Replication and extension of "*Motivation by Positive or Negative Role Models: Regulatory Focus Determines Who Will Best Inspire Us*" by Lockwood et al. (2002)

Group assignment: Registered Report Stage 1

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Experimentation in the Social Sciences
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Introduction

This paper aims to replicate study 1 of the experimental research conducted by Lockwood et al. in 2002. In this study, they investigated the impact of goal priming type (promotion or prevention) and of role model type (positive or negative) on motivation ratings. The focus of study 1 was mainly on the interaction effect of both predictors. The authors proposed that motivation was positively affected when the goal priming type and the role model type were aligned. Thus a promotion-primed individual would be better motivated by a positive role model compared to a negative role model (or no role model at all). On the other hand, a prevention-primed individual would be better motivated by a negative role model compared to a positive role model (or no role model). In summary, they thus propose that goal-congruent role models are better at motivating individuals compared to goal-incongruent role models. In principle they expected a divergent cleaved moderation, that is they propose that goal-incongruent role models would even lead to a decrease in motivation. The following hypotheses can be deducted from these propositions:

> **Hypothesis 1:** Promotion-primed participants are more likely to be motivated by the positive model, compared with prevention-primed participants.
>
> **Hypothesis 2:** Prevention-primed participants are more likely to be motivated by the negative model, compared with promotion-primed participants.
>
> **Hypothesis 3:** Participants exposed to the goal-congruent role model are more motivated than participants exposed to no role model and goal-incongruent role model.
>
> **Hypothesis 4:** Participants exposed to the goal-incongruent role model are less motivated than participants exposed to no role model and goal-congruent role model.

The findings of the study mostly confirm these hypotheses. Promotion-primed participants that were exposed to a positive role model experienced significantly more motivation compared to those exposed to a negative role model (and no role model) (H1), whereas prevention-primed participants experienced significantly more motivation when they were exposed to a negative role model instead (H2). Therefore, confirming the third hypothesis as well; exposure to goal-congruent role models led to a significant increase in

motivation ratings compared to exposure to incongruent role models (H3). No statistical result was however found for the fourth hypothesis, motivation ratings for those exposed to goal-incongruent role models were lower (compared to congruent and no role models), however, this was not a statistical difference. The overall moderation of congruence was therefore not found to be divergently cleaved, but rather divergently and positively contingent (Appendix A).

The study by Lockwoord et al. (2002) has extended our understanding of the impact of role models on motivation. By integrating the situational factor of which goal(s) one pursues, they further explain when someone is more receptive to a positive role model and when someone is more receptive to a negative role model. Consequently, it adds a new perspective to the research on role models (Bakhti et al., 2022; Lee, 2022), highlighting that both positive, as well as negative role models, can boost motivation if it is aligned with one's regulatory goals.

Practically speaking, this has generated a better understanding of role models, role model pursuers and the role modelling process overall, which contributed to developing stronger and more efficient role modelling initiatives (Morgenroth et al., 2015).

Several reasons can be proposed why it is worthwhile to replicate this study after two decades. In general, replication can further contribute to the correctness, accuracy and robustness of findings. Extensive research indicates that (too) often findings of social science experiments can not be replicated (Camerer et al., 2018). This is problematic for theory-building; a theory can only be advanced efficiently when it is built on true findings.

Questions arise if the findings of the study by Lockwood et al. (2002) can be reproduced, given that the sample size is rather low (N = 94). According to our calculations, this would make the study severely underpowered (see power analysis).

In terms of societal relevance, the rise of social media platforms have made it easier to send out and receive one's success and failure, hence making role models implicitly more a part of our daily social comparisons.

In conclusion, the aim is to replicate the findings as described, finding proof for H1, H2 and H3, but not finding significance for H4.

Extensions

In addition, we will look at the influence of positive and negative role models on career stress levels. Reading about a postgraduate that is having a successful life transition might bolster confidence, consequently lowering the stress of one's own life transition after graduating. On the other hand, reading about a postgraduate that is having an unsuccessful life transition might cause insecurity, heightening the stress of one's own life transition after graduating instead. We thus propose the following additional hypothesis:

Hypothesis 5: Participants exposed to the negative role model will report higher career stress levels compared to participants exposed to the positive role model.

Similarly, the effects of reading positive and negative role models also have implications for future anxiety. After reading about a story of a graduate student with the same academic major, participants may get involved in the same feelings towards their future. The story of a positive role model may make participants wonder about the good side of their future, while the story of a negative role model may make the participants worry and focus on the negative outcomes of their future life. Therefore, the following hypothesis is proposed:

Hypothesis 6: Participants exposed to the negative role model predicts more future anxiety than participants exposed to positive role model and no role model.

Besides, given that women are often perceived as less competent than men at work, coupled with the fact that men outnumber women in the workplace in most occupations, women may greatly benefit from a successful female role model who represents the possibility of overcoming gender barriers to success. In comparison, men may not have the same need for same-sex role models. Therefore, women may derive more motivation from same-sexpositive role models than men.

Hypothesis 7: Female participants exposed to the same-sex positive role model will be more motivated compared to male participants exposed to the same-sex positive role model.

After having read the theory presented by Lockwood (2002), it presents the effect on a Western population. As stated by Lockwood (2002): “Although individuals in Western culture may tend to be more motivated by positive than negative role models, the kind of role

model that they are most receptive to in a given situation may depend on the configuration of goals that are salient in that situation" (p. 862). In this case, the research is limited to western cultures. Lockwood, Marshall and Sadler (2005) researched how cultural background affects the relationship between motivation and role models. They described that western countries are characterised by "individualistic cultures" and eastern countries by "collectivistic cultures" (Lockwood et al., 2005, p. 379). However, they distinguished Western Canadians and Asian Canadians. It is expected that people from "collectivistic cultures" are motivated by negative role models and "individualistic cultures" by positive role models (Lockwood et al., 2005, p. 379).

Hypothesis 8: Participants from 'individualistic cultures' subjected to same-sex positive role model are more motivated compared to participants from 'collectivistic cultures'.

Method

Sample characteristics

The sample will be based on a convenience sample, due to a lack of resources and time constraints. The sample will thus not be gathered through random sampling. This is common practice in (survey) experiments since the preference is given to internal validity and not to external validity (Coleman, 2018). In addition, using participants that are readily available can increase the chance of collecting enough participants to generate sufficient power within the limited timespan.

The sample will consist of students. This is partly a consequence of using a convenience sample; the study is employed by students and thus will be distributed to networks of students. That the sample will consist of students also serves substantive reasons. Namely, just as the authors of the original study argue, one's motivation is best influenced when one perceives the domain to be relevant (Lockwood & Kunda, 1997). By limiting the sample to students we are in better control to personalise the stimulus material to make it appear relevant. Just as in the original study this will be done by implementing the major of the student in the stimulus. To do so one has to follow a major, therefore the participant needs to be a student.

There are several predefined criteria on which a participant can be excluded from the sample. Those are: the participant does not agree with the terms and conditions of the study, is not 18 years or older, is not enrolled as a student or did not reach the end of the survey (i.e. did not fill in the dependent variable(s)).

In addition, outliers will be removed. Outliers are here defined as data points that either exceed the first quartile minus three times the Interquartile range (lower outer fence: Q1 − (3 * IQR)) or exceed the third quartile plus three times the Interquartile range (upper outer fence: Q3 + (3 * IQR)). Given that most variables are scaled, it will be unlikely that outliers will be found.

Outliers in terms of duration will also be removed. This means that those that filled in the survey in a short time and those that took long will be excluded from the sample. The participants that fill in the survey in a short time might have not paid full attention, questioning the reliability of their results. The participants that fill in the survey for a long time might take a break in between, possibly threatening the internal validity of the study. Outliers in terms of duration will be calculated in the same manner as the other outliers.

Failing the manipulation check, the randomisation check (which will be performed on sex and culture) or the 'external validity check' (to what extent participants believe the role model descriptions), will not lead to exclusion. Instead, if one of these tests fail, the respective testing variable will be included as a covariate in the eventual model.

Power analysis

To determine the sample size, a power analysis has been conducted using GPower 3.1.9.7. An ANOVA with fixed effects, special, main effects, and interactions will be performed to assess the main effects (the four original hypotheses by Lockwood et al.). That is under the condition that the manipulation check, the randomization check as well as the 'external validity check' do not fail, otherwise, a covariate must be added making it an ANCOVA.

By consulting the literature it is found that the overall effect size of goal priming is small. To be exact a meta-analysis from 2021 found a Cohen's *d* of .45 (Chen et al., 2021). This translates to a Cohen's *f* of .225 (*f* = *d* / 2, source: Cohen, 2013), the effect size needed in GPower. Role models also have a small effect (Lawner et al., 2019). A meta-analysis from 2019 found that in lab experiments the Cohen's *d* is on average .20, which translates to a Cohen's *f* of .10. For field experiments this effect was only .04 (*f* = .02). Given that the replicated study is a (online) lab experiment and not a field study this will not be accounted for. The lowest expected effect size is thus a Cohen's *f* value of .10 (for role models). Furthermore, the design consists of six groups (3 X 2 design), therefore having a numerator *df* of 2. Lastly, we will use a significance value of .05 and we want to obtain at least .80 power. By using these criteria GPower estimates that we need at least 967 participants.

Experimental procedures

The study will have a 2 (goal priming: promotion or prevention) X 3 (model type: positive, negative, or none) between-subjects design.

Pretest: This experiment will be conducted online via the survey platform Qualtrics, participants will be invited to participate in a study on "Life Transitions". Participants will first complete an informed consent process. After consenting, participants will be asked several demographics, such as age, gender and culture. Culture will be examined based on European, Asian or other cultural background. Lastly a question will be asked in which academic year the participant is. This will be used as a quality check to control if students who are older are also further in their major.

Manipulation 1 - Goal priming: After the demographics are answered, the participant is informed that questions will be asked about which strategies they prefer in order to pursue goals. It will be stated that this information is necessary to assist an undergraduate thesis. Participants will then randomly be assigned to either the promotion-primed or the prevention-prime condition.

The original manipulation from Lockwood et al. (2002, p. 856) has been adopted for this. In the promotion-prime condition, participants will first be asked: “What is a positive academic outcome that you might want to achieve? After which they are asked to describe the strategies they could use: “Which strategy could you use to successfully promote this positive academic outcome?” In the prevention-prime condition, participants will be asked: “What is a negative academic outcome that you might want to avoid?” Also followed by asking to describe their possible strategies: “Which strategies might you use to successfully prevent this negative academic outcome?”

Manipulation 2 - Role model descriptions: Subsequently, participants are informed that the University of Amsterdam has been collecting data on students' experiences during and after university to determine the factors associated with success and failure. Participants will also be informed that researchers are collecting data on students' impressions of how other individuals cope with life transitions as well as their own academic experiences and adjustments. Participants will then be randomly assigned to one of the three experimental groups: the positive role model group, the negative role model group or the control group (no role model). Participants read a self-description, written by a previous study participant, of a graduate from their own academic program (see Appendix B). Participants in the positive role

model group will read about the recent graduate's successful life transition, whereas those in the negative role model group will read a rather unsuccessful life transition.

In both role model conditions, the descriptions were individually tailored so that each participant could read a same-gender goal who had just graduated from the same academic major as themselves. This is manipulated by tailoring the name (either a traditional female or male name) and explicitly stating the major in the opening text. Lastly, the no role model control group will not read a description and proceed directly to the next step.

Manipulation Check - Role model adjustment ratings: Lockwood et al. (2002) implemented a role model adjustment rating that consists of five items that were combined into one index. The items were related to how well-adjusted participants view the role model. Lockwood et al. (2002, p. 857) only presented two items of the scale, the latter three items are self-designed. The ratings are on a 9-point scale, with endpoints ranging from 1 (not at all) to 9 (very) (see Appendix B). Those who were in the control group (no role model) will not receive this question.

Post-test - Motivation ratings: Consequently, participants will rate themselves on a set of 14 items (see Appendix B) to measure their motivation in an academic context (Lockwood et al., 2002, p. 857). Rating will be on an 11-point scale with endpoints labelled 1 (not at all true) and 11 (very true).

Career stress: Career stress will be measured using items of the career stress scale by Choi et al. (2011).

Future anxiety: Future anxiety will be measured by the 5-item Dark Future scale (Zaleski et al., 2017).

Believability of the role model description: Lastly, Participants will be asked if they believed the role model: "Do you believe that the story that you just read is a real story from an actual postgraduate of your academic major?", answering with “Yes” or “No”.

Analysis pipeline

First we will exclude the participants on the basis of the predefined exclusion criteria. If a participant disagrees with the terms and conditions, is younger than 18, is not enrolled as a student, did not complete the survey or caused outliers (including in terms of duration), the participant will be excluded from the sample.

Next we will perform reliability and factor analyses for the role model adjustment, the motivation ratings and the remaining scales, beginning with the reliability analyses. Items

will only be dropped if the Cronbach's alpha (including all proposed indicators) is below .60 (unacceptable reliability) and dropping an item would lead to a reliability higher than .60.

Secondly, the factor analyses (using principal axis factoring and varimax rotation) will be run. The constructs will only be split up if the factor analyses propose more than one factor and all the proposed factors are based upon at least three indicators. If less than three indicators load on an additional factor(s) then these indicators will be dropped.

With the remaining indicators the scales will be constructed by taking the average. We will check if both constructs are normally distributed. That is that they are not positively or negatively skewed (the skew has to be between ± -1 and ± +1). Positive skew will be resolved by taking the square-root of the scale and negative skew will be resolved by taking the square of the scale.

After that the manipulation check will be performed using the role model adjustment ratings. In the original study by Lockwood et al. (2002) it is not explicitly described as a manipulation check. But given that the role models are altered in their degree of success, we suppose that role model adjustment ratings can be interpreted as a direct measure if people indeed perceive one role model as more successful than the other. The manipulation check will be tested through an independent t-test, comparing the positive role model with the negative role model. To do so the condition variable needs to be recoded into containing only these two conditions (without the none condition). If the manipulation check is successful the t-test would be significant, highlighting that those in the positive role model condition rated the role model's adjustment higher than those in the negative role model condition. If the manipulation check fails the role model adjustment ratings will be included as a covariate.

Now we will perform the randomisation checks. These will be conducted for both the goal priming manipulation as well as the role model manipulation (including the none condition). The randomisation checks will be tested on sex and culture, using a Pearson chi-square test. These need to be insignificant. If the randomisation checks fail on either one of the manipulations, the respective variable will be added as a covariate.

In addition we perform a quality check to see if the data is logically structured. To check this we test if those who are older are also further into their study, compared to those that are younger. A regression analysis is performed to test this (age on academic year).

Lastly if people disbelieved the role model descriptions, the believability question will be added as a covariate as well.

Then the main hypotheses will be tested. The main model will be a two-way ANOVA with interaction effects with the independent variables being goal priming and role model

descriptions and the dependent variable being motivation ratings. In the original paper by Lockwood et al. (2002) four additional one way-ANOVA were performed.[1] We on the other hand will perform a Bonferroni post hoc analysis instead.

In addition H5 will be tested using a one way-ANOVA, testing the effect of role model type on career stress. H6 will be tested by a one way-ANOVA, examining the effect of positive and negative role models on future anxiety. H7 will be tested by an independent sample t-test, to examine the effect of participant gender on motivation. In order to examine H8, an independent sample t-test shall be conducted to address the difference between individualistic and collectivistic culture. The variables 'Both Backgrounds' and 'Other' shall be excluded from this study to emphasise on the cultural backgrounds of collectivistic and individualistic.

[1] 1) Goal-congruent role models versus goal-incongruent role models & controls, 2) goal-congruent role model conditions, 3) goal-incongruent role model conditions and 4) goal-incongruent role models versus controls on motivation ratings.

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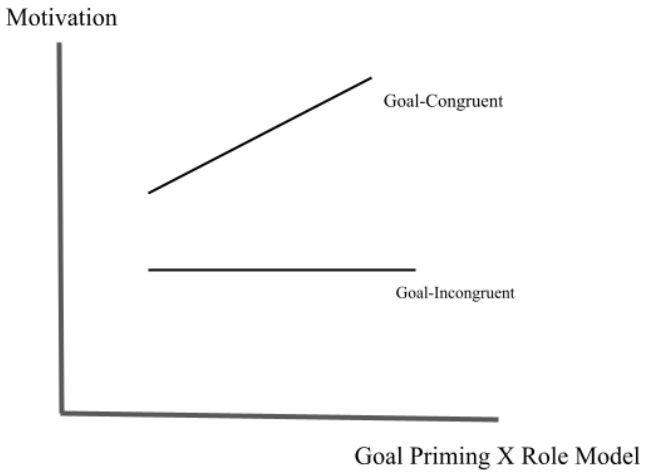
Appendix

Appendix A - Divergently and Positively Contingent Moderation Visualisation



Appendix B - Survey

[Introduction]

Dear respondent,

Hereby we would like to invite you to participate in a study that is being conducted under the responsibility of the University of Amsterdam.

In this study, named ‘life transitions’, we are interested in the motivations of students for their major. Therefore only participants who are 18 years and older and are currently enrolled as a student are allowed to participate in this study. The survey will take approximately 10 minutes.

Since this study is conducted under the responsibility of the University of Amsterdam, we can guarantee you the following:

- Your anonymity is guaranteed and your answers or data will not be passed on to third parties under any circumstances unless you have given explicit permission for this in advance.
- You can refuse to participate in the survey or terminate your participation prematurely without stating your reasons. You can also withdraw your consent afterwards (within 24 hours after participation) for the use of your answers or data for the study.

- There will be no significant risks or inconveniences to you by participating in the survey, will not be deliberately misled, and will not be confronted with explicitly offensive material.
- You can receive a research report no later than five months after the end of the research, in which the general results of the research are explained.

For more information about this research and the invitation to participate in it, you can at all times contact Helge Moes: at helgemoes@gmail.com.

If you have any complaints or comments as a result of your participation in this research, you can contact the member of the Ethics Committee of the Communication Science department, at the following address: ASCoR secretariat, Ethics Committee, University of Amsterdam, PO Box 15793, 1001 NG Amsterdam; 020-525 3680; ascor-secr-fmg@uva.nl. Confidential treatment of your complaint or comment is guaranteed.

Hopefully, we have been able to inform you sufficiently, and we would like to thank you for participating in this survey in advance.

With kind regards,

The research team (Roeland Dubèl, Erchen Shi, Woody Liu, Helge Moes)

[Terms & conditions]

We would now like to know if you agree with the following terms & conditions:

- I hereby declare that I have been informed, in a manner that is clear to me, about the nature and method of the investigation. I am aware that the results of the survey are stored.
- I voluntarily agree to participate in this study. I reserve the right to withdraw this consent without having to give a reason. I realize that I can stop the investigation at any time.
- If my research results are used in scientific publications or made public in any other way, this will be done completely anonymously. My personal data will not be viewed by third parties without my express permission.
- If I would like more information, now or in the future, I can contact Helge Moes, at helgemoes@gmail.com.
- For any complaints about this research, I can contact the Ethics Committee on behalf of ASCoR, at the following address: ASCoR secretariat, Ethics Committee, University of Amsterdam, Kloveniersburgwal 48, 1012 CX Amsterdam; 020-525 3680; ascor-secr-fmg@uva.nl.

Q1) Do you agree with the terms and conditions as presented above?

- Yes, I have read the terms and conditions, and I give permission under those terms and conditions.
- No, I do not give permission under those terms and conditions.

→ *if 'no' is selected the respondent will be redirected to the end.*

[Age]

Q2) What is your age? Please only use numbers in your answer.

…

→ *if the respondent is younger than 18 years old the respondent will be redirected to the end.*

[Sex]

Q2) What is your sex?

- Men
- Woman
- Non-binary
- Other, namely: …

[Cultural Background]

Q3) With which cultural background do you identify the most?

- Eastern (Asia)
- Western (European)
- Both backgrounds
- Other, namely …

[Academic major]

Q4) What is your academic major? Please write the full name of your major in English and check your input for possible spelling mistakes.

…

- I am currently not enrolled in an academic major.

→ *if the respondent is not enrolled in a major the respondent will be redirected to the end.*

Q5) In which year are you of your academic major? Please only use numbers in your answer.

…

Respondents will see one of two conditions (either the promotion or the prevention condition) on a random basis.

We will now ask questions about your academic goals and the strategies you prefer to reach those goals. This information is needed to assist an undergraduate thesis.

[Goal priming manipulation: promotion]

Q5A) What is a positive academic outcome that you might want to achieve?

…

Q6A) Which strategy could you use to successfully promote this positive academic outcome?

…

[Goal priming manipulation: prevention]

Q5B) What is a negative academic outcome that you might want to avoid?

…

Q6B) Which strategies might you use to successfully prevent this negative academic outcome?

…

Respondents will see one of three conditions (either a positive role model description, a negative role model description or no description).

The University of Amsterdam has been gathering data on students' experiences during and after their major to identify factors related to success and failure. We have been gathering information about students' impressions of how other individuals were coping with life transitions and about their own experiences and adjustment.

[Role model manipulation: positive role model / negative role model]

You will now get to read about the experience of [female → Emma / male → John] a recent graduate from your academic major [→ academic major].

"I have applied for a major scholarship for my dream postgraduate programme. I just found out I won that scholarship! [I just received the rejection and I cannot afford the tuition fee.] By the way, I found what I have learnt at university was really helpful [extremely unhelpful] - I have done two internships during my student life, and these experiences taught me a lot about my skills in professional and academic ways [I failed to find an internship related to my major or my knowledge during my student life, I only did some pretty boring stuff in fast food places and restaurants]. Two major companies have also contacted me about great positions that will be starting in the upcoming year [I also found a hard time getting good reference letters from my previous experiences to apply for the positions in large companies]. I have never thought that I can make so many achievements [life can be so difficult for me]!

I used to wonder about my future during my first college year, what can I do after obtaining this university degree? I might further my study in the academic field, I might find a decent job in a company, or I might travel around the world. Right now, I feel like I am able to answer this question, I know where I am going and what I want [I feel like I still cannot see the answer, I am not sure where I am going to go from here]. And I am really satisfied with my life [And I feel extremely insecure and anxious]. The future I used to imagine, in fact, is always so bright [should never be like this]."

[Role model manipulation: none]

Respondents will see no role model description.

[Motivation]

We would now like to ask you a few statements about yourself. Please rate to what extent the statements are true to your own personal situation on a scale from 1 to 11, 1 being not at all true and 11 being very true.

Q7.1) I plan to put more time into my schoolwork.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.2) I plan to study harder for tests and exams.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.3) I plan to spend less time partying with friends.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.4) I plan to put extra effort into the rest of my term papers.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.5) I plan to keep up with reading assignments.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.6) I plan to procrastinate less.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.7) I plan to start studying for finals before the term ends.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.8) I plan to spend more time at the library.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.9) I plan to stop engaging in social activities that interfere with schoolwork.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.10) I plan to avoid wasting time.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.11) I plan to be more organised.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.12) I plan to avoid missing work deadlines.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.13) I plan to be less casual about schoolwork.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

Q7.14) I plan to focus more on my studies.

Not at all true	1	2	3	4	5	6	7	8	9	10	11	Very true

[Career stress]

We would now like you to reflect about how you see your own life transition in the (near) future. Please state to what extent you agree or disagree with the following statements on a scale from 1 to 7.

Q8.1) I am concerned that I do not have enough information about the career I want.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.2) I feel frustrated because I do not know what kinds of qualifications are needed for the career I want.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.3) I feel frustrated because I am not exactly sure how I should prepare for the career I want.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.4) I feel frustrated because there are not that many people who are helping me prepare for my career.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.5) I feel frustrated because I do not know what is needed for my career.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.6) I am worried that there are not enough positions available in my career field.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.7) I am concerned that I cannot pass the required exams for the career I want.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.8) I feel stressed because there are a lot of things to do to get a successful career.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.9) I am worried that I might not get the career I want.

Totally disagree	1	2	3	4	5	6	7	Totally agree

Q8.10) I feel stressed because it is hard to study for my classes and prepare for a career at the same time

Totally disagree	1	2	3	4	5	6	7	Totally agree

[Future Anxiety]

We would like to know more about your attitude towards your future. Indicate the number that most accurately defines your point of view. Please indicate 7 if a given statement accurately describes your attitude, and indicate 1 if the statement is not true.

Q9. 1) I am afraid that the problems which trouble me now will continue for a long time.

Decidedly false	1	2	3	4	5	6	7	Decidedly true

Q9. 2) I am terrified by the thought that I might sometimes face life's crises or difficulties.

Decidedly false	1	2	3	4	5	6	7	Decidedly true

Q9. 3) I am afraid that in the future my life will change for the worse.

Decidedly false	1	2	3	4	5	6	7	Decidedly true

Q9. 4) I am afraid that changes in the economic and political situation will threaten my future.

Decidedly false	1	2	3	4	5	6	7	Decidedly true

Q9. 5) I am disturbed by the thought that in the future I won't be able to realize my goals.

Decidedly false	1	2	3	4	5	6	7	Decidedly true

[Role model adjustment / manipulation check]

If role model manipulation = 0 → skip this question.

We would now like to know how you view the person in the story you read. Please rate to what extent you think the following statements apply for the person in the story on a scale from 1 to 9, 1 being not at all and 9 being very.

Q8.1) How successful do you think this person is?

Not at all	1	2	3	4	5	6	7	8	9	Very

Q8.2) How well-adjusted do you think this person is?

Not at all	1	2	3	4	5	6	7	8	9	Very

Q8.3) How prosperous do you think the life transition of this person is?

Not at all	1	2	3	4	5	6	7	8	9	Very

Q8.4) How promising do you think the life transition of this person is?

Not at all	1	2	3	4	5	6	7	8	9	Very

Q8.5) How untroubled do you think the life transition of this person is?

Not at all	1	2	3	4	5	6	7	8	9	Very

[Believability check]

If role model manipulation = 0 → skip this question.

Q9) Do you believe that the story that you read is a real story from an actual postgraduate of your academic major?

- Yes I do
- No I do not

[Debriefing]

We would like to thank you for participating in this survey. If any questions or remarks remain, please contact Helge Moes: helgemoes@gmail.com.