Keep Degrowth or Go Rebirth? Regulatory Focus Theory and the Support for a Sustainable Downscaling of Production and Consumption

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Abstract

Considering that the growth model that dominates across the world is unsustainable, an increasing trend of publications indicates that transformative social change toward a "degrowth" economy is necessary to tackle climate change. Defined as an alternative sustainable social-economic model aiming for a downscaling of production and consumption, degrowth has been widely analyzed and documented in social and environmental sciences. However, despite this increasing academic interest, degrowth maintains a rather negative public perception, and remains under-researched in psychology. In a series of four online studies (N=2,408), collected in the US and UK, one of which was pre-registered and tested on a representative sample, our research investigated whether support for this alternative sustainable social-economic model could be influenced by its name labelling (Rebirth vs. Degrowth) and its definition framing (Promotion vs. Prevention), using the Regulatory Focus Theory. The main findings indicate that support for social change toward a degrowth economy increased when its definition was framed in terms of achieving positive consequences (Promotion) rather than avoiding negative consequences (Prevention), regardless of its name labelling. Overall, this article introduces the concept of degrowth to environmental psychology and in doing so hopes to inspire more psychological scientists to research this transformative social-economic model.

Keywords: Environment, degrowth economy, growth economy, sustainability, promotion, prevention.

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1. Introduction

According to estimates, if global warming continues increasing at the current rate, it will have severe consequences for human security, health, water supply, and food production between 2030 and 2052 (IPCC, 2018). Policy makers recommend that some of the changes that people should adopt into their lifestyles to counter this trend involve eating plant-based foods instead of meat, avoiding car and plane mobility, and recycling, to name but a few illustrations (Clark & Tilman, 2017; Dubois et al., 2019; McMichael, Powles, Butler, & Uauy, 2007). However, it is imminent that, to reverse climate change, more radical transformations of the world's economic systems will be needed (Latouche, 2009; O'Neill, Fanning, Lamb, & Steinberger, 2018).

One proposed alternative to the current economic system is "green economy" and the associated concept of green growth, according to which economic growth is not incompatible with countering climate change if it is driven by green energies (e.g., wind turbines, solar panels) instead of fossil fuels (Ekins, 2002; Lorek & Spangenberg, 2014). However, a growing body of research indicates that green growth is highly unlikely to succeed in stopping environmental degradation (e.g., D'Alessandro, Cieplinski, Distefano, & Dittmer, 2020; Kallis et al., 2018; Sandberg, Klockars, & Wilén, 2019; Ward et al., 2016; Wiedmann et al., 2015). Instead, scientists suggest that another alternative, known as "degrowth", may be among the few realistic options to counter climate change in the long run (D'Alisa, Demaria, & Kallis, 2015; Kallis, 2011; Kallis et al., 2018; Wiedmann, Lenzen, Keyßer, & Steinberger, 2020).

Degrowth is "a process of political and social transformation that reduces a society's throughput while improving the quality of life" (Kallis et al., 2018, p. 292). Given that it requires economic consumption and production to decrease, it has been largely ignored by governments across the world. For example, initiatives such as the Paris Agreement and the United Nations Sustainable Development Goals keep assuming continued economic growth (Sandberg et al., 2019). Moreover, whereas degrowth is endorsed by various activists and scholars (e.g., Demaria, Schneider, Sekulova, & Martinez-Alier, 2013), this alternative to the current economic system is relatively unknown among the public and evokes negative reactions (Drews & Antal, 2016; Sandberg et al., 2019).

Considering that some of the main topics psychology investigates involve people's attitudes, intentions, behavior, and how to change them, one would expect that psychologists would increasingly research how to influence the support for and adoption of degrowth as an important transformative proposition aimed at tackling global warming. However, degrowth has been studied mostly in the fields of ecological economics and communication, whereas psychologists have generally neglected it. To our knowledge, no papers focusing explicitly on "degrowth" have been published in psychology journals thus far, whereas only few articles that focused on practices consistent with this construct but without directly referring to it have appeared in such journals to date (Joanes, Gwozdz, & Klöckner, 2020; Uzzell & Räthzel, 2009). In fact, a limited number of articles that examined psychological themes in relation to "degrowth" explicitly were published only in multidisciplinary outlets (e.g., Drews & van den Bergh, 2016; Natale, Di Martino, Procentese, & Arcidiacono, 2016; Sekulova, Kallis, & Schneider, 2017; Tomaselli, Sheppard, Kozak, & Gifford, 2019).

In the present article, we therefore investigate how to influence people's support for this social-economic alternative from a psychological perspective. More specifically, we adopt the regulatory focus theory (RFT; Higgins, 1997, 1998; Shah, Higgins, & Friedman, 1998)—one of the most widely used theoretical frameworks originating in social psychology that outlines how two distinct motivational systems (promotion and prevention focus) shape cognition and action (see *Section 1.2* below for a more elaborate description)—for several reasons. First, the framework is compatible with different descriptions of degrowth, given that promotion versus prevention focus concern the impact of attaining positive outcomes versus avoiding negative outcomes on human motivation, and that the benefits of change toward degrowth can be presented both as achieving positive (e.g., increasing human well-being) and avoiding negative consequences (e.g., reducing human suffering). Second, the theory has been extensively used in various domains, from health (e.g., Keller, 2006; Latimer et al., 2008; Ludolph & Schulz, 2015) to sustainability (e.g., Bertolotti & Catellani, 2014), to understand how message framing influences attitudes and behavior.

Overall, in the present research we investigate how different framings of degrowth, based on insights from RFT, influence people's support for this sustainable social-economic model. In the following sections, we first consider the downside of a reference to the "degrowth" label, and we suggest that an alternative name ("rebirth") would be more aligned with its conceptualization in the literature. Then, we overview RFT in the context of degrowth to propose the hypotheses.

1.1. "Rebirth" as an Alternative to "Degrowth" to Label a Socio-Ecological Transformation

The concept of degrowth "signals a radical political and economic reorganization leading to reduced resource and energy use" (Kallis et al., 2018, p.291). It therefore challenges the dominant growth model, especially in industrialized societies (Latouche, 2009). Analyzed and

documented in history, (ecological) economics, political science, technology studies, anthropology, and social sciences (Kallis et al., 2018), this “missile” word involves a radical socio-ecological transformation (Demaria et al., 2013). Indeed, aiming for an equitable downscaling of production and consumption (Schneider, Kallis, & Martinez-Alier, 2010), a degrowth economy would require adopting new economic, social, and environmental policies such as introducing a basic/citizenship income and a shorter working week, emphasizing alternative economies and local sourcing, supporting small-scale producers, and/or accelerating the use of renewable energy (D’Alisa et al., 2015). In this perspective, degrowth is primarily understood as a reconceptualization of our economic system and a transformative social change toward an alternative social-economic model that is more sustainable.

However, as an “interpretative frame”, degrowth also encompasses fundamental social and psychological dimensions attached to “human well-being”, happiness, and life satisfaction (Demaria et al., 2013). Degrowth is a “new economy” encouraging “conviviality”, which propels autonomy and human creativity (Deriu, 2015; Illich, 1973; Latouche, 2009), and a greater sense of wellbeing and fulfilment, which may be provided by community-based activities such as craft workshops, writing centers, music, drama, or meditation (Jackson, 2015). Next to being a sustainable and equitable downscaling of production and consumption, degrowth is thus also depicted as a source of nurturance, fulfilment, and new aspirations which contribute to human “flourishing” at individual (psychological) and community (social) levels (Kallis, Demaria, & D’Alisa, 2015).

Despite these intrinsic positive aspects, the reference to degrowth in public communications remains perceived rather negatively (Drews & Antal, 2016). Three main reasons have been identified in the literature (Drews & Antal, 2016). First, degrowth is a frame

that suggests a downward orientation, which is metaphorically associated with negative valence (e.g., Lakoff & Johnson, 1980). Second, as an alternative to the growth model, degrowth seems to negate the positive meaning usually attached to growth (e.g., prosperity, development, employment), and may be identified with negative change such as an economic contraction or recession. Third, because "negating a frame just activates the frame" (Lakoff, 2010, p.72), the mere reference to degrowth may highlight contrast with growth and unintentionally reinforce the growth model. "Degrowth" may then turn out to be a "missile word" that backfires (Drews & Antal, 2016). Evidence suggests that, compared to "post-growth" and "prosperity without growth", the "degrowth" label elicits negative rather than positive affective and emotional reactions (Drews & Reese, 2018). The expression "prosperity without growth" has been identified as an alternative expression that is associated to more positive affective reactions and positive attitudes than "degrowth" (Drews & Reese, 2018). However, like the "degrowth" label, this expression keeps highlighting contrast with growth.

Along this line of argument, a better label than "degrowth" is still needed to represent and frame this new economy as a sustainable alternative to the growth model. In this article, we suggest that "rebirth" is a more appropriate label. Three main reasons justify this choice. First, rebirth is a fundamental concept shared by many religions and myths across the world that "is not only a denial of individual extinction but also a reassertion of society and a renewal of life and creative power" (Bloch & Parry, 1982, p.5). As such, this label would express the positive effects of transformative change that a degrowth economy promotes at individual, societal, and ecological levels. For instance, "Renaissance", which literally means "re-birth" in French, characterizes an intense period of creativity and change in human history, and is described as "a fervent period of European cultural, artistic, political and economic "rebirth" following the

Middle Ages."[1]. Rebirth is also a metaphoric frame commonly used by ecologists and environmentalists in dramatic situations (Hardy-Short & Short, 1995). It is "compatible with the view of Earth/nature as an open system", and suggests that "the greater value in something will be visible after its transformation by rebirth" (Hardy-Short & Short, 1995, p.107).

Second, rebirth refers to the "regeneration of life" (Bloch & Parry, 1982). Interestingly, the regenerative aspect of a transformative change toward a new socio-ecological model is already underpinning some analyses inspired by thermodynamics and natural sciences (e.g., Petridis, Muraca, & Kallis, 2015) or social sciences in the degrowth literature (e.g., Cosme, Santos, O'Neill, 2017; Demaria, Kallis, & Bakker, 2019; Victor, 2018). In further support of this argument, rebirth makes use of the prefix "re-" which evokes the eight "Rs" that describe the interdependent goals of a degrowth economy: namely, re-evaluate, reconceptualize, restructure, redistribute, re-localize, reduce, reuse, and recycle (Latouche, 2009, pp. 33-43).

Last, contrary to the "degrowth" label, "rebirth" conveys the idea of the positive transformative change coming after an ecological catastrophe (e.g., Hardy-Short & Short, 1995) or an economic crisis (e.g., Koven & Koven, 2018), without explicitly referring to "growth". This characteristic may help overcome the aforementioned "backfire effect" attached to the "degrowth" label, which highlights contrast with growth (Drews & Antal, 2016). In the subsequent section, we describe RFT and suggest that this theoretical framework can help shed further light on the contrast between the degrowth and rebirth labels and inform the framing of communication about a degrowth economy.

1.2. Regulatory Focus Theory (RFT) as a Framework to Communicate About a Degrowth Economy

[1] Source: https://www.history.com/topics/renaissance/renaissance

In the present article, we devised persuasive messages regarding the transformative social change implied by an alternative sustainable social-economic model grounded upon degrowth-related practices. These messages were based on principles inherited from RFT (Higgins 1997, 1998). The theory differentiates between two main motivational directions—promotion and prevention focus—that regulate cognitive processing and behavior (e.g., Higgins 1997, 1998, 2002; Higgins et al. 2001) and therefore have implications for various attitudes and actions, including those toward (social) change (Liberman, Idson, Camacho, & Higgins, 1999; Zaal, Van Laar, Ståhl, Ellemers, & Derks, 2012). Importantly, although promotion and prevention focus can be chronic, and thus constitute people's individual differences measurable via a scale (Haws, Dholakia, & Bearden 2010), they can also be temporarily activated by a message or other situational circumstances (Cesario, Corker, & Jelinek, 2013; Higgins, 2002; Higgins et al., 2001).[2] For this reason, the two motivational directions can be harnessed by various interventions to change people's perceptions, intentions, and behavior (e.g., Fuglestad, Rothman, & Jeffery, 2008). Below we first outline the main characteristics of promotion and prevention, and then specifically examine how they should influence people's support for degrowth.

Under promotion focus, people's goals are generally driven by the prospect of approaching positive outcomes associated with accomplishments, gains, and advancements (Higgins, 1997). For example, in a promotion state, a person may study to achieve a high grade or work hard to get a promotion. Importantly, promotion focus is associated with ideals, hopes, aspirations, personal growth, and nurturance needs such as taking care of oneself, which means that promotion-motivated people are likely to prioritize goals that can fulfill some of these

[2] Although regulatory focus can be tackled both as an individual difference variable and as a situational component, as aforementioned, in the present article we focus on the latter because our key interest is to understand how RFT can inform framing to influence degrowth support.

psychological motives (Higgins, 1998). Such people may therefore also study to become their ideal version of themselves or work hard to grow as individuals. Finally, beyond various psychological motives, promotion focus is linked to "eager" goal pursuit strategies (Cesario, Grant, & Higgins, 2004; Cesario et al., 2013) that involve enthusiastically undertaking an activity to achieve a goal (e.g., engaging in as many work-related projects as possible to get promoted). In that regard, although a message that temporarily activates promotion focus can involve typical gain frames that emphasize positive outcomes (Kahneman & Tversky, 1979; Levin, Schneider, & Gaeth, 1998), it can also go beyond by evoking any of the promotion psychological motives or eager goal strategies. An example is framing a message directed at sunscreen use by emphasizing how sun exposure can lead to wrinkles appearing on the skin, which is linked to nurturance needs (Cesario et al., 2013).

In contrast, under prevention focus, people's goals are driven by the prospect of avoiding negative outcomes associated with punishments, losses, and failures (Higgins, 1997). For example, in this motivational state, a person may study to avoid failing exams or work hard to avoid being worse off than their friends. Importantly, prevention focus is associated with responsibilities, duties, safety concerns, and security needs; people in prevention states are more likely to prioritize goals that can fulfill some of these psychological motives (Higgins, 1998). Such people may therefore also study because they see this as their responsibility or work hard to attain financial security. Next to the psychological motives, prevention focus is linked to "vigilant" goal pursuit strategies (Cesario, Grant, & Higgins, 2004; Cesario et al., 2013) that involve being careful and detail-oriented when working toward a goal (e.g., doing work-related projects meticulously to avoid getting fired). Therefore, although prevention-focused messages can involve loss framing (Kahneman & Tversky, 1979; Levin, Schneider, & Gaeth, 1998), they

can go beyond by emphasizing any of the prevention psychological motives and goal strategies. An example is framing a message directed at sunscreen use by emphasizing how sun exposure can lead to skin cancer, which is linked to safety concerns (Cesario et al., 2013).

Importantly, within RFT, it is possible to make a more nuanced distinction regarding promotion and prevention: differentiating between gains and non-gains, and between losses and non-losses (Idson, Liberman, & Higgins, 2000; Roczniewska & Higgins, 2018). Promotion focus does not need to be construed only as achieving gains (e.g., attaining positive outcomes such as getting a discount in a store), but it can also be construed as avoiding non-gains (e.g., doing everything possible to avoid not getting the discount; Idson et al., 2000). Likewise, prevention focus can be construed both as avoiding losses (e.g., avoiding a penalty) and attaining non-losses (e.g., doing everything to not pay a penalty; Idson et al., 2000). These subtle distinctions have implications for understanding the relevance of promotion and prevention for people's support of various types of change, including societal transformation. More precisely, under promotion, people represent change (i.e., a situation that goes beyond the status quo) as a desirable state (gain), whereas they represent the status quo as an undesirable state to avoid (i.e., non-gain); under prevention, they represent the status quo as a desirable state (i.e., non-loss), and change as a negative state (i.e., loss) that should be avoided (Higgins & Liberman, 2018). In this vein, promotion is associated with openness to change, whereas prevention is linked to preference for stability (Liberman et al., 1999). By extension, under promotion focus, individuals construe social change as a maximal aspiration they would ideally like to accomplish, whereas under prevention they favor status quo and construe social change as a minimally acceptable outcome (Zaal et al., 2012).

These findings and argumentation lead to coherent predictions about the persuasiveness of messages supporting a new social-economic model such as a degrowth economy. According to RFT, promotion-focused language should be more persuasive than prevention-focused language to advocate social change in favor of this model. Therefore, considering that the "rebirth" label used in the present research is associated with nurturance outcomes and a gain situation, and the "degrowth" label with safety outcomes and a loss situation, we hypothesized that a Rebirth (vs. Degrowth) name would increase the support for social change toward an alternative social-economic model grounded upon a sustainable downscaling of production and consumption (*Hypothesis 1*).[3] Moreover, we predicted that describing this model using a promotion language (i.e., promotion definition), by emphasizing its positive consequences as well as promotion motives and eager strategies, would increase its support compared to associating its adoption with avoidance of various losses and with the prevention-compatible psychological motives and vigilant strategies (i.e., prevention definition) (*Hypothesis 2*).

1.3. The Role of Regulatory Fit in Communication About a Degrowth Economy

In addition to RFT tenets we used to make predictions about the name labels and definition framing, one of its key implications involves the regulatory fit effect (Cesario, Higgins, & Scholer, 2008). This effect concerns compatibility between chronic regulatory focus and a message frame, or between different elements of a message frame. For example, regarding the social-economic model on which we focus, the name and definition as elements of its framing can be either compatible (promotion name + promotion definition; prevention name + prevention

[3] By "an alternative social-economic model grounded upon a sustainable downscaling of production and consumption", we are referring to a sustainable model grounded in the main principles of degrowth. However, we do not use the word "degrowth" in this context to avoid confusing the readers in the remaining sections of the article, given that we use this label as one of the two names (Degrowth vs. Rebirth) for this social-economic model in our experimental design.

definition), or incompatible (promotion name + prevention definition; prevention name + promotion definition). The regulatory fit effect corresponds to compatibility between different elements: it typically produces the experience of "feeling right" and increases message persuasiveness (Cesario et al., 2004; Higgins, 2000; Lee & Aaker, 2004). For instance, Cesario and colleagues (2004) manipulated different combinations of regulatory concerns (accomplishment = promotion, safety = prevention) and means of goal achievement (eager = promotion, vigilant = prevention) in messages advocating fruit and vegetable intake. The regulatory fit increased the persuasiveness of and agreement with the messages. Effects aligned with regulatory fit have been documented in various contexts, whether non-profit (e.g., health communication; Ludolph & Schulz, 2015) or for-profit (e.g., consumer research; Higgins, Nakkawita, & Cornwell, 2020; Motyka et al., 2013), and at various levels, whether individual (Cesario et al., 2008) or collective (e.g., organizational psychology; Higgins & Pinelli, 2020).

Along this line of argument, we may expect a regulatory fit effect on the support for an alternative social-economic model grounded upon a sustainable downscaling of production and consumption when this model is named Rebirth (activating a promotion focus) and its definition is promotion (vs. prevention) framed. Conversely, a fit effect may be expected when the Degrowth label (activating a prevention focus) is prevention (vs. promotion) framed.

Evidence, however, is not always consistent with regulatory fit effects when applied to sustainability-related issues. On the one hand, for instance, promotion (vs. prevention) framing about such issues (e.g., conservation volunteering) was more persuasive regardless of whether participants were in a promotion (regulatory fit) or a prevention (regulatory non-fit) state (Nisbett & Strzelecka, 2017; see also, Codini, Miniero, & Bonera, 2018, Study 1). In this perspective, individuals' chronic promotion focus predicted pro-environmental concern while

chronic prevention focus did not (Bhatnagar & McKay-Nesbitt, 2016). On the other hand, prevention (vs. promotion) framing about a sustainability-related topic (e.g., pro-environmental products) was more persuasive because it fit the prevention focus activated by sustainability (Bullard & Manchanda, 2013). Consistently, messages communicating pro-environmental benefits (e.g., green vs. non-green product-related appeals) were more persuasive for chronically prevention-focused participants (Ku, Kuo, Wu & Wu, 2012).

Overall, these mixed results make it difficult to predict how exactly regulatory fit should shape sustainability-related communication. Additionally, it is worth noting that the literature reveals that some boundary conditions to the "persuasion through regulatory fit" paradigm may also apply (e.g., Malaviya & Brendl, 2014). For instance, some findings indicate that prevention (vs. promotion) framing may be motivating to individuals who are chronically promotion-focused (Bullard & Penner, 2017). Contrary to the regulatory fit effect hypothesis, such findings thus suggest that a fit between message frame and regulatory focus of the audience can be less persuasive in some circumstances. While these findings were about message appeals for philanthropic giving, it was suggested that "a similar pattern of effects may be observed in other contexts that involve other-oriented benefits of a person's behavior (e.g., pro-environmental consumption, ethical consumption/behavior)" (Bullard & Penner, 2017, p.179).

Overall, in the context of our research on degrowth, which pertains to a sustainability-related issue, it remains possible that a non-fit between name and definition frame (i.e., Degrowth + Promotion; or Rebirth + Prevention) may either decrease or increase participants' support for the social-economic model when compared with a fit (i.e., Rebirth + Promotion; or Degrowth + Prevention). Considering these results, we adopted a non-directional hypothesis and predicted that name (Rebirth vs. Degrowth) and framing (Promotion vs. Prevention) would

interact in influencing the support for an alternative social-economic model grounded upon a sustainable downscaling of production and consumption, but without specifying the exact pattern of the interaction (Hypothesis 3).

1.4. Overview of the Studies

We first conducted two pilot studies on US and UK samples to test whether the Rebirth and Degrowth labels activate promotion and prevention focus, respectively. Then, we conducted two studies to test Hypotheses 1-3. In Study 1, we tested them on a US sample. In Study 2, we tested them on a representative UK sample stratified according to sex, age, and ethnicity. This study was pre-registered (Appendix).[4] We expected that the hypotheses would be supported in both studies regardless of the differences in samples because, in our literature search, we did not identify that the two countries differ on characteristics that tend to moderate regulatory focus effects (e.g., chronic regulatory focus; Higgins & Pinelli, 2020).

2. Pilot Studies: Rebirth and Degrowth as Promotion and Prevention Focus

2.1. Method

2.1.1. Stimuli

Based on recommendations by Haws and colleagues (2010), the following six words that denote concepts at the core of Promotion focus were selected as stimuli: approach, success, advance, gain, aspirations, and wishes. For Prevention focus, the following six words were selected: avoid, failure, prevent, loss, obligations, and responsibilities.

2.1.2. Sample Size: Power Analysis

[4] We confirm that all the studies we conducted in the article were aligned with the Research Ethics Policy and Code of Research Conduct of the authors' university.

A priori power analysis using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) showed that we would need to test 44 participants to examine whether Degrowth activates Prevention and Rebirth Promotion (Supplementary Materials, p.10). To be on the safe side, we decided to use a larger sample size of minimum 100 participants and recruited 110 participants for the pilot study on the US sample to account for potential exclusions, whereas we recruited 120 participants for the pilot on the UK sample given that we used additional check items in that study (see the *Measures* section below).

2.1.3. Participants, Design, and Procedure

For the US sample, 110 participants (Males = 64, Females = 44, Other = 2, M_{age} = 34.32) completed the study via MTurk, and payment was $0.30 for an approximately 1- to 2-minute survey. For the UK sample, 120 participants (Males = 40, Females = 80, Other = 0, M_{age} = 40.83) completed the study via Prolific.ac and payment was £0.40 for an approximately 2-minute survey. In both studies, participation on mobile phones was not allowed, and we used a mixed design with one between-subjects variable (Name: Degrowth vs. Rebirth) and one within-subjects variable (Regulatory Focus: Promotion vs. Prevention).

After reading the consent form, participants were randomly allocated into the Degrowth (or Rebirth) condition. Then, they were asked to what extent they associate the word Degrowth (or Rebirth) with the 12 stimuli words assessing Promotion and Prevention focus. After completing the items concerning the exclusion criteria and covariates (see the *Measures* section), they were given the opportunity to share any comments they had about the study and were thanked for their participation and paid.

2.1.4. Measures

Dependent Variable. In each pilot study, the dependent variable was the extent to which a participant associated Promotion and Prevention focus with either Degrowth or Rebirth (depending on the between-subjects condition to which they have been allocated). Participants were asked to indicate, on a scale from 1 (Not at all) to 5 (Extremely), to what extent they associate the word Degrowth (or Rebirth) with each of the 12 stimuli words comprising Promotion and Prevention focus. The Promotion focus score was then computed for either Degrowth or Rebirth by creating an averaged composite score across the six relevant words (US Sample Cronbach's α = .91; UK Sample Cronbach's α = .88). Likewise, the Prevention focus score was created by computing an average across the relevant stimuli (US Sample Cronbach's α = .75; UK Sample Cronbach's α = .75).

Covariates. We measured participants' gender (male vs. female vs. other) and age in years in both pilots. Moreover, in the pilot conducted on the UK sample we also assessed chronic promotion and prevention focus using the scale by Haws and colleagues (2010) on a response scale from 1 (Strongly disagree) to 7 (Strongly agree).[5]

Exclusion Criteria. To identify participants who should be excluded from statistical analyses, we used the following check item in both pilots: "Which word on the previous page was the main word for which you had to indicate to what extent you associate it with other words?" Response options were (1) Advertising; (2) Physics; (3) Degrowth or Rebirth

[5] Although the purpose of randomly allocating people to different conditions (i.e., Degrowth vs. Rebirth name in this pilot) is to ensure that any potential confounds (i.e., covariates) are equally distributed across conditions and thus do not explain the key findings, with small sample sizes used in pilot studies there is always a reasonable chance these variables may be imbalanced across conditions and confound the results (Suresh, 2011). Because chronic regulatory focus is an important individual difference that may determine how people react to promotion and prevention manipulations, in this final pilot we controlled for this variable to ensure that it does not confound the key findings. We therefore found it more appropriate to use chronic promotion and prevention focus as covariates than probing their three-way interactions with the key independent variables, which would also be theoretically justifiable (Higgins, 1997, 1998), given that conducting such complex interactions on small samples is highly problematic and has a high chance of type I and II errors (e.g., Hainmueller, Mummolo, & Xu, 2019).

(depending on the condition to which they have been allocated to); (4) Biology; (5) Art; and (6) Drug addiction. Moreover, we used a seriousness check (Aust, Diedenhofen, Ullrich, & Musch, 2013), and at the end of each pilot we included a captcha verification question to prevent bots from completing the survey. The pilot study conducted on the UK sample also included two additional instructed-response check items (e.g., "Please respond with 'Somewhat disagree' for this item"; Meade & Craig, 2012) that were embedded in the scale measuring chronic promotion and prevention focus as covariates (Haws et al., 2010). In each study, only participants who passed all the checks were included in statistical analyses.

2.2. *Results*

2.2.1. Excluded Data

In the US sample, out of 110 participants, four were excluded from statistical analyses after applying the exclusion criteria, leaving 56 and 50 participants in the Degrowth and Rebirth conditions, respectively. In the UK sample, out of 120 participants, 13 were excluded from statistical analyses due to the exclusion criteria, leaving 53 and 54 participants in the Degrowth and Rebirth conditions, respectively.

2.2.2. Main Analysis: US Sample

To test whether Degrowth is associated with Prevention and Rebirth with Promotion, we used a mixed ANOVA and computed an interaction between Name as a between-subjects variable and Regulatory Focus as a within-subjects variable. The interaction was significant and yielded a large effect size, $F(1, 104) = 228.09$, $p < .001$, $\eta_p^2 = .69$. Simple slopes analyses showed that people associated Degrowth with Prevention to a greater degree than with Promotion, $M_{diff} = 1.31$, $p < .001$, 95% CI [1.09, 1.52], whereas they associated Rebirth to a greater degree with Promotion than Prevention, $M_{diff} = 1.07$, $p < .001$, 95% CI [0.84, 1.30]

(Figure 1). Simple slopes analyses also revealed that participants associated Prevention words more with Degrowth than with Rebirth, $M_{diff} = 1.13$, $p < .001$, 95% CI [0.89, 1.38], but they associated Promotion words more with Rebirth than with Degrowth, $M_{diff} = 1.25$, $p < .001$, 95% CI [0.93, 1.56]. The results remained highly significant despite covariates (Supplementary Materials, p. 12).

2.2.3. Main Analysis UK Sample

For the UK sample, we conducted the same analyses as for the US sample. The interaction between Name and Regulatory focus was again significant and yielded a large effect size, $F(1, 105) = 168.44$, $p < .001$, $\eta_p^2 = .62$. Simple slopes analyses showed that people associated Degrowth with Prevention to a greater degree than with Promotion, $M_{diff} = 0.94$, $p < .001$, 95% CI [0.72, 1.15], whereas they associated Rebirth to a greater degree with Promotion than Prevention, $M_{diff} = 1.05$, $p < .001$, 95% CI [0.83, 1.26] (see Figure 1). The analyses also revealed that participants associated Prevention words more with Degrowth than with Rebirth, $M_{diff} = 0.95$, $p < .001$, 95% CI [0.74, 1.17], but they associated Promotion words more with Rebirth than with Degrowth, $M_{diff} = 1.03$, $p < .001$, 95% CI [0.73, 1.33]. The results remained highly significant despite covariates (Supplementary Materials, p. 12).

2.3. Discussion

Overall, the present research supported the assumption regarding the link between Rebirth and Promotion, and Degrowth and Prevention, on which our hypotheses are based. In both pilots, participants in the Degrowth condition associated Prevention words with this label to a greater degree than Promotion words. In contrast, participants in the Rebirth condition associated Promotion words with this label more than Prevention words. Both studies also showed that Promotion words were more strongly associated with Rebirth than Degrowth,

whereas the results reversed for Prevention words. Overall, the findings were convincing, given that the effect sizes for the interaction between Name and Regulatory focus were large (US Sample $\eta_p^2 = .69$; UK Sample $\eta_p^2 = .62$).

3. Study 1

In Study 1, we then tested whether the Rebirth (vs. Degrowth) name (*Hypothesis 1*) and the Promotion (vs. Prevention) definition framing (*Hypothesis 2*) increased support for social change toward an alternative social-economic model grounded upon a sustainable downscaling of production and consumption. In addition, an interaction between the name and framing was tested (*Hypothesis 3*) to probe whether a regulatory fit also influenced this support.

3.1. Method

3.1.1. Stimuli: Framing Interventions

To develop the framing interventions, we first constructed a concise definition of the alternative social-economic model in question by drawing on representative definitions from key literature on degrowth (D'Alisa et al., 2015; Demaria et al., 2013; Kallis, 2011) as well as the definition proposed by Research & Degrowth (R&D), an academic association dedicated to research and educational activities around degrowth.[6] This definition emphasized the main aspects of a degrowth economy, including the downscaling of production and consumption, ecological sustainability, and moving away from GDP as an economic indicator and focusing on human wellbeing instead. The wording also followed recommendations from the degrowth literature. For instance, the expression "flourishing" was preferred to "growing" and "developing", which convey a quantitative rather than a qualitative dimension to the desired change toward a degrowth economy (Kallis et al., 2015).

[6] For the definition developed by R&D, see https://degrowth.org/definition-2/

Then, we created two different framings of the definition. Considering that promotion focus is about approaching positive outcomes and involves psychological motives such as personal growth or ideals and eager goal pursuit strategies (Haws et al., 2010; Higgins, 1997, 1998), in the Promotion frame we a) presented social change toward an alternative sustainable social-economic model in terms of achieving positive consequences (e.g., improving equity on the planet, increasing human wellbeing, etc.); b) emphasized the relevant psychological motives (e.g., personal growth: establishing a society that promotes the flourishing of human character); and c) outlined eager means of achieving this social-economic model (e.g., "more intensive use of renewable energy, such as solar power"; see Bertolotti & Catellani, 2014). Moreover, because prevention is about avoiding negative outcomes and involves psychological motives such as safety and vigilant goal pursuit strategies (Higgins, 1997, 1998), in the Prevention frame we a) presented social change toward the social-economic model in terms of avoiding negative consequences (e.g., reducing inequity on the planet, decreasing human suffering, etc.); b) emphasized the relevant psychological motives (e.g., safety: minimizing adverse ecological consequences); and c) outlined vigilant strategies (e.g., "less intensive use of non-renewable energy, such as fossil fuels"; see Bertolotti & Catellani, 2014). Stimuli are available in Supplementary Materials (pp. 3-5).

3.1.2. Sample Size: Power Analysis

A priori power analyses using G*Power (Faul et al., 2007) showed that 787 people would be required to identify a small effect (Supplementary Materials, pp.10-11). We focused on small effect sizes because they were obtained in several framing studies relevant to the present research (e.g., Bilandzic, Kalch, & Soentgen, 2017; O'Keefe & Jensen, 2009); because, more generally, a large proportion of effect sizes in psychology tend to be small (e.g., Gignac & Szodorai, 2016;

Open Science Collaboration, 2015; Schäfer & Schwarz, 2019); and because several sustainability researchers indicated the need for large sample sizes when studying message framing in policy communication (e.g., Bertolotti & Catellani, 2014). As we expected that around 15% of participants would need to be excluded from statistical analyses due to the exclusion criteria (see the *Measures* section below), we decided to recruit roughly 940 participants to be on the safe side. We estimated that testing this participant number would give us a sample size of around 799 (940 * 0.85) when accounting for exclusions.

3.1.3. Participants, Design, and Procedure

Nine hundred and forty-one US participants (Males = 539, Females = 398, Other = 4, M_{age} = 36.72) completed the study. Given that median age in the US is around 38.2 years (in our sample it was 35 years), and the percentage of males and females 50.8% and 48.2% respectively (in our case this was 57.28% and 42.30%), our sample was similar to the representative US population regarding age, but slightly imbalanced concerning gender (US Census Bureau, 2019a, 2019b). Participants were recruited via MTurk, and payment was $0.50 for an approximately 3-minute survey. Participation on mobile phones was not allowed. We used a 2 (Name: Degrowth vs. Rebirth) x 2 (Definition Frame: Promotion vs. Prevention) between-subjects design. Therefore, each person was randomly allocated to one of the four conditions ("Degrowth and Promotion" vs. "Degrowth and Prevention" vs. "Rebirth and Promotion" vs. "Rebirth and Prevention").

Participants first completed the consent form, after which they were informed that they would be presented with a definition of a social-economic model and asked some questions concerning their views about it. Then, they were instructed to read a Promotion or Prevention framed definition of either Degrowth or Rebirth (Supplementary Materials, pp. 3-5), depending

on the condition to which they have been randomly allocated. On the same page, they were also asked to answer the questions assessing the support for such a social-economic model as the dependent variable and one instructed-response check item concerning the exclusion criteria (see the *Measures* section below). Thereafter, they answered questions assessing the covariates and exploratory variables, as well as the remaining items concerning the exclusion criteria (see the *Measures* section). In the end, they were given the opportunity to share any comments they had regarding the study and were thanked for their participation and paid.

3.1.4. Measures

Dependent Variable and Mediators. Participants' support for the social-economic model (Degrowth/Rebirth) was assessed on a 5-point Likert scale from 1 (Not at all) to 5 (Extremely) using the following seven items (Cronbach's α = .97): 1. To what extent do you support a degrowth/rebirth economy?; 2. To what extent would you be willing to live in a degrowth/rebirth economy?; 3. To what extent do you like the idea behind a degrowth/rebirth economy?; 4. To what extent do you agree with the main goals that a degrowth/rebirth economy aims to achieve?; 5. To what extent would you be willing to incorporate degrowth/rebirth-related practices in your everyday life?; 6. To what extent do you think that a degrowth/rebirth economy could transform the world to resolve some of its biggest issues?; and 7. To what extent do you think that a degrowth/rebirth economy could change the world for the better? Degrowth or Rebirth label was used depending on the condition to which participants have been allocated.

Covariates and Exploratory Variables. As covariates, we measured participants' gender (male vs. female vs. other) and age in years. We also measured their personal annual income (after taxes) in $1,000s by asking them to report it using a slider from 0 (corresponding to $0) to 100 (corresponding to $100,000 or more). Exploratory variables, which included chronic

promotion and prevention focus (Haws et al., 2010) and additional variables, can be seen in the Supplementary Materials (p. 6).[7]

Exclusion Criteria. We used several questions to detect participants to be excluded from statistical analyses. We implemented four instructed-response check items (e.g., "Please respond with 'Moderately' for this question"; Meade & Craig, 2012) and a seriousness check (Aust et al., 2013). Participants also answered the following check item in relation to the text outlining the degrowth/rebirth framing definition: "What was the text about?" The response options were similar to the pilot studies. At the end, we included a captcha verification question to prevent bots from completing the survey. Overall, only the data from participants who passed all the checks were included in statistical analyses.

3.2. *Results*

3.2.1. Excluded Data

Out of 941 participants, 141 did not pass the check items; their data were therefore excluded from analyses, thus leaving a sample size of 800 which was more than required by our power calculations. Overall, 201 participants were included in analyses in the Degrowth and Promotion condition, 201 in the Degrowth and Prevention condition, 196 in the Rebirth and Promotion condition, and 202 in the Rebirth and Prevention condition.

3.2.2. Main Analyses

[7] Because in Studies 1 and 2 the sample sizes were substantially larger than in the pilots, and the chance of important variables that could confound the key findings, such as chronic regulatory focus (Higgins, 1997, 1998), being imbalanced across conditions was smaller (Suresh, 2011), we found it more interesting to explore three-way interactions between the two independent variables (Name and Definition frame) and chronic promotion or prevention focus rather than treating them as covariates. However, given that, as indicated in the introduction, our main focus was on how temporarily manipulating regulatory focus changes the support of degrowth-based economy, and that three-way interactions are rarely captured and require substantial sample sizes (Hainmueller et al., 2019), we report the analyses of these exploratory interactions in Supplementary Materials (pp.15-22) because, despite their theoretical plausibility (Higgins, 1997, 1998), we realistically expected only a moderate chance to detect them.

To test Hypotheses 1-3, we conducted a two-way ANOVA with Name and Definition Frame as the independent variables. As predicted by Hypothesis 1, Rebirth (M = 3.46, SD = 1.11, 95% CI [3.34, 3.57]) versus Degrowth (M = 3.12, SD = 1.25, 95% CI [3.00, 3.23]) increased participants' support for the social-economic model, $F(1, 796) = 17.13$, $p < .001$, $\eta_p^2 = .02$, $M_{diff} = 0.34$, 95% CI [0.18, 0.50]. As predicted by Hypothesis 2, Promotion (M = 3.46, SD = 1.12, 95% CI [3.35, 3.58]) versus Prevention frame (M = 3.11, SD = 1.24, 95% CI [3.00, 3.23]) also increased participants' support for the social-economic model, $F(1, 796) = 18.06$, $p < .001$, $\eta_p^2 = .02$, $M_{diff} = 0.35$, 95% CI [0.19, 0.51]. Finally, as predicted by Hypothesis 3, the interaction between Name and Definition Frame was significant, $F(1, 796) = 8.63$, $p = .003$, $\eta_p^2 = .01$. To further disentangle the pattern of the interaction, we performed the analyses of simple effects, which showed that, in the Degrowth condition, Promotion frame increased the support for the social-economic model compared to Prevention frame, $M_{diff} = 0.59$, $p < .001$, 95% CI [0.36, 0.82], whereas no differences occurred in the Rebirth condition, $M_{diff} = 0.12$, $p = .355$, 95% CI [-0.12, 0.34] (Figure 2). The analyses of simple effects also showed that, in the Prevention frame condition, Rebirth increased the support for the social-economic model compared to Degrowth, $M_{diff} = 0.58$, $p < .001$, 95% CI [0.35, 0.81], whereas in the Promotion frame condition no differences occurred, $M_{diff} = 0.10$, $p = .398$, 95% CI [-0.13, 0.33]. All the significant effects from the main hypothesis tests were robust, given that they remained significant despite covariates (Supplementary Materials, pp. 13).

All the exploratory analyses (i.e., those involving exploratory variables) as well as descriptive statistics and the zero-order correlations between all continuous variables tested in the study can be found in Supplementary Materials.

3.3. Discussion

Study 1 supported our predictions regarding the impact of the name of a social-economic model grounded upon a sustainable downscaling of production and consumption (Degrowth vs. Rebirth) and the framing of its definition (Promotion vs. Prevention) on its support. As expected, Rebirth versus Degrowth (*Hypothesis 1*) and Promotion versus Prevention framing (*Hypothesis 2*) increased participants' support for social change toward this social-economic model. Furthermore, the two variables (Name and Definition Frame) interacted in influencing the support as expected (*Hypothesis 3*). Concerning the pattern of the interaction, for which we did not have a directional hypothesis, the Promotion (vs. Prevention) frame increased participants' support for the social-economic model in the Degrowth condition, whereas no effect occurred in the Rebirth condition. This finding indicates that a non-fit between Name and Definition Frame (i.e., Degrowth and Promotion) was more likely to increase participants' support for the social-economic model than a fit (i.e., Degrowth and Prevention). This pattern is similar to what has been observed in the literature (e.g., Bullard & Penner, 2017) but is not aligned with theorizing about regulatory fit (e.g., Cesario et al., 2004).

4. Study 2

In Study 2, we replicated Study 1 on a representative UK sample by again testing all three hypotheses we predicted. As literature in psychology highlights the benefits of constructive replications which include, for instance, additional measures in terms of individual differences to shed further light on previous results (Hüffmeier, Mazei, & Schultze, 2016), we also added several other covariates, namely Political Ideology (Whitmarsh & Corner, 2017) and Self-transcendent values such as Universalism-Nature Scale from the Portrait Values Questionnaire (PVQ5X; Schwartz et al., 2012), given their importance in the literature on environmental psychology (e.g., Milfont & Sibley, 2012; Schultz & Zelezny, 1999; Soutter & Mõttus, 2020).

4.1. Method

4.1.1. Sample Size

In Study 2, sample size was determined by the maximum number of participants that Prolific allowed recruiting for a study that uses a representative sample of the UK population, which is 1,500. Power analyses indicated that the study was sufficiently powered to detect an effect size Cohen's *f* equal to 0.08 (Supplementary Materials, p.11), which is below the cut-off point of 0.10 for a small effect size (Faul et al., 2007; Cohen, 1988).

4.1.2. Participants, Design, Stimuli, and Procedure

One thousand and five hundred participants (Males = 729, Females = 770, Other = 1, M_{age} = 45.01) living in the UK completed the study. They were recruited via Prolific.co, and payment was £0.60 for an approximately 3- to 4-minute survey. Participation on mobile phones was not allowed. The experimental design, stimuli, and procedure were the same as in Study 1. The only difference is that we added additional covariates (see the *Measures* section below). Study procedure and all the materials can be accessed in the pre-registration document (Appendix).

4.1.3. Measures

Dependent Variable, Covariates, Exclusion Criteria, and Exploratory Variables. The dependent variable—participants' support for the social-economic system (Degrowth/Rebirth economy)—was measured as in Study 1 (Cronbach's α = .95). Exclusion criteria and exploratory variables were the same as in the previous study. As in Study 1, we measured gender, age, and personal annual income as covariates, with the only difference being that personal annual income was expressed in £ rather than $. Moreover, we included two additional covariates. Political ideology (left vs. right) was measured via the following question adapted from Whitmarsh and Corner (2017) and answered on a scale from 0 (Left) to 10 (Right): "In

politics people sometimes talk of "left" and "right". Using the scale below, where would you place yourself on the political spectrum?" Finally, environmental values were measured using the Universalism-Nature Scale from the Portrait Values Questionnaire (PVQ5X; Schwartz et al., 2012) on a response scale from 1 (Not like me at all) to 6 (Very much like me). Although original items from PVQ5X (Schwartz et al., 2012) are phrased in terms of he/she, we used the pronoun they/them in line with the recent recommendations from APA (2019) that promote inclusivity.

4.2. *Results*

4.2.1. Excluded Data

Out of 1,500 participants, 105 did not pass the checks identified in the exclusion criteria, and their data were therefore excluded from analyses, leaving a sample size of 1,395, which was more than 1,275 we expected based on our initial estimates (Supplementary Materials, p.11). Overall, 347 participants were included in analyses in the Degrowth and Promotion condition, 346 in the Degrowth and Prevention condition, 348 in the Rebirth and Promotion condition, and 354 in the Rebirth and Prevention condition.

4.2.2. Main Analyses

To test Hypotheses 1-3, we conducted a two-way ANOVA with Name and Definition Frame as the independent variables. Contrary to Hypothesis 1, Rebirth (M = 3.50, SD = 1.00, 95% CI [3.42, 3.57]) versus Degrowth (M = 3.47, SD = 1.03, 95% CI [3.40, 3.55]) did not influence participants' support for the social-economic model, $F(1, 1391) = 0.24$, $p = .623$, $\eta_p^2 < .01$, $M_{diff} = 0.03$, 95% CI [-0.08, 0.13]. As predicted by Hypothesis 2, the Promotion (M = 3.59, SD = 1.00, 95% CI [3.52, 3.67]) versus Prevention frame (M = 3.38, SD = 1.02, 95% CI [3.30, 3.45]) increased participants' support for the social-economic model, $F(1, 1391) = 15.87$, $p <$

.001, $\eta_p^2 = .01$, $M_{diff} = 0.22$, 95% CI [0.11, 0.32]. This finding remained significant despite covariates (Supplementary Materials, pp. 13-14). Finally, contrary to Hypothesis 3, the interaction between Name and Definition Frame was not significant, $F(1, 1391) = 2.30$, $p = .130$, $\eta_p^2 < .01$. Despite this, we report the analyses of simple effects and the visualization of the interaction pattern (Figure 3) for informative reasons. In the Degrowth condition, Promotion versus Prevention framing did not affect the support for the social-economic model, $M_{diff} = 0.13$, $p = .082$, 95% CI [-0.02, 0.28], whereas in the Rebirth condition Promotion versus Prevention framing increased its support, $M_{diff} = 0.30$, $p < .001$, 95% CI [0.15, 0.45] (Figure 3). In the Prevention frame condition, Rebirth versus Degrowth did not influence the support for the social-economic model, $M_{diff} = 0.06$, $p = .468$, 95% CI [-0.09, 0.21], and in the Promotion frame condition no difference occurred either, $M_{diff} = 0.11$, $p = .157$, 95% CI [-0.04, 0.26].

All the exploratory analyses (i.e., those involving exploratory variables) as well as descriptive statistics and the zero-order correlations between all continuous variables tested in the study can be seen in Supplementary Materials.

4.3. Discussion

Consistent with Study 1, the present study supported our predictions regarding the impact of framing on participants' support for an alternative social-economic model grounded upon a sustainable downscaling of production and consumption, given that the Promotion (vs. Prevention) framed definition of this model was more persuasive (Hypothesis 2). However, predictions regarding the influence of Name (Hypothesis 1) and the interaction between Name and Definition Frame (Hypothesis 3) on the support did not replicate.

5. General Discussion

This research tested whether different names for "degrowth" as an alternative social-economic model (Degrowth vs. Rebirth) and the framing of its definition (Promotion vs. Prevention) influence its support. Based on the assumption that the Rebirth (Degrowth) label is linked to promotion (prevention) focus (e.g., Higgins 1997, 1998), which we confirmed in two pilot studies on UK and US samples, we predicted that Rebirth would increase people's support for social change toward this alternative model (*Hypothesis 1*). Moreover, we predicted that Promotion (vs. Prevention) framing of the model's definition would increase its support (*Hypothesis 2*). Finally, we predicted that the name and definition frame would interact in influencing the support, although we did not have a specific prediction regarding the direction of this interaction (*Hypothesis 3*). Overall, whereas Study 1 on a US sample supported all three hypotheses, a pre-registered replication on a representative UK sample confirmed Hypothesis 2 only. Therefore, the main conclusion of the present research is that, when presenting degrowth to people, rather than focusing on the name of this social-economic model, it is important to emphasize how its adoption can propel positive consequences rather than minimize negative consequences. In the next section, we outline the main contributions of our findings and discuss the limitations.

5.1. Main Contributions

A key contribution of our article is the introduction of the concept of degrowth to psychology. Specifically, we have put forth an examination of degrowth via the perspective of RFT, which stands as one of the most influential theories in the field, especially when it comes to understanding the impact of message framing on attitude and behavior change (e.g., Higgins et al., 2020; Higgins & Pinelli, 2020). This article therefore presents several findings of theoretical and pragmatic interest to psychologists researching degrowth adoption.

First, in two pilot studies, we showed that people associate Rebirth and Degrowth with promotion and prevention focus respectively. Researchers can therefore study degrowth adoption in the context of these and similar labels by applying several other influential conceptual frameworks closely linked to regulatory focus, such as approach and avoidance motivation (Elliot & Covington, 2001; Strack & Deutsch, 2004), behavioral inhibition and activation (Carver & White, 1994), or sensitivity to punishment and reward (Torrubia, Avila, Moltó, & Caseras, 2001). Moreover, we showed that framing messages about degrowth (i.e., its definition) in terms of eagerly achieving positive consequences (promotion) increases support for social change toward this alternative sustainable social-economic model compared to framing it in terms of vigilantly avoiding negative consequences (prevention). Future research could extend this finding by investigating whether other forms of promotion and prevention framing would produce similar effects (Haws et al., 2010; Higgins & Pinelli, 2020). For example, these regulatory foci could also be activated by framing different activities that constitute a degrowth economy (e.g., downscaling economic production or consumption) as duties and obligations (prevention) versus ideals and aspirations (promotion).

To further connect degrowth to psychological science and motivate psychologists to research its adoption, we find it necessary to discuss this topic in relation to other similar topics studied within the field. Degrowth can be directly linked to thrift, voluntary simplicity (or downshifting), and anticonsumption (or resistance to consumption). Thrift is a value that emphasizes efficient and careful use of limited resources (e.g., not buying new products until the old ones have been used to their full potential, renting instead of buying, living modestly, etc.) to avoid unnecessary waste and increase wellbeing while de-emphasizing material consumption (Chancellor & Lyubomirsky, 2011; Kasser, 2011). A related concept is voluntary simplicity—a

lifestyle that involves reducing material consumption and working less to have more time to engage in meaningful activities and increase life satisfaction (Boujbel & d'Astous, 2012; Huneke, 2005; Rich, Hanna, & Wright, 2017; Shama & Wisenblit, 1984; Shaw & Newholm, 2002). More radically, anticonsumption involves "resistance to, distaste of, or even resentment or rejection of consumption" (Zavestoski, 2002, p. 121; see also, Makri, Schlegelmilch, Mai, & Dinhof, 2020; Varman & Belk, 2009). Considering that degrowth emphasizes a reduction of material consumption to improve the quality of life (Kallis et al., 2018), it is likely that social change toward this alternative model would require people to adopt a voluntary simplicity lifestyle and particularly appeals to individuals who value thrift or may have anticonsumerist tendencies (e.g., Alexander, 2015; Latouche, 2015; Swyngedouw, 2015). In that regard, a fruitful avenue for future research will be to investigate whether the effectiveness of RFT in propelling degrowth adoption depends on people's individual differences regarding thrift, voluntary simplicity, and anticonsumption, which could lead to the development of more nuanced interventions that work for different subsets of the population.

Beyond its academic contributions, our research also has clear practical applications as it can be used by various policy-making bodies that are inspiring transformative social change and are willing to encourage people to integrate sustainable degrowth-related practices into their lifestyles. In this regard, the message of our research is clear: when presenting degrowth to people, it is best to emphasize positive consequences that could be achieved by its adoption rather than highlighting negative consequences that could be avoided. Additionally, it seems that focusing on the name of this social-economic model (Degrowth or Rebirth) is not essential, which is broadly aligned with research by Drews and Reese (2018) conducted in the field of communication studies. Considering that it is becoming clear that tackling climate change will

be highly unlikely without adopting at least some degrowth-related practices (D'Alessandro et al., 2020), it is plausible that understanding how to convince people to endorse social change toward a degrowth economy will be a growing need for policy-makers. Our research may prove to hold translational value in this regard.

Finally, it is important to discuss the methodological strengths of our research. First, we used large sample sizes and pre-registered one of our studies, given recent recommendations to address the replication crisis in psychology (Oberauer & Lewandowsky, 2019; van't Veer & Giner-Sorolla, 2016; Wagenmakers, Wetzels, Borsboom, van der Maas, & Kievit, 2012). Therefore, our findings are likely to be robust, with a low probability of false positive effects. Moreover, in our second study conducted on UK participants, we used a representative sample stratified according to sex, age, and ethnicity. Therefore, it is likely that any policy recommendations based on this study can be applied across the UK population.

5.2. Limitations

In addition to the strengths of our research, few of its limitations need to be addressed. For example, based on the data we collected, we cannot clearly determine why Hypotheses 1 and 3 were supported in Study 1 but not Study 2. We therefore discuss potential reasons for this discrepancy to inform researchers interested in studying this topic in the future. One possibility is that the discrepancy occurred because participants in Study 1 or 2 did not associate Rebirth with Promotion and Degrowth with Prevention, and this may have created differences between the findings. However, considering that in the pilot studies conducted on US and UK participants we showed that people strongly associate Rebirth with promotion and Degrowth with prevention, this explanation is implausible. Another potential explanation is that the differences occurred because the two samples differed in their chronic promotion or prevention

focus, given that these individual differences might moderate the effects of regulatory focus framing manipulations (Higgins & Pinelli, 2020). However, participants' promotion ($M_{\text{Study 1}}$=5.13; $M_{\text{Study 2}}$=4.80) and prevention scores ($M_{\text{Study 1}}$=4.70; $M_{\text{Study 2}}$=4.76) were relatively similar across the two studies. More importantly, in exploratory analyses conducted using these two individual differences, we did not find that they reliably moderated the impact of our experimental manipulations on participants' support for social change toward a degrowth economy (Supplementary Materials, pp. 15-22). In other words, the effects of our predictions (Hypotheses 1-3) were not dependent on participants' chronic regulatory focus. We also did not find that any other individual differences that we measured as covariates in both Studies 1 and 2 (i.e., gender, age, and income) reliably moderated the results across the studies, thus excluding the possibility that they contributed to the discrepant findings.

There are, however, two other explanations behind these discrepancies we find more likely. One is that they were caused by some cultural differences between US and UK participants we failed to measure, which will need to be determined in future research. The other is that the findings regarding Hypotheses 1 and 3 detected in Study 1 are false positives, or that the true effects are so small that a much larger sample size is needed to reliably detect them. Considering that many effects initially obtained in psychology do not replicate or are found to be smaller (e.g., Klein et al., 2018; Open Science Collaboration, 2015), the explanation that the effects concerning Hypotheses 1 and 3 are either false positives or very small might be the most plausible one.

Finally, several minor limitations of the present research also warrant discussion. First, we focused on people's attitudes (i.e., degrowth support) rather than actual behaviors. Although studying attitudes is valuable for policy making because it concerns how people's support for

degrowth-based policies could be increased, this support may not necessarily translate into the adoption of the desired behaviors (Claudy, Peterson, & O'Driscoll, 2013). Future research will therefore need to test whether the type of interventions we used can also create a sustained lifestyle change. Second, we used only one core definition of degrowth that was framed either according to promotion or prevention and presented alongside different name labels (Degrowth vs. Rebirth). Although this definition was based on an extensive body of literature and captured the core characteristic of degrowth (i.e., reduction of economic production and consumption), we acknowledge it is possible to define this social-economic model in many ways by referring to various practices that are consistent with it (Kallis, 2011). Therefore, it is not given that the present findings would generalize to other (e.g., more radical) definitions of degrowth economy. Moreover, although in this article we used Rebirth as an appropriate alternative name for degrowth economy for several reasons (e.g., because it exemplifies transformative change associated with this economy; Bloch & Parry, 1982; Hardy-Short & Short, 1995), we acknowledge that some individuals may associate this name with growth (e.g., something that is born and constantly growing). Last, although political ideology was measured in Study 2 and did not confound our results, it was not included in Study 1, whereas it is acknowledged as an important dimension that can have a significant effect on climate change beliefs in the US (Soutter & Mõttus, 2020). Against this background, future research on framing and degrowth should consider political ideology as a variable to include. However, it is important to point out that, because we used random assignment of participants to experimental conditions in Study 1 and the sample size was relatively large, it is highly unlikely the results were confounded by political ideology (Suresh, 2011).

5.3. Conclusion

We showed that people are more likely to support social change toward a degrowth economy when this social-economic model is defined from the perspective of promotion rather than prevention focus. This finding was demonstrated in two large studies, one of which was pre-registered and conducted on a representative UK sample and is therefore likely to be robust. We hope that our research will inspire other psychological scientists to study degrowth as one of the promising approaches to tackle climate change, and that it will be used by policy makers to garner support for social change toward this alternative sustainable social-economic model.

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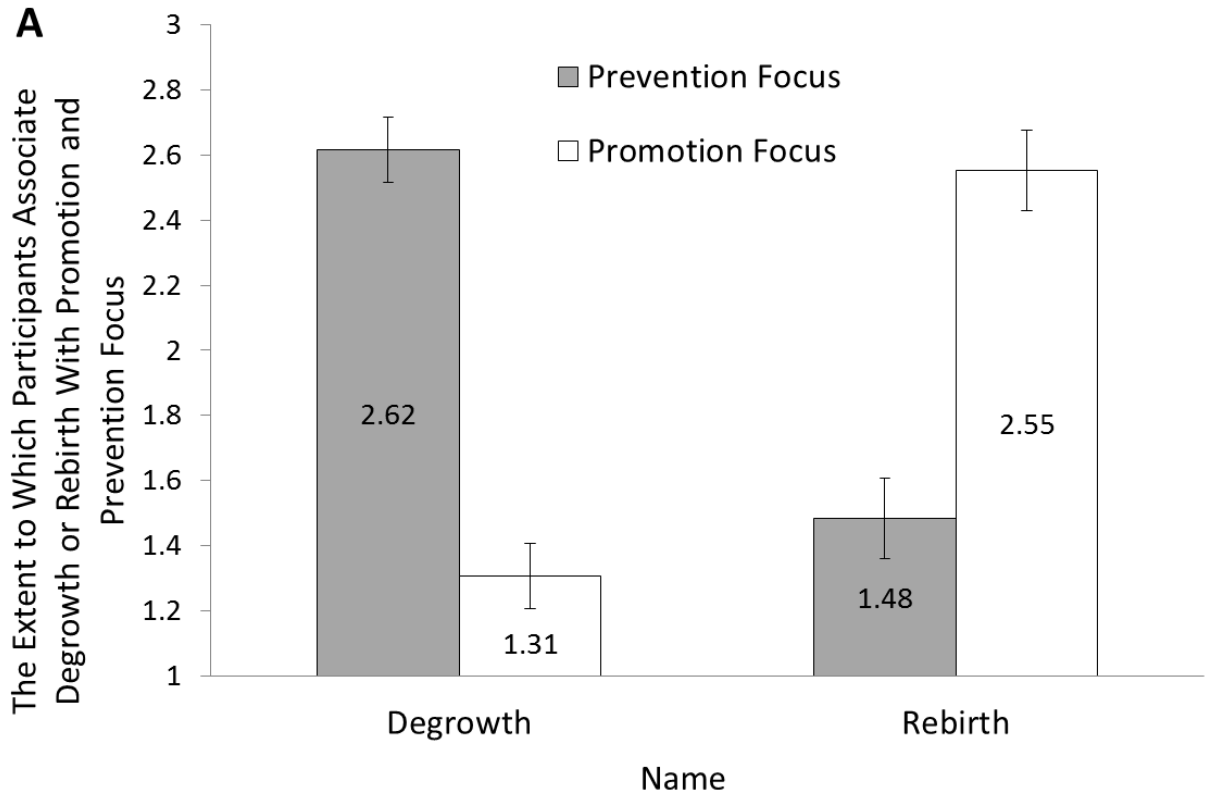
A
The Extent to Which Participants Associate Degrowth or Rebirth With Promotion and Prevention Focus
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Prevention Focus
Promotion Focus
2.62
1.31
1.48
2.55
Degrowth
Rebirth
Name

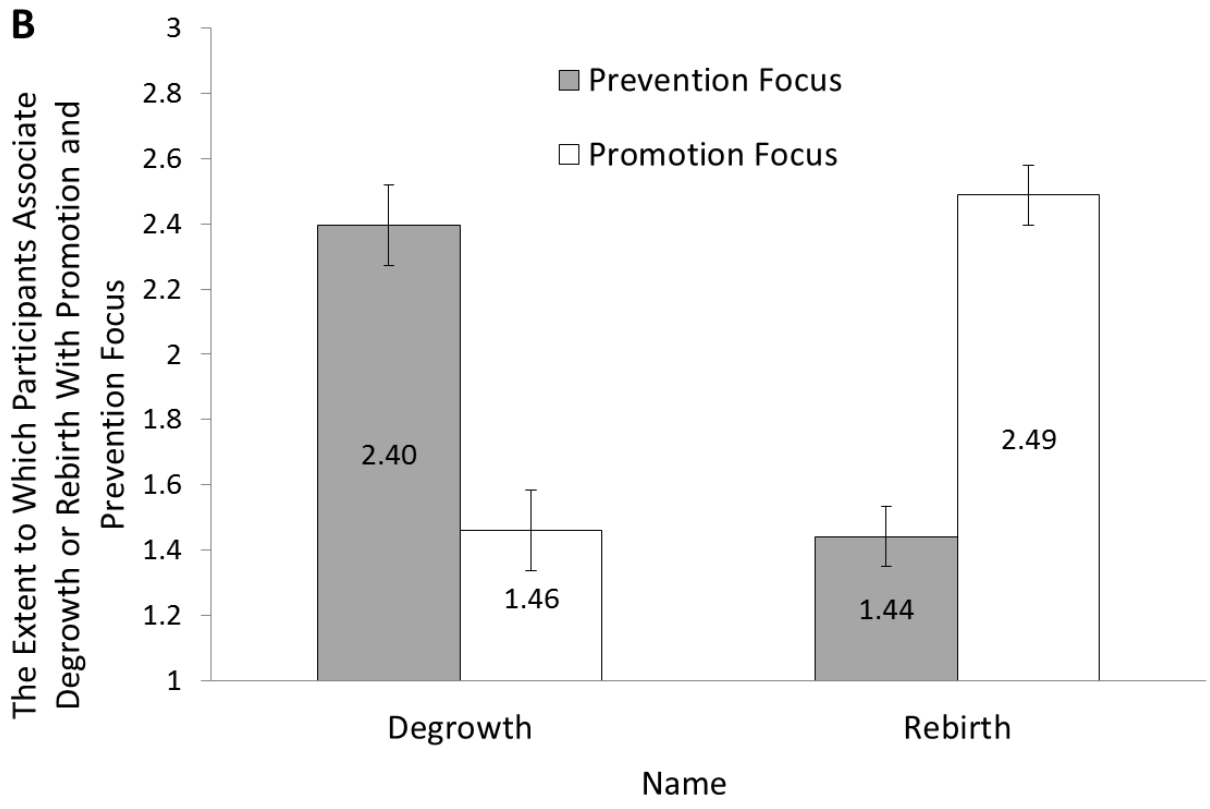
B
The Extent to Which Participants Associate Degrowth or Rebirth With Promotion and Prevention Focus
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
Prevention Focus
Promotion Focus
2.40
1.46
1.44
2.49
Degrowth
Rebirth
Name

Figure 1. The extent to which participants associate labels Degrowth and Rebirth (on a scale from "1=Not at all" to "5=Extremely") with Promotion and Prevention focus in the Pilot Studies. Panel A corresponds to the US sample and Panel B to the UK sample. Error bars correspond to Cousineau-Morey within-subjects 95% Confidence Intervals (Baguley, 2012).

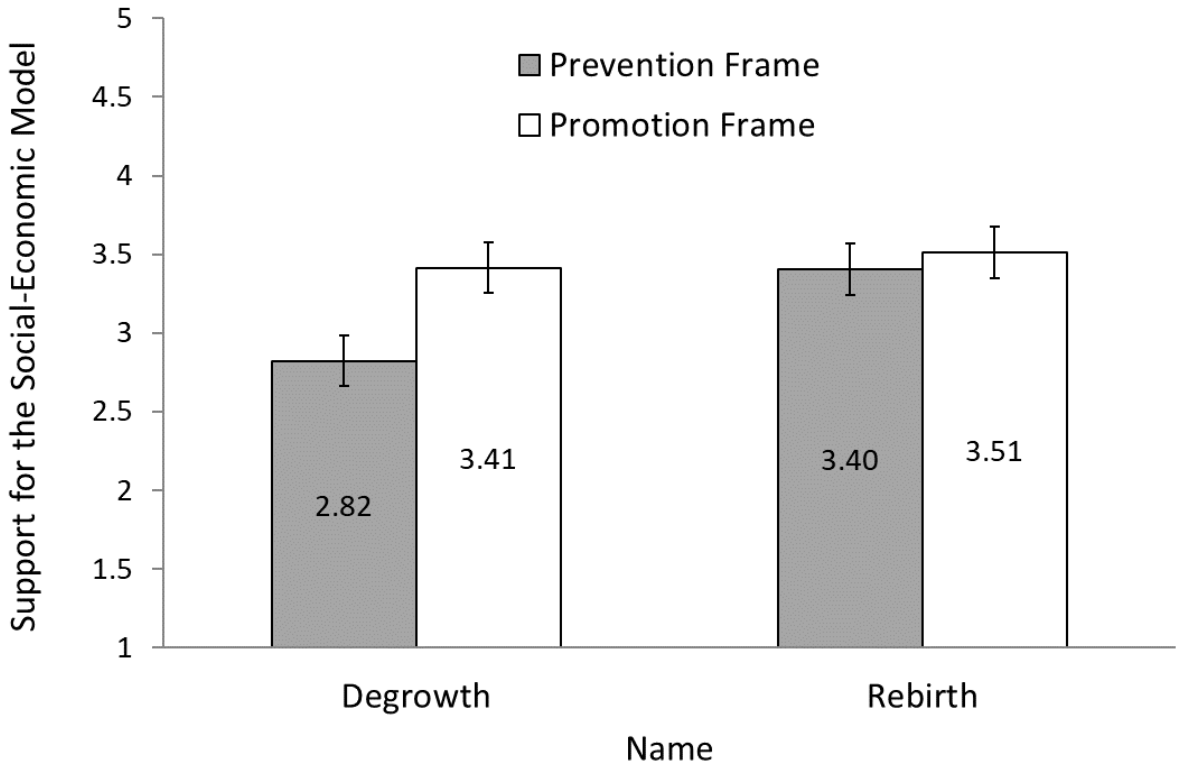

Figure 2. Participants' support for an alternative social-economic model grounded upon a sustainable downscaling of production and consumption (on a scale from "1=Not at all" to "5=Extremely") as a function of its Name (Degrowth vs. Rebirth) and Definition Frame (Prevention vs. Promotion) in Study 1. Error bars correspond to the 95% Confidence Intervals.

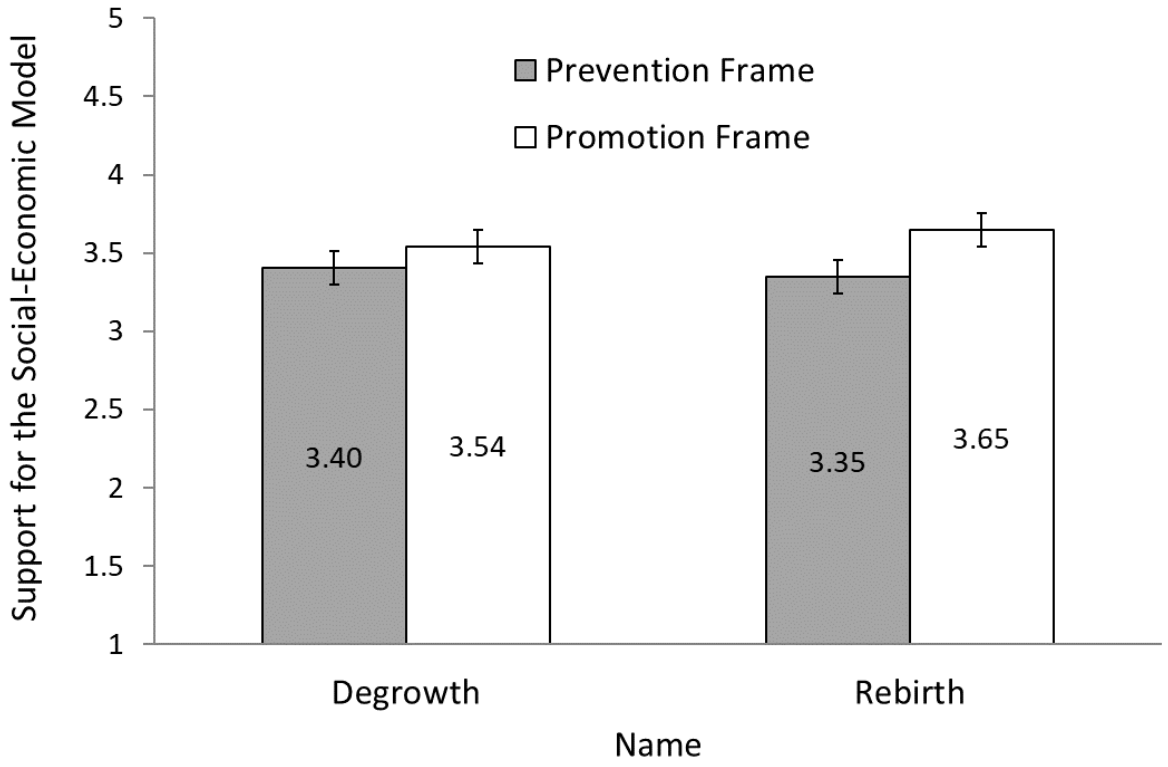

Figure 3. Participants' support for an alternative social-economic model grounded upon a sustainable downscaling of production and consumption (on a scale from "1=Not at all" to "5=Extremely") as a function of its Name (Degrowth vs. Rebirth) and Definition Frame (Prevention vs. Promotion) in Study 2. Error bars correspond to the 95% Confidence Intervals. *Note:* Unlike in Study 1, the interaction between Name and Definition depicted in this figure was not significant and is displayed for informative purposes.

Appendix

Materials and pre-registration for Study 2 can be accessed via the Open Science Foundation (OSF): https://osf.io/fxe8v/?view_only=cd8a5fbd865a45bbb5acd08b06d1d829