Injunctive and Descriptive Norm Effects on Physical Activity

Monica Ehn
University of Northern Iowa

Copyright © 2015 Monica Ehn
Follow this and additional works at: https://scholarworks.uni.edu/agss
Part of the Psychology Commons

Let us know how access to this document benefits you

Ehn, Monica, "Injunctive and Descriptive Norm Effects on Physical Activity" (2015). Annual Graduate Student Symposium. 18. https://scholarworks.uni.edu/agss/2015/all/18
Injunctive and Descriptive Norm Effects on Physical Activity
Monica Ehn (Faculty Sponsor: Nicholas Schwab)
Department of Psychology
University of Northern Iowa

Abstract

This study investigated the application of focus norm theory to exercise using a non-self-report measure. Participants in the descriptive plus injunctive condition were sent messages encouraging physical activity. Participants were randomly assigned to the descriptive condition, injunctive condition, or descriptive plus injunctive condition. Conclusions

This study investigated the effects of normative feedback on physical activity.

Methods

Participants were issued a Fitbit Zip pedometer for the duration of the current study. The Fitbit Zip wireless activity tracker is a pedometer that tracks number of steps, distance, and calories burned. The Fitbit Zip uploads the information wirelessly to Mac or PC computers via a USB component that plugs into the computer’s USB port. The Fitbit Zip also syncs to supported mobile phones using Bluetooth. The Fitbit Zip stores minute-by-minute data for seven days and a daily total for 24 days until the device is synced to a computer. For the current study, the Fitbit Zip was used to track participants’ number of steps, which was used as the dependent variable. The number of steps was used as a non-self-report measure of physical activity prior to and following exposure to normative feedback.

Normative feedback was delivered on day 15 and day 22 after beginning participation. The normative feedback delivered on day 15 was the average number of steps of all participants for week one and two of the study (M = 30,358.00). The normative feedback delivered on day 22 was the average of the number of steps of all participants for week two and three of the study (M = 22,862.60). Bar graphs that compared the mean number of steps and each participant’s number of steps for the respective weeks were created. A graph icon was sent to each participant. The graph was created and sent to the participants’ mobile phone as a multimedia messaging service (MMS) picture message. The descriptive feedback graphic included the bar graph that showed participants’ average number of steps per week in comparison to the average number of steps per week for the university student. The descriptive plus injunctive feedback graphic also included the bar graph with an additional smiling or frowning emoticon. Schult and colleagues (2007) used this same manipulation to look at the effects of normative information on energy consumption (See Figure 1).

Results

The third hypothesis that participants above the norm for weeks one and two in the descriptive norm condition would decrease number of steps from week three and week four of the study after receiving the normative feedback was partially supported for both week three and week four of the descriptive condition. Specifically, there was a statistically significant median increase in the number of steps from weeks one and two (Mdn = 26,024.00) to week three (Mdn = 27,934.00) at p = 0.04, or week four (Mdn = 28,058.00) at p = 0.04. This hypothesis also was not supported for participants in the injunctive condition. There was not a statistically significant median increase in number of steps from weeks one and two (Mdn = 24,688.00) to week three (Mdn = 22,046.00) at p = 0.10, or from week three to week four (Mdn = 23,397.00) at p = 0.05, or week four (Mdn = 22,046.00) at p = 0.05. The second hypothesis was not supported as there was not a statistically significant median decrease in number of steps from week one (Mdn = 29,387.50) to week two (Mdn = 25,338.00) at p = 0.10, for the descriptive condition. This hypothesis also was not supported for participants in the injunctive condition. There was not a statistically significant median decrease in number of steps from weeks one and two (Mdn = 30,745.00) to week two (Mdn = 29,096.00) at p = 0.10, z = -0.71, p = 0.48, or from week two to week three (Mdn = 30,745.00) at p = 0.52, p = 0.75, or from week three to week four (Mdn = 30,745.00) at p = 0.10, z = -0.71, p = 0.48, or from week three to week four (Mdn = 30,745.00) at p = 0.10, z = -0.71, p = 0.48.

The fourth hypothesis was not supported as there were not statistically significant median differences between the two conditions for week three, U = 254.00, p = 0.07, r = 0.44, or week four, U = 253.0, p = 0.79, r = 0.04.

Method

Participants were assigned to one of four, in-person informational sessions via Qualtrics where they were able to ask questions and discuss the study with the researcher. On day 15 and 22 of participation in the current study, normative feedback was delivered via a multimedia messaging service (MMS) via email to the participants. On day 15 and 22 of participation, the IPAQ-L data was downloaded for analysis.

Hypotheses

Hypothesis 1: Participants would increase number of steps from week one to week 2 of the study as a result of self-monitoring via the Fitbit Zip pedometer.

Hypothesis 2: Regardless of condition (descriptive or injunctive feedback), participants below the norm for weeks one and two would increase their number of steps, while participants above the norm for weeks one and two would decrease their number of steps for week three and week four of the study.

Hypothesis 3: The third hypothesis that participants above the norm for weeks one and two in the descriptive norm condition would decrease number of steps from week three and week four of the study after receiving the normative feedback was partially supported for both week three and week four of the study.

Hypothesis 4: The fourth hypothesis that participants in the descriptive plus injunctive norm condition would take more steps than participants in the descriptive condition for week three and week four of the study was not supported.

Limitations

The current study was underpowered. The initial sample size was small (n = 52) and eight participants were dropped from the study resulting in an even smaller sample size (n = 44). There was also a large amount of missing data (i.e. over 20%). The missing data resulted from a lack of compliance in wearing the Fitbit Zip pedometer.

Several participants did not respond to the manipulation check that accompanied the normative feedback message suggesting that the normative information was not utilized by all participants. This limits the ability to test the application focus theory of normative conduct to exercise behavior.

While the current study was underpowered and all conclusions are tentative, the current study incorporated popular and inexpensive technology which could help make exercise interventions more accessible to a diverse population.

Future Directions

The current study requires further replication as the current study had a large amount of missing data and the results are inconsistent with focus normative theory and previous research.

Future research may seek to further investigate the use of technology in exercise interventions.

References


Advances in experimental social psychology