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Behaviour change is needed to mitigate climate change, however strategies to reach this goal are not always successful. This paper reports the impact of participating in a climate change escape room on several behavioural determinants. Participants completed a survey to measure their climate change beliefs before and after the game. Results show a decreased perception of response costs, increased hope, and greater agreement that climate change will occur locally. Participation did not significantly affect the perception of the severity of climate change, response efficacy, self-efficacy and temporal distance. These results suggest that escape rooms might have the potential to foster action against climate change.

1. Introduction

The impact of human activity on the environment, and climate change, has been clearly identified (Intergovernmental Panel on Climate Change, 2022; Steffen et al., 2007). Consequently, behaviour change is part of the solution needed to mitigate climate change (Schultz, 2011; Van De Ven et al., 2018; Williamson et al., 2018). However, promoting behaviour change is challenging; a recent meta-analysis estimated that the average treatment effect of field interventions for climate change mitigation behaviours is only 7% greater than what would be expected for no intervention, after adjusting for publication bias (Bergquist et al., 2023). Given the scale of the task of tackling climate change, all possible avenues must be explored to maximize the chances of success for large-scale, long-term behaviour change.

A number of authors have presented games as a potential effective strategy for engaging the public with climate change and sustainability (Fox et al., 2020; Katsaliaki & Mustafee, 2015; Wu & Lee, 2015). Wu and Lee (2015) argue that games provide first-hand experience combined with an emotional dimension, creating a more powerful way of learning than through traditional exposure to information. In particular, they refer to “serious games” that have instructional goals in addition to mere entertainment. The term “edutainment” (contraction of ‘education’ and ‘entertainment’) is sometimes used to describe games and other activities that aim to provide information and raise awareness in a fun way. Authors propose that edutainment facilitates learning by making the information being taught more engaging, attracting learners’ attention, and increasing their enthusiasm (Aksakal, 2015).

However, the effectiveness of serious games in changing attitudes and behaviours for environmental sustainability is rarely assessed (Janakiraman et al., 2018; Wu & Lee, 2015). In this paper, we assess the effect of participating in an escape room on participants’ perceptions of climate change. To build on existing theoretical frameworks in designing the evaluation, we have drawn on Protection Motivation Theory (PMT) (Rogers, 1975) and Construal Level Theory (CLT) (Trope & Liberman, 2010). We chose these theories as a basis because they match specific aspects of the game (e.g., perception of the psychological distance of climate change).

1.1 Escape rooms for environmental education

Ouariachi and Wim (2020) stress that, despite the increasing popularity of escape rooms in educational contexts, there is a lack of research into their use, particularly dealing with climate change-related themes. More broadly, other authors state that there is little research evaluating the effectiveness of escape games (Olombel et al., 2021). Ouariachi and Wim conducted a review of 17 escape rooms/escape games¹, concluding with a plea for more research into their effectiveness on changing environmental knowledge, values, and behaviour. Following

¹ “Escape game” is the term sometimes used for games that do not take place in a physical room

this call, we present here what is, to our knowledge, the first evaluation of the effectiveness of an in-person (i.e., not online) escape room on environmental sustainability².

1.2 Potential triggers for behaviour change in environmental escape rooms

Various triggers can highlight the impact of escape rooms on cognition and behaviour. Firstly, the escape room situation naturally leads players to focus on problem-solving and thus to be very attentive to the information provided. This level of attention is considered a necessary (though not sufficient) condition to induce attitude change on a subject, referred to as the 'central route' in persuasion research (Petty & Cacioppo, 1986). It increases the likelihood that the pro-environmental information delivered within the game will change players' long-term perceptions on the issue. Secondly, research has shown that behavioural engagement in a cause increases commitment to that cause. Theories of commitment (Joule & Beauvois, 1989; Kiesler, 1971) and cognitive dissonance (Festinger, 1957) have demonstrated that acting voluntarily and freely enhances this effect, which is generally the case when participating in an escape room. Therefore, participating in an escape room focused on the pro-environmental cause is highly likely to strengthen participants' commitment to this cause.

In line with these analyses, Ouariachi and Wim (2020) propose five escape room attributes that can explain a potential positive effect: the focus on problem-solving, the promotion of critical thinking, the collaborative aspect of team activities, a sense of urgency due to the time limit, and the experiential and immersive dimension. Studies on immersion suggest that being immersed in the situation can increase persuasion for the participant (Breves, 2021). Moreover, a meta-analysis on vividness has revealed a positive effect on attitude and behavioural intention (Blondé & Girandola, 2016). Another interesting aspect mentioned by Wu and Lee (2015) is that games can provide the individual with a level of control that is not possible in the real world. As the perception of low control (or helplessness) can be a barrier to action against climate change (Gifford, 2011; Moussaoui & Desrichard, 2016; Salomon et al., 2017), offering the experience of control may be a promising strategy to promote action.

1.3 Evaluating the effects of participating in an escape game on perceptions of climate change: Which perceptions should be targeted?

To design serious games with the greatest chance of success (e.g., to sensitise people to climate change and trigger behaviour change), psychological theories of behaviour can help determine what content to use and how to frame it (Michie et al., 2008; Wilson & Juarez, 2015). We will now refer to two theories relevant to our escape room evaluation.

1.3.1 PMT and the perception of climate change

Rogers (1975) reframed the Health Belief Model to develop the PMT, which aims to understand how people are motivated to adopt preventive behaviours. Although this model was developed in the context of health, its central concepts - perception of the severity of an outcome, perception of personal vulnerability to the outcome, perceived efficacy (composed of response-efficacy and self-efficacy), and perceived costs of the behaviour - are also very relevant in predicting behaviour in the face of other types of threat, such as climate change. For example, Cismaru et al. (2011) applied PMT to analyse persuasive communication campaigns on climate change. The severe consequences of climate change on the planet were described in these campaigns, and individuals were then shown how they can make a difference by following the advice and practical ways given to change their behaviour.

Rainear and Christensen (2017) collected data to test how PMT predicted the intention to adopt pro-environmental behaviours (such as using sustainable transportation, switching to energy-efficient light bulbs, or lowering room temperature at night or when away from home). Their results show that all associations stated by the PMT were supported: the greater the perception of severity, vulnerability, response-efficacy, and self-efficacy, the higher the intention to adopt the behaviours. Conversely, the higher the perception of response costs, the lower the intention to adopt the behaviours. Similarly, a review of studies applying PMT to pro-environmental behaviours showed that there is correlational evidence to support all links posited by the theory (Kothe et al., 2019).

² To our knowledge, the only existing evaluations are students' theses (Chang, 2019; Pater, 2020; van den Born, 2024)

Another aspect to bear in mind when applying a theory developed in a different field of study is the specific nature of climate change, notably the temporal and geographical dimensions, which distinguish it from health issues. CLT allows for consideration of these dimensions.

1.3.2 CLT and the perception of climate change

CLT (Trope & Liberman, 2003, 2010) posits that four psychological distances are used in our mental representations, depending on the level of abstraction and the distance between the element and the current self, in the here and now. Temporal distance varies from close to far off in time; spatial distance varies from here to far away; hypothetical distance varies in certainty/uncertainty of occurrence, and social distance varies from people who are similar or different from oneself. Milfont (2010) argues that climate change is mentally represented as being very distant on all these scales, and that this representation is a barrier to behaviour change. Highlighting climate change as a current, local risk has been suggested as a promising strategy to increase public engagement (Jones et al., 2017; van der Linden et al., 2015).

1.4 The present study

In this study, we report data from participants who played the rESCue escape room. According to the taxonomy of Barton and Rano (2021), this is an in-person life-size escape game with time constraints developed in the context of environmental counselling training³, and later played at several locations. We collected data while the game was available at three different sites: a university, a public hospital, and a medical school building. Participants were required to register in advance and invited by email to complete a survey before taking part. They were contacted again two weeks later for the post-test.

One of the game's designers is a co-author of this paper. She did not take part in the statistical analysis of the data. Two other co-authors are experts consulted during the game's development to advise on aspects of psychology and behaviour change. There was no monetary remuneration either for contributing to creating the game or taking part in the scientific publication.

2. Methods and Material

2.1 Participants

The escape game was set up in the Geneva region of Switzerland. The sample size was constrained by the number of people volunteering to participate while it was available at three locations (one week at the university, two days at the hospital, and two days at the medical school⁴). A total of 134 participants answered both pre- and post-surveys. Due to the exclusion of uncertain matches (i.e., cases in which age or gender did not align between pre- and post-test) and dropout resulting from incomplete responses to either the pre- or post-survey, the final sample size was 120. For this sample size, the minimum effect size that can be detected is Cohen's $dz = 0.26$ (with $\alpha = .05$, power $.80$, two-tails test), (power calculation conducted in G*Power v3, Faul et al., 2007). This means that if the difference between answers before and after the game is smaller than this effect size value (0.26), it will not be detected as statistically significant. The effect size value results from the difference between the two means being compared (before and after) divided by the standard deviation.

Most participants were female (75.8%), with a mean age of 39 (min. 22, max. 74). The university location had the highest number of participants as the escape game was available here for the longest period (95 participants, vs. 15 at the public hospital, and 10 at the medical school building). Overall, the sample comprised 24 students, 61 university or hospital staff, and 35 members of the general public.

As shown in Table 1, participants already had high levels of environmental awareness at pre-test. This is not surprising, as participation was on a voluntary basis, and the theme of the game was explicitly presented as relating to climate change.

³ <http://www.esconchange.ch/>

⁴ The choice of test locations reflected convenience sampling (due to ongoing partnerships with the institutions on sustainability projects).

2.2 rESCue Escape Room

The rESCue escape room takes place in a tent (5 meters long x 2.5 meters wide x 2 meters high). It was designed to be mobile so that it could be set up at various locations and be accessible to individuals who do not come across the issue of sustainability on a daily basis. The game was initially created for an audience of 15- to 25-year-olds because it appeared there was a lack of material on climate change in the regional schools' curriculum for this age group, and later expanded to include a broader age range. Given that the original target group was young people, the focus was on the action players can take in real life, like the eco-friendly gestures described below. We did not include choices with a more substantial impact, such as the decision to insulate one's house or whether to own a car, because they would not have reflected real-life decisions encountered by young people.

The tent can be installed outside or inside and has two separate rooms, one representing the future (2050) and the other representing the world today. The game starts in the 2050 room, where participants listen to a 3-minute audio recording that sets the scene. A distressed voice is heard speaking, with heavy rain and storms in the background, describing the dramatic situation in 2050. This is not science fiction: all information provided is based on climate experts' predictions for the local region. Several cities are mentioned as being victim to extreme weather events (months of drought followed by heavy rains) leading to missing people, flooded housing and impassable roads. We then hear that thousands of people have fled the country to the north because of the drought and lack of food. It is explained that each inhabitant emitted 14 tons of CO₂ in 2020, and should have reduced their emissions to 2 tonnes to limit the greenhouse effect. This introduction ends with the message that the future presented is not inevitable, and that participants can make changes that will change the future. They must go back to 2020 to take the decisions that will allow them to limit climate change.

The first room is dark (1.7 x 2.5m) with cracked black tarpaulin and images of climate catastrophes covering the walls. There are two bins containing old cell phones, computer parts and cables. We used a barrel to represent the weight of resources necessary to produce an electronic chip. Participants must solve the first riddle to pass through the "space-time passage" and into the second room. The riddle is about electronic waste and its environmental impact, and solving it opens a padlock to move into the present and change the course of events.

The second room (3.3 x 2.5m) is decorated like a furnished flat in the present day (some furniture is real, some is printed on the walls). In this room, the riddles are: "Find a way to lower the TV volume and cut fake news", "Ride a training bike to promote soft mobility", "Match fruit and vegetables to their season", "Find the ideal heating temperature of a residence", and "Rank different clothing materials according to their environmental impact (CO₂ emissions)". A gauge provides feedback on overall progress in the game; at the beginning, there are a number of red lights that turn green as each riddle is solved. The escape room host can give clues to help participants if they appear to be struggling during the game. The goal is to avoid groups failing the game, which would adversely affect motivation. When all the lights have turned green, a message of congratulations is displayed on the screen and the players can leave the tent and debrief the game.

In the debriefing session, participants were asked to describe their feelings during the game, without judgement. The host asked players if they had any questions about the game, which presented the opportunity to review the topics (energy, mobility, technology, food, clothes) and provide additional information if necessary, and helped to recontextualize the new elements people learned. The discussion was also steered toward collective impact by asking players if they could have solved the game individually. The idea was to illustrate that, like the game, tackling climate change in the real-world requires cooperation, and that events are interconnected. At the debrief, players were given a document reminding them of the main facts (e.g. CO₂ equivalent of choices) and checkboxes to tick. This was to help players commit to their goals and translate their motivation after the game into real-life changes.

The research project was approved by the Ethics Committee at the University of Geneva (N° PSE.20201102.13).

2.3 Measures

2.3.1 Pre-test survey

The PMT constructs were measured using eight items taken from Rainear and Christensen (2017). Unless stated otherwise, the answer scales contained seven points, ranging from "Totally disagree" (1) to "Totally agree" (7), plus the possibility of answering "I don't know".

Two items measured climate change severity: "Climate change will have negative consequences" (severity 1) and "The thought of climate change scares me" (severity 2). Because the Spearman-Brown coefficient (Eisinga et al., 2013) was low (.492 at pre-test and .580 at post-test), we did not calculate an average score and included both items separately in the analysis.

Two items measured vulnerability to climate change: “Climate change affects me negatively” and “I will experience the negative effects of climate change in my lifetime”. The Spearman-Brown coefficient was satisfactory (.871 at pre-test, .901 at post-test), the average of the two items was calculated to obtain a vulnerability score. Two items measured behavioural response costs: “I don’t know how to protect myself from the negative effects of climate change” (response cost 1), and “It’s inconvenient for me to take steps to mitigate climate change” (response cost 2). Spearman-Brown coefficient was low (.344 at pre-test, and .459 at post-test), leading us to consider both items independently in the analysis.

Response efficacy was measured through six behaviours present in the game (buy fewer clothes; keep smartphone longer; lower heating temperature; use a bicycle; travel by train instead of by air; eat less meat, more local and seasonal products) with the item “This behaviour would have an impact on future climate change”. The answer scale ranged from 1 = “No impact at all” to 7 = “Significant impact”. Cronbach’s alpha was satisfactory ($\alpha = .907$); thus, the six items were averaged into a score.

Self-efficacy was measured with the item: “I’m sure I could do this behaviour if I wanted to”, applied to the same six behaviours as in the response efficacy measure. Because Cronbach’s alpha was satisfactory ($\alpha = .809$), the six items were also averaged into a score.

Four items adapted from Spence et al. (2012) were used to measure geographical distance, temporal distance, social distance, and hypothetical distance, respectively: “My local area is not likely to be affected by climate change”; “I think that the effects of climate change will not affect Switzerland for a long time”; “I think climate change will probably impact people like me” (reverse item); “I think the effects of climate change are uncertain”. Answer scales contained seven points, ranging from “Totally disagree” (1) to “Totally agree” (7), plus the possibility of answering “I don’t know”. Each distance was included separately in the analysis because they are different theoretical concepts.

Two items taken from Ojala (2012) measured hope about tackling climate change: “I am hopeful about climate change because as individuals we can change our behaviour; together we can influence climate change positively” (group hope), and “I am hopeful about climate change because I know that there are things I can do to help solve the climate change problem” (individual hope). The Spearman-Brown coefficient was satisfactory (.846 at pre-test, .881 at post-test), both items were thus averaged into an overall hope score.

2.3.2 Post-test survey

The second survey contained the same items as the pre-test survey, and an open question asking respondents for their feedback on the game. Answers to this question are not reported in this paper but are available upon request.

3. Results

Table 1 presents descriptive data for each variable at pre-test and post-test.

Table 1.

Descriptive of the variables at pre- and post-test

	Pre-test			Post-test		
	N	Mean	SD	N	Mean	SD
Climate change severity 1	120	6.78	0.60	120	6.76	0.53
Climate change severity 2	120	5.78	1.11	120	5.83	1.01
Vulnerability to climate change	120	6.22	0.79	120	6.32	0.74
Behavioural response cost 1	115	4.61	1.23	120	3.83	1.60
Behavioural response cost 2	120	3.88	1.47	120	3.67	1.51
Response efficacy	120	5.84	1.02	119	5.92	1.09
Self-efficacy	120	5.86	0.92	120	5.89	0.96
Geographical distance	118	2.42	1.45	120	2.09	1.22
Social distance	117	2.35	1.37	119	2.18	1.23
Hypothetical distance	119	3.45	1.91	120	3.18	1.91
Temporal distance	117	1.91	1.04	117	1.84	0.89
Hope	118	4.23	1.46	120	4.48	1.41

Table 1 shows that on average the level of climate change severity and perceived vulnerability are relatively high both before and after the game. This is also the case for response efficacy and self-efficacy (means around 6 on a scale ranging up to 7). In addition, the first item of climate change severity (“Climate change will have negative consequences”) has the smallest standard deviation, meaning there was very low variability among respondents’ answers to this item.

Behavioural response costs items and hope have a more considerable margin of progress given that the average level of response is closer to the middle of the scale. Similarly, psychological distances of climate change were rated as moderately close but with a margin of progress (means of 2-3 on a scale up to 7, 1 being the closest).

We conducted a repeated measures MANOVA to test if there was a change in our variables from pre- to post-test. The within-subjects factor shows an overall significant difference of time, $F(12, 95) = 4.88, p < .001$, $\eta^2_p = .381$. Univariate tests are reported in Table 2.

Table 2.

Within-subjects MANOVA, univariate analysis

	<i>F</i>	<i>P</i>	<i>d</i>
Climate change severity 1	0.03	.867	0
Climate change severity 2	0.91	.342	0.191
Vulnerability to climate change	3.66	.058	0.370
Behavioural response cost 1	31.89	< .001	1.096
Behavioural response cost 2	4.45	.037	0.408
Response efficacy	1.23	.270	0.211
Self-efficacy	0.05	.830	0
Geographical distance (R)	5.90	.017	0.473
Social distance	3.30	.073	0.352
Hypothetical distance (R)	2.91	.091	0.333
Temporal distance (R)	0.89	.348	0.180
Hope score	10.73	.001	0.637

Statistically significant differences were found for behavioural response costs (both items 1 and 2), geographical distance, and hope. Behavioural response costs were perceived as lower after the game, respondents had less conviction that their region would be spared from climate change (i.e., geographical distance decreased), and hope that something could be done to tackle climate change was greater after the game (see Table 1 for the means before and after the game). The effect size *d* indicates the magnitude of the effect. All the statistically significant effects have a moderate or even large magnitude (for behavioural response cost item 1). No statistically significant differences were observed for climate change severity, vulnerability to climate change, response efficacy, self-efficacy, and social, hypothetical and temporal distance. However, it is noted that vulnerability to climate change, social distance and hypothetical distance have non-negligible Cohen’s *dz* values (above 0.30).

4. Discussion

4.1 Main Results

This study shows the effects of participating in a climate change-themed escape room. Compared to before the game, respondents were more aware that their region would be affected by climate change; they felt they knew more about what they could do and considered tackling climate change less of an inconvenience, and they were more hopeful about the possibility to do something. Even in a self-selected population with a high disposition towards tackling climate change, there was still room for improvement on these variables.

In terms of perceptions of the severity of climate change, participants already scored very highly, even before playing; the lack of increase here may reflect a ceiling effect. Similarly, no increase was observed for response efficacy and self-efficacy, which may suggest that the tasks did not go far enough to increase participants’ efficacy. The game may evolve in the future to improve this aspect.

4.2 Limitations

The first limitation relates to the population on which we tested the effect. Because participation was voluntary and the game was advertised as being about climate change, the participants self-selected themselves and were, for the most part, environmentally aware before the game. Generalisability to a population with less awareness is not guaranteed, although there may be even more room for change. One difficulty is how to reach a population that is not interested in environmental topics, but the escape room format is designed specifically to target people who might not respond to more classic forms of raising awareness (e.g., documentaries, conferences). Future studies should test the recruitment of a diverse sample to establish prior environmental awareness.

The study's sample size was limited due to recruitment constraints (the escape room was only available for a short period, and the survey could only be sent to registered participants). Moreover, the absence of a control group implies that we cannot causally attribute the changes observed in our sample to participation in the escape room. This is a threat to the internal validity of our conclusions, as it is not possible to rule out effects from time-varying factors (e.g., answering the same questionnaire twice, or the effect of an external event on participants' answers). Future studies could consider a waiting-list control group, when the escape room is available for a longer period, where registered individuals are interviewed twice, two weeks apart, before playing the game. Olombel et al. (2021) used a controlled design to study the pedagogical effectiveness of an escape game on learning earth and life sciences. They demonstrated that both groups had the same increase in knowledge levels, however further analysis showed that the quality of learning experience was higher among students who took part in the game. Thus, using a control group in future study should not only measure the impact on psychological beliefs but also investigate the persuasion process. For example, the same content could be presented to participants in a traditional format (more informational), and a second control group could be shown the content in a format similar to an escape game but without the game aspects.

Another limitation is the lack of measurements of pro-environmental behaviour. Because the game was aimed primarily at triggering awareness, and because the post-test period was short, no such measure was included. However, the ultimate goal of awareness-raising action is to lead to more pro-environmental behaviours; the escape room could be enhanced to make it easier to bridge the intention-behaviour gap (e.g., with planning or commitment tools).

Another limit of the study relates to the game itself and the fact that the riddles do not represent the real-life complexity of tackling climate change, where a multiplicity of answers is desired and needed. This emphasises that the escape game in itself is not a magic wand and requires integration into a broader strategy to maximize its impact.

4.3 Comparison with previous research and future research

As this paper is the first to report on measuring the impact of an in-person escape room on environmental behaviour, comparison with previous research is impossible. Future research should focus on improving quality of the data, notably by including a comparison group and a more diverse sample. This would allow researchers to quantify more precisely how much of the change is due to participation in the escape room and not other factors. Future studies could also aim to measure tangible behaviour change. Another direction for future studies is to record participants' interactions during the game and assess their impact on measured beliefs after the game (similar to the approach of Bluemink et al., 2010).

5. Conclusions

This preliminary study is the first to test the effect of an in-person escape room on psychological determinants related to environmental behaviour. The results are promising even though the population volunteering to participate was already highly aware of severity. This suggests that even with a "convinced" population, tools like this can contribute to other aspects, such as hope and the conviction that actions are not too difficult to achieve.

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Keywords: Escape game; Construal Level Theory; Protection Motivation Theory; Climate change; Pro-environmental behaviour

Auswirkungen eines Escape Rooms auf Überzeugungen im Zusammenhang mit dem Klimawandel

Zusammenfassung

Um den Klimawandel einzudämmen, sind Verhaltensänderungen erforderlich. Strategien zur Erreichung dieses Ziels sind jedoch nicht immer erfolgreich. In dieser Arbeit wird der Einfluss der Teilnahme an einem «Klimawandel-Escape-Room» auf verschiedene Verhaltensfaktoren untersucht. Die Ergebnisse zeigen, dass die Teilnehmenden die Handlungskosten geringer einschätzen, mehr Hoffnung haben und stärker der Meinung sind, dass der Klimawandel lokale Konsequenzen haben wird. Die Teilnahme am Escape Room hatte hingegen keine signifikanten Einfluss auf die Wahrnehmung der Schwere des Klimawandels, die Handlungswirksamkeit, die Selbstwirksamkeit und die zeitliche Distanz. Die Ergebnisse deuten somit darauf hin, dass Escape Rooms das Potenzial haben könnten, Massnahmen gegen den Klimawandel zu fördern.

Schlagwort: Escape Game; Theorie der Konstruktionsebenen; Theorie der Schutzmotivation; Klimawandel; Umweltfreundliches Verhalten

Évaluation de l'impact d'un jeu d'évasion sur les croyances par rapport au changement climatique

Résumé

Bien que nécessaires pour atténuer le changement climatique, les changements de comportement sont difficiles à promouvoir. Cet article rapporte l'impact d'un jeu d'évasion sur plusieurs déterminants comportementaux. Les personnes ont répondu à une enquête mesurant les croyances liées au changement climatique avant et après le jeu. Les résultats montrent une diminution de la perception d'effort, un espoir accru et plus d'accord que le changement climatique se produira au niveau local. La perception de la gravité du changement climatique, l'efficacité de la réponse, l'auto-efficacité et la distance temporelle n'ont pas été modifiés de manière significative. Ces résultats suggèrent que les jeux d'évasion pourraient potentiellement favoriser l'action contre le changement climatique.

Mots-clefs : Jeu d'évasion ; Théorie des niveaux de représentation ; Théorie de la motivation à la protection ; Changement climatique ; Comportements pro-environnementaux

Valutazione dell'impatto di una Escape Room sulle credenze relative al cambiamento climatico

Riassunto

Per attenuare il cambiamento climatico è necessario modificare i comportamenti, ma le strategie per raggiungere questo obiettivo non sempre hanno successo. Lo studio mostra come la partecipazione a una *Escape Room* focalizzata sul cambiamento climatico impatta diverse determinanti comportamentali. Un questionario sulle credenze relative al cambiamento climatico è stato somministrato prima e dopo il gioco. I risultati rivelano una ridotta percezione dei costi di risposta, maggiore speranza e consenso su un possibile cambiamento climatico a livello locale. La partecipazione non ha influenzato significativamente la percezione della gravità del cambiamento climatico, l'efficacia della risposta, l'autoefficacia e la distanza temporale. Le *Escape Room* potrebbero quindi potenzialmente promuovere azioni contro il cambiamento climatico

Parole chiave: Escape game; teoria del livello di costruzione; teoria dell'ammotivazione alla protezione; cambiamento climatico; comportamento pro-ambientale

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