

Jordano and Tournon (2017)

If the study has a broad focus and this data extraction focuses on just one component of the study, please specify this here

☒ Not applicable (whole study is focus of data extraction)

Study aim(s) and rationale

Was the study informed by, or linked to, an existing body of empirical and/or theoretical research?

☒ Explicitly stated (please specify)

The study was informed by research on stereotype threat, mind-wandering, and the “control failures x current concerns” framework of mind-wandering. It aimed to examine how priming performance-related concerns through stereotype threat affects mind-wandering and task performance.

Do authors report how the study was funded?

☒ Not stated/unclear (please specify)

The authors do not report how the study was funded.

Study research question(s) and its policy or practice focus

What is/are the topic focus/foci of the study?

The study focuses on the effects of stereotype threat on mind-wandering (particularly task-related interference) and task performance in an academic context.

What is/are the population focus/foci of the study?

The population focus is female undergraduate students.

What is the relevant age group?

☒ 17 - 20

The mean age of participants was 19.10 years (SD = 1.24) in Study 1 and 19.25 years (SD = 1.12) in Study 2.

What is the sex of the population focus/foci?

☒ Female only

The study focused exclusively on female participants.

What is/are the educational setting(s) of the study?

☒ Higher education institution

The study was conducted with undergraduate students at a university.

In Which country or countries was the study carried out?

☒ Explicitly stated (please specify)

The study was carried out in the United States, at the University of North Carolina at Greensboro.

Please describe in more detail the specific phenomena, factors, services, or interventions with which the study is concerned

The study examined the effects of priming math-gender stereotype threat on mind-wandering (particularly task-related interference) and math task performance in female undergraduates.

What are the study research questions and/or hypotheses?

☒ Explicitly stated (please specify)

The study hypothesized that: 1. Priming stereotype threat would increase task-related interference (TRI) 2. Priming stereotype threat would decrease task performance

Methods - Design***Which variables or concepts, if any, does the study aim to measure or examine?***

☒ Explicitly stated (please specify)

The study measured: - Mind-wandering (on-task thoughts, task-unrelated thoughts, task-related interference) - Math verification accuracy - Letter recall accuracy - Self-reported stress, fatigue, mood, motivation, and perceived task difficulty

Study timing

☒ Cross-sectional

The study examined participants at a single time point.

If the study is an evaluation, when were measurements of the variable(s) used for outcome made, in relation to the intervention?

☒ Only after

Measurements were taken during and after the experimental task.

Methods - Groups

If comparisons are being made between two or more groups, please specify the basis of any divisions made for making these comparisons.

- ☒ Prospective allocation into more than one group (e.g. allocation to different interventions, or allocation to intervention and control groups)

Participants were allocated to either a stereotype threat condition or a control condition.

How do the groups differ?

- ☒ Explicitly stated (please specify)

The stereotype threat group was told the task measured “quantitative ability” and had revealed gender differences, while the control group was told it measured “memory ability” and was gender-fair. The stereotype threat group had a male experimenter, while the control group had a female experimenter.

Number of groups

- ☒ Two

There were two groups: stereotype threat and control.

Was the assignment of participants to interventions randomised?

- ☒ Not stated/unclear (please specify)

The paper does not explicitly state if assignment to conditions was randomized.

Where there was prospective allocation to more than one group, was the allocation sequence concealed from participants and those enrolling them until after enrolment?

- ☒ No (please specify)

The allocation was not concealed, as participants were explicitly told different information about the task based on their condition.

Apart from the experimental intervention, did each study group receive the same level of care (that is, were they treated equally)?

- ☐ Yes
☒ No
☐ Can't tell

The groups received different instructions and had experimenters of different genders.

Study design summary

This was an experimental study with two groups (stereotype threat and control) of female undergraduate participants. The stereotype threat group was primed for math-gender stereotype threat, while the control group was not. Both groups completed the same experimental task (OSPAN) with embedded thought probes to measure mind-wandering.

Methods - Sampling strategy

Are the authors trying to produce findings that are representative of a given population?

☒ Not stated/unclear (please specify)

The authors do not explicitly state if they are trying to produce representative findings.

Which methods does the study use to identify people or groups of people to sample from and what is the sampling frame?

☒ Not stated/unclear (please specify)

The sampling frame and identification methods are not clearly stated.

Which methods does the study use to select people or groups of people (from the sampling frame)?

☒ Not stated/unclear (please specify)

The specific selection methods are not described.

Planned sample size

☒ Explicitly stated (please specify)

The planned sample size was 60 female participants (30 per condition) in each study.

Methods - Recruitment and consent

Which methods are used to recruit people into the study?

☒ Not stated/unclear (please specify)

The recruitment methods are not described.

Were any incentives provided to recruit people into the study?

☒ Explicitly stated (please specify)

Participants received course credit for participating.

Was consent sought?

☒ Not stated/unclear (please specify)

The consent process is not described.

Are there any other details relevant to recruitment and consent?

☒ No

Methods - Actual sample

What was the total number of participants in the study (the actual sample)?

☒ Explicitly stated (please specify)

60 female undergraduate students participated in each study (120 total).

What is the proportion of those selected for the study who actually participated in the study?

☒ Not stated/unclear (please specify)

This information is not provided.

Which country/countries are the individuals in the actual sample from?

☒ Explicitly stated (please specify)

The participants were from the United States, attending the University of North Carolina at Greensboro.

What ages are covered by the actual sample?

☒ 17 to 20

The mean age was 19.10 years ($SD = 1.24$) in Study 1 and 19.25 years ($SD = 1.12$) in Study 2.

What is the socio-economic status of the individuals within the actual sample?

☒ Not stated/unclear (please specify)

Socio-economic status is not reported.

What is the ethnicity of the individuals within the actual sample?

☒ Not stated/unclear (please specify)

Ethnicity information is not provided.

What is known about the special educational needs of individuals within the actual sample?

☒ Not stated/unclear (please specify)

No information is provided about special educational needs.

Is there any other useful information about the study participants?

☒ Not stated/unclear (please specify)

No other relevant information about participants is provided.

How representative was the achieved sample (as recruited at the start of the study) in relation to the aims of the sampling frame?

☒ Not applicable (no sampling frame)

A sampling frame is not described.

If the study involves studying samples prospectively over time, what proportion of the sample dropped out over the course of the study?

☒ Not applicable (not following samples prospectively over time)

This was not a longitudinal study.

For studies that involve following samples prospectively over time, do the authors provide any information on whether and/or how those who dropped out of the study differ from those who remained in the study?

☒ Not applicable (not following samples prospectively over time)

This was not a longitudinal study.

If the study involves following samples prospectively over time, do authors provide baseline values of key variables such as those being used as outcomes and relevant socio-demographic variables?

☒ Not applicable (not following samples prospectively over time)

This was not a longitudinal study.

Methods - Data collection

Please describe the main types of data collected and specify if they were used (a) to define the sample; (b) to measure aspects of the sample as findings of the study?

☒ Details

The main types of data collected were: (b) To measure aspects of the sample as findings: - Mind-wandering data from thought probes during the OSPAN task - Math verification accuracy on the OSPAN - Letter recall accuracy on the OSPAN - Post-task questionnaires on stress, fatigue, mood, motivation, and perceived difficulty

Which methods were used to collect the data?

- ☒ Self-completion questionnaire
- ☒ Self-completion report or diary
- ☒ Psychological test

Participants completed the OSPAN task with embedded thought probes and post-task questionnaires.

Details of data collection methods or tool(s).

- ☒ Explicitly stated (please specify)

The OSPAN task was used with embedded thought probes asking participants to categorize their thoughts. Post-task questionnaires included the DSSQ, PANAS, and questions on perceived stress, fatigue, and difficulty.

Who collected the data?

- ☒ Researcher

The experimenters collected the data.

Do the authors describe any ways they addressed the reliability of their data collection tools/methods?

- ☒ Details

The authors used established measures like the OSPAN, DSSQ, and PANAS. They also compared online thought probes to retrospective measures.

Do the authors describe any ways they have addressed the validity of their data collection tools/methods?

- ☒ Details

The authors cite previous research validating the measures used, such as the OSPAN and thought probes.

Was there concealment of study allocation or other key factors from those carrying out measurement of outcome – if relevant?

- ☒ No (please specify)

The experimenters were aware of the condition participants were in, as they delivered different instructions based on condition.

Where were the data collected?

- ☒ Unclear/not stated (please specify)

The specific location of data collection is not stated, but it was likely in a laboratory setting at the university.

Are there other important features of data collection?

- ☒ Details

The study used online thought probes during the task to measure mind-wandering, rather than relying solely on retrospective measures.

Methods - Data analysis***Which methods were used to analyse the data?***

☒ Explicitly stated (please specify)

The authors used ANOVAs to compare mind-wandering and task performance between conditions.

Which statistical methods, if any, were used in the analysis?

☒ Details

ANOVAs were used to analyze differences between conditions in mind-wandering and task performance.

What rationale do the authors give for the methods of analysis for the study?

☒ Details

The authors do not explicitly justify their choice of analysis methods.

For evaluation studies that use prospective allocation, please specify the basis on which data analysis was carried out.

☒ Not applicable (not an evaluation study with prospective allocation)

This was not an evaluation study with prospective allocation.

Do the authors describe any ways they have addressed the reliability of data analysis?

☒ Details

The authors do not explicitly describe addressing reliability of data analysis.

Do the authors describe any ways they have addressed the validity of data analysis?

☒ Details

The authors do not explicitly describe addressing validity of data analysis.

Do the authors describe strategies used in the analysis to control for bias from confounding variables?

☒ Details

The authors do not explicitly describe strategies to control for confounding variables.

Please describe any other important features of the analysis.

☒ Details

The authors compared online thought probe data to retrospective questionnaire data on mind-wandering.

Please comment on any other analytic or statistical issues if relevant.

☒ Details

No other relevant analytic or statistical issues were noted.

Results and Conclusions

How are the results of the study presented?

☒ Details

Results are presented in text, tables, and figures showing proportions of different thought types and task performance scores.

What are the results of the study as reported by authors?

☒ Details

In both studies, participants in the stereotype threat condition reported more task-related interference than controls. In Study 2, which used a more challenging task, stereotype threat participants also had lower math accuracy than controls.

Was the precision of the estimate of the intervention or treatment effect reported?

- CONSIDER:
 - Were confidence intervals (CIs) reported?
- ☐ Yes
- ☒ No
- ☐ Can't tell

Confidence intervals were not reported for the main findings.

Are there any obvious shortcomings in the reporting of the data?

☒ No

Do the authors report on all variables they aimed to study as specified in their aims/research questions?

☒ Yes (please specify)

The authors report on all main variables mentioned in their hypotheses and research questions.

Do the authors state where the full original data are stored?

☒ No

What do the author(s) conclude about the findings of the study?☒ Details

The authors conclude that priming performance-related concerns through stereotype threat increases task-related interference and can impair task performance. They argue this supports the “control failures x current concerns” framework of mind-wandering.

Quality of the study - Reporting***Is the context of the study adequately described?***☒ Yes (please specify)

The authors provide adequate context about stereotype threat and mind-wandering research.

Are the aims of the study clearly reported?☒ Yes (please specify)

The aims and hypotheses are clearly stated.

Is there an adequate description of the sample used in the study and how the sample was identified and recruited?☒ No (please specify)

While the sample size and demographics are described, there is limited information on how participants were identified and recruited.

Is there an adequate description of the methods used in the study to collect data?☒ Yes (please specify)

The OSPAN task, thought probes, and questionnaires are described in detail.

Is there an adequate description of the methods of data analysis?☒ No (please specify)

While the general analytic approach is mentioned, more detail could be provided on specific analyses.

Is the study replicable from this report?☒ Yes (please specify)

The key methods and measures are described in sufficient detail to allow replication.

Do the authors avoid selective reporting bias?☒ Yes (please specify)

The authors report on all main variables mentioned in their hypotheses.

Quality of the study - Methods and data

Are there ethical concerns about the way the study was done?

☒ No concerns

No major ethical concerns are apparent.

Were students and/or parents appropriately involved in the design or conduct of the study?

☒ No (please specify)

There is no indication that students or parents were involved in the study design or conduct.

Is there sufficient justification for why the study was done the way it was?

☒ Yes (please specify)

The authors provide justification for their approach based on previous research and theory.

Was the choice of research design appropriate for addressing the research question(s) posed?

☒ Yes (please specify)

The experimental design was appropriate for testing the effects of stereotype threat on mind-wandering and performance.

To what extent are the research design and methods employed able to rule out any other sources of error/bias which would lead to alternative explanations for the findings of the study?

☒ A little (please specify)

While the experimental design controls for some sources of bias, potential confounds like experimenter gender were not fully controlled.

How generalisable are the study results?

☒ Details

The results may generalize to female undergraduate students in similar cultural contexts, but generalizability to other populations is limited.

Weight of evidence - A: Taking account of all quality assessment issues, can the study findings be trusted in answering the study question(s)?

☒ Medium trustworthiness (please specify)

The study uses appropriate methods and measures, but has some limitations in sampling and analysis reporting.

Have sufficient attempts been made to justify the conclusions drawn from the findings so that the conclusions are trustworthy?

☒ Medium trustworthiness

The conclusions are generally justified by the findings, but some interpretations could be more cautious.

References

Jordano, M. L., & Touron, D. R. (2017). Priming performance-related concerns induces task-related mind-wandering. *Consciousness and Cognition*, 55, 126–135. <https://doi.org/10.1016/j.concog.2017.08.002>