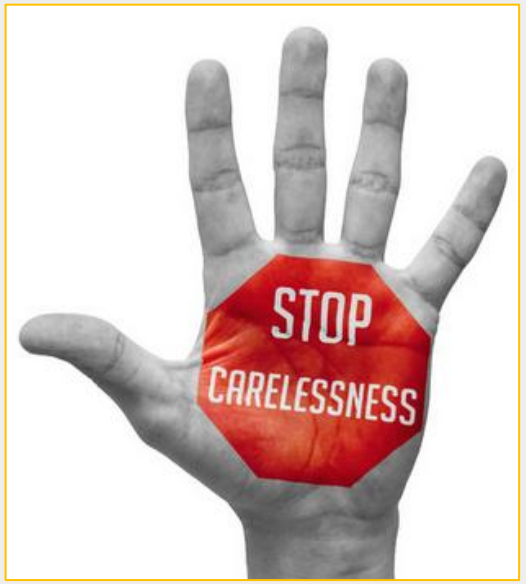
Conclusions

Future Research

- Research using **conditional latent class models with covariates** can help clarify how sociodemographic and personality factors relate to C/IER subpopulation membership.
- **Experimental studies** are also needed to examine how contextual factors influence inattentive responding.

Practical Implications

- Importance of developing **subpopulation-specific strategies** that integrate both individual-level and contextual considerations to effectively address C/IER.



Thank you for your attention!! ☺

Ines.Tomas@uv.es

Ana.Hernandez@uv.es