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Environmental Communication in Organizations:

Promoting Pro-Environmental Behaviors at Workplace and in Home-Office with an App-Intervention

Pro-Environmental Behavior (PEB)

Developing sustainable technologies is an obvious approach to overcome environmental problems as climate change. Psychology can provide an additional approach by encouraging people to behave in a more sustainable way. Environmental communication is required to encourage peoples' **pro-environmental behaviors** (PEB; Stern, 2000) and plays a crucial part in conveying information about sustainability (Newig et al., 2013; Genç, 2017). Even though communication about sustainability related topics within organizations is important to promote sustainable initiatives and engage employees, little is known about sustainability related intra-organizational communication (Craig & Allen, 2013).

Emotional Framing

Emotional aspects of communication influences people's intention for PEB (Kareklas, Carlson, & Muehling, 2014). Following the **Elaboration Likelihood Model** (ELM; Petty & Cacioppo, 1986a), studies about green advertising suggest that emotional quality of the information effects the intention for PEB among consumers (Pitman et al., 2021).

Measure: Application "green challenge"

Attitude Towards PEB (ATP)

The **Theory of Planned Behavior** (Ajzen, 1985) suggests that behavioral intentions are driven by attitudes. Research has found that it is more probable for a person with a positive attitude towards the environment to show environmentally-friendly behavior (Bamberg & Möser, 2007).

Measure: Attitude towards PEB (Blok et al., 2015)

Workload

Workload refers to the hours routinely spent working. A high workload is a common stressor experienced at work (Keenan & Newton, 1985). The **Motivation - Opportunity - Ability Model** (Ölander & Thøgerson, 1995) suggests that a lack of opportunities leads to low motivation (Klöckner, 2015). High workload may leave one with little opportunity to engage in PEB.

Measure: Quantitative Workload Inventory (QWI) (Spector & Jex ,1998)

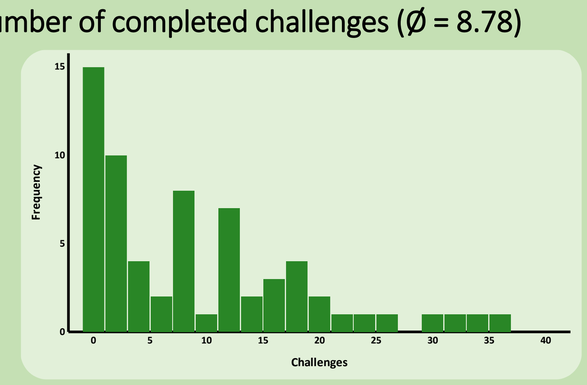
Research Question

Sustainability related information is differently processed, depending on personal relevance for the topic, available cognitive capacities, and argument quality of the emotional framing. *The aim of this study* is to detect the interdependencies of sustainability related message appeal in connection to employees' attitude towards pro environmental behavior and the actual amount of workload employees are under.

METHOD

To measure PEB, participants were instructed to use the **app "Grüne Challenge" (designed by Armin Atitallah, 2021).** The app provides tasks and challenges to behave more environmentally friendly. Tasks can be completed by the users based on their own judgement: The app measures PEB based on two outcomes:

Number of completed challenges (Ø = 8.78)



Time spent in app (Ø = 13 min 51 sec = 831 sec)

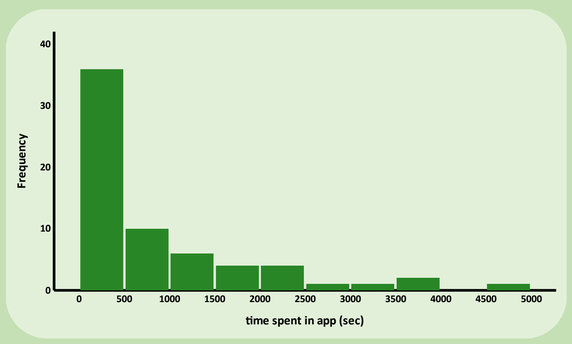


Fig 1. Application „Green Challenge".

Emotional Framing

Participants received **push-messages** that promote the use of the app in order to act more environmentally friendly. These messages were emotionally framed (positive/negative). The control group didn't receive push-messages.

Time Table

T2
Survey of ATP
Start app use (2 weeks of positive or negative information)

T3
Survey of workload & PEB
Change to other emotional framing of information

T4
Survey of workload, PEB, challenges, time spent

Sample

N = 65 (♀ = 57 %)

Ø age = 36 Years

Ø weekly hours = 35 hours

Results & Discussion

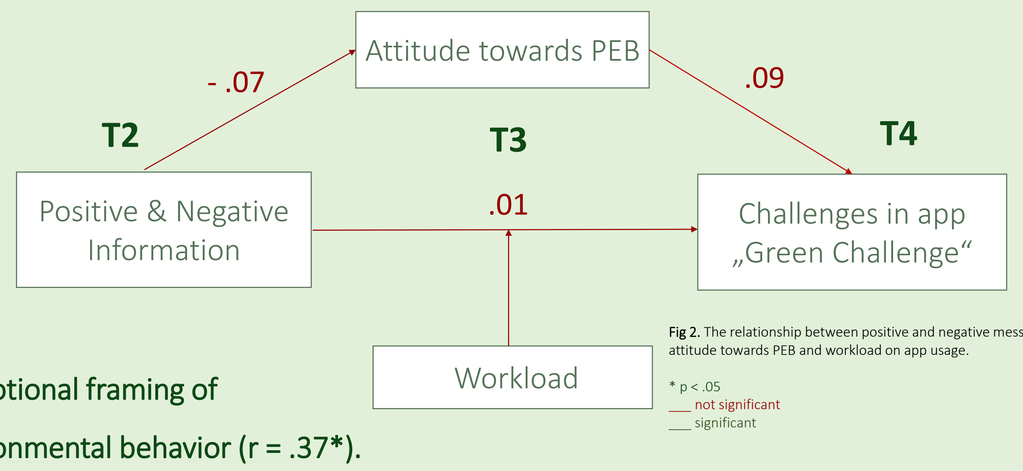


Fig 2. The relationship between positive and negative messaging, attitude towards PEB and workload on app usage.

* p < .05
___ not significant
___ significant

H1: There is a relationship between the emotional framing of information and app usage.

BUT: There is a relationship between the **emotional framing of information** and **self-reported pro-environmental behavior (r = .37*).**

H2: The relationship between the emotional framing of information and app usage is mediated by the attitude towards pro-environmental behavior.

H3: The relationship between the emotional framing of information and app usage is moderated by workload.

- Since previous findings had shown that message appeal in sustainability communication can influence pro-environmental behavior (Cialdini et al., 1973; Carrus et al., 2008; Manca et al., 2020) we wanted to investigate if positive and negative messaging through an app can induce pro-environmental behavior.
- In this study, emotional framing of environment related information did not affect the usage of the app and the amount of challenges done (**H1**).
- However, there was a significant difference between self-reported pro-environmental behavior before and after using the app. Even though our H1 could not be supported, exploratory analysis showed that negatively framed information resulted in significantly higher self-reported PEB than positively framed information.
- Contrary to our assumption, attitude towards pro-environmental behavior (**H2**) and quantitative workload (**H3**) did not influence the relationship between message appeal and app usage. However, the mediation model (**H2**) showed that attitude towards pro-environmental behavior impacted self-reported pro-environmental behavior.
- Attitude change is very complex, as it requires active cognitive effort to match incoming information with existing schemes and prior knowledge (Klöckner, 2015; Lazard & Atkinson, 2015; Manca et al., 2020). To achieve lasting change in attitude and behavior to pass on information, the appropriate cognitive structure must be built (Klöckner, 2015). However, this is challenging and unlikely to be achieved through the short-term four-week intervention. Apps seem to be especially relevant as a source of knowledge and information (Balinska et al., 2021). This is in line with the MOA model (Ölander & Thøgerson, 1995), which assumes that motivation can only be increased if the opportunity as well as the relevant knowledge is available (Klöckner, 2015). This is essential for addressing the central route according to the ELM (Petty & Cacioppo, 1986a).
- This study allows first insights in exploring possibilities for organizations to improve the day-to-day environmental behaviors of their employees and thus contributes to the catalogue of approaches counteracting the serious environmental problems we are facing today.

Research Project

References

Limitations

- Other important aspects of communication as non-verbal characteristics were missing (Klöckner, 2015)
- No possibility to check how the recipients reacted to the information
- Personal characteristics are important for changing behavior, but could not been accessed through app communication (Klöckner, 2015)
- Different situational factors: participants could have been in home-office or in office due to the Coronavirus pandemic
- Small sample size due to motivational factors of app usage
- Methodological and statistical limited results due to skewed distribution
- Little information about environmentally friendly behavior was provided via app
- Future research should use a larger sample size, a longer intervention period, and provide more information to increase knowledge