WALKING, DRIVING AND WELLBEING DURING THE COVID-19 PANDEMIC LOCKDOWN IN SPAIN

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ABSTRACT

The objective of this paper is to present a detailed descriptive analysis of the influence of the mobility restrictions during the COVID-19 pandemic lockdown in Spain on the wellbeing of people. In this paper, we focus on the wellbeing of walkers and drivers during that period.

The dataset used for this study was collected through a web-based survey during April of 2020, in which 1870 valid responses were obtained. In this study a subpart of the survey is used, including data related to travel characteristics during the lockdown and information collected regarding several wellbeing metrics.

The total mobility of people was reduced more than half during the lockdown, and modal share was also altered substantially. Women increased walking by 44% and men by 48%.

The use of car was reduced by 24% in the case of men, and by 11% in the case of women.

Younger and older people are those who walked more during lockdown. Although walking was the predominant travel mode during the lockdown, those who walked more are related to lower values of wellbeing.

Implications for the development of transport policies to improve the wellbeing of people are derived from the results of this study.

1. INTRODUCTION

The lockdown of Spring 2020 to reduce the spread of the Covid-19 pandemic reduced the economic activity and restricted the mobility of people dramatically all over the world. Using phone data, it was estimated a reduction of weekday mobility between 50% and 60% of vehicles-km in Spain (MITMA, 2020). This reduction was high as 80% during weekends.

Travels between 0.5 and 2 km decreased between 40% and 50%, and those trips longer than 10km decreased between 70% and 80%. According to that study, personal mobility during the lockdown period reduced more than half. The limitation of mobility particularly impacted on public transport. Reductions of 90% of riders were registered in all public transport modes during the lockdown.

Among the negative effects of the limitation of mobility during the lockdown, we are interested in its influence on the wellbeing of people. Staying at home for long periods of time, the need for tele-working and attending classes on-line, and the prohibition of carrying out any out-door activity (except walking the dog), could possibly led people to experience negative feelings. Who was more affected? How (limited) walking and driving influenced wellbeing? What transport planning measures can be implemented to alleviate a lockdown impact on the wellbeing of people? The objective of this study is to answer these questions.

2. WELLBEING AND TRAVEL

Human beings seek to maximize their pleasure experiences, which is achieved through the satisfaction of preferences and minimization of pain with the aim of upgrading gratification in terms of happiness. This is the hedonic or subjective approach of wellbeing (Nordbakke & Schwanen, 2014).

On the other hand, wellbeing can also be achieved recognizing that living consistently with the true self is what inspires and gives meaning to one's life. This eudaimonic, objective or psychological wellbeing occur when the individual lives in congruence with his own value system, and eudaimonic discomfort will occur in the opposite case (Vázquez, Hervás, Rahona & Gómez, 2009).

How the use of each travel mode influence SWB has been extensively studied. For example, a literature review carried out by Ettema et al. (2016) indicates that using active travel modes results in higher travel satisfaction than using the car and in particular public transport. In this line, Morris and Guerra (2015) found that bicyclists present higher values of positive affect, followed by car passengers and car drivers. They also found that users of bus and train experience the most negative emotions.

Singleton et al (2019) found that walking/bicycling is associated with high values of health, confidence, and positive affect. Cycling commuters scored higher on distress, fear, and lower on security. On the contrary, results from the study of Zhu et al. (2019) indicate that the SWB of residents who commute walking or cycling was lower than that of those who commute by other travel modes. Respondents in this study lived in rural areas and cities with low urbanization, which could partially explain these results.

They also found that the longer the commute time, the lower the SWB, which is in line with results from Stutzer and Frey (2008), who found that people with longer commuting time report systematically lower SWB among public transport users. Lunke (2020) has also found that train commuters present highest levels of SWB.

During the Covid-19 pandemic only general studies of wellbeing have been carried out (Cheng et al., 2020; Zacher and Rudolph, 2020; Foa et al., 2020; Kimhi et al., 2020; Sibley et al., 2020; Anglim and Horwood, 2020; Suso-Ribera and Martin-Brufau, 2020). This study aims to fill this gap.

3. SURVEY DESCRIPTION AND DATA COLLECTION

The dataset used for this research was collected by a web-based survey that was designed ad-hoc for this study. The main aim of the survey was to gather information regarding the characteristics of out-of-home activities and the associated mobility during the lockdown in Spain, PWB indicators and positive and negative affect of people. The survey started on April 10, 2020 and ended on April 26, 2020. Respondent recruitment was done using two e-mailing lists including professional and personal contacts of the researchers, and senior students of the Universitat Politècnica de València. Besides, the web-survey was disseminated through personal and institutional on-line social media. Participants live in the Valencian Region of Spain.

The survey was divided in three parts. In the first part of the survey, respondents were asked to estimate their daily, weekly or monthly number of times they left home to perform each of the following out-of-home activities: working, grocery shopping, caring tasks, walking the dog, visiting the doctor, other shopping, and other activities (e.g., bank business). The usual travel mode associated to each activity, average time spent traveling and carrying out each activity per week were also collected. The second part of the survey includes questions to characterize PWB and positive and negative affect. Sociodemographic information is collected in the third part of the survey.

The variables included in the analyses are presented in Table 1. Continuous variables are used to measure walking and car use during the lockdown.

Variables	Description	Type
Sociodemographic		
Age	Age of the respondent	Continuous
Gender	0= male; 1 = female	Categorical
Education	1=none; 2=Primary; 3=Vocational; 4=Secondary; 5=Baccalaureate; 6=Non-university; 7=University	Categorical
Household size of respondents	Number of members in the house, including the respondent	Continuous
Household members > 70	People over 70 in respondent's household	Continuous
Household members < 6	People under 6 in respondent's household	Continuous
6 <= HH members < 12	People between 6 and 12 in respondent's household	Continuous
12 <= HH members < 18	People between 12 and 18 in respondent's household	Continuous
Household disable members	People with functional limitations in respondents' household.	Continuous
Type of housing	1=Apartment; 2=Detached or semi-detached house without garden nor private open-air space; 3= Detached or semi-detached house with garden and private open-air space; 4=Other	Categorical
Occupation	1=Student; 2=Employed, 3=Self-employed; 4=Student and employed; 5=Unemployed; 6=Retired; 7=Homemaker; 8=Other	Categorical
Changes on Internet use	1= I do not use it; 2= Less than before; 3=Same as before; 4= More than before; 5=Much more than before	Categorical
Working at home before the lockdown	1=Yes; 2=No	Categorical
Working at home during the lockdown (different from housekeeping)	1=Yes; 2=No	Categorical

Degree of work organization at home	Likert scale: 1=Very bad; 5=Very good	
Home location	1=Center of a big city (>100.000 inhab.); 2=Suburbs of a big city; 3=Mid size city (10.000-100.000 inhab.); 4=Small town (2.000-10.000 inhab.); 5=Village (<2.000 inhab.); 6=Low density city area; Other	
Net monthly income	1=None; 2=Less than 1.000 Euro; 3=1.000-2.000 Euro; 4=2.000-3.000 Euro, 5=3.000-4.000 Euro; 6=More than 4.000 Euro	
Mobility during the lockdown		
TRIPS	Number of times living home per week	Continuous
P_WALK	Percentage of walking when exit from home per week	Continuous
P_CAR	Percentage of car use when exit from home per week	Continuous
TIME_TRAVEL	Time traveling per week (minutes)	Continuous

Table 1. Definition of sociodemographic and mobility variables

Satisfaction and frustration of the three basic psychological needs were collected using the Spanish version for adults of the general Basic Psychological Need Satisfaction and Frustration Scale (BPNSNF) (Chen et al., 2015). This scale includes six four-item subscales to measure autonomy satisfaction (e.g. "I feel a sense of choice and freedom in the things I undertake"), autonomy frustration (e.g. "Most of the things I do feel like I have to"), relatedness satisfaction (e.g. "I feel that the people I care about also care about me"), relatedness frustration (e.g. "I feel excluded from the group I want to belong to"), competence satisfaction (e.g. "I feel confident that I can do things well") and competence frustration (e.g. "I have serious doubts about whether I can do things well"). Respondents were asked to use a five-point Likert scale to declare if they totally disagree (1) or totally agree (5) with each statement.

Information regarding positive and negative affect were collected using the Positive and Negative Affect Scale (PANAS) (Watson et al., 1988) translated to Spanish by the authors of this research. PANAS includes 20-item self-report measure of positive and negative affect. High negative affect represents subjective distress and unpleasurable engagement, and low negative affect represents the absence of these feelings.

On the other hand, positive affect symbolizes the extent to which and individual experiences pleasurable engagement with the environment. For example, emotions such as enthusiasm and alertness are related to high positive affect, whilst lethargy and sadness characterize low positive affect. A five-point Likert scale was used in this scale as well.

4. SAMPLE CHARACTERISTICS

1,827 respondents provided valid data to all parts of the survey after validations and cleaning. The distribution of the sample according to gender is reasonable balance (Table 2). However, those whose age is between 45 and 64 are overrepresented in the sample. Similarly, those who are working (employed, self-employed and students that also work), are overrepresented in the sample as well.

One third of respondents belong to households that share with only another person (household size = 2) (Table 3). Respondent's household size equal to three are 24.7% of the sample, slightly higher than those equal to four (23.1%). Those who live alone are 12.1% of the sample. And those who live in households of five or more people are 7.3% of the sample.

Respondents living in apartments are most of the sample (78.8%). Those living in attached or semi-detached with garden and private open-air space are 16.0% of the sample.
Those living in big cities (100.000 or more inhabitants) are overrepresented in the sample; they are 60.3% of the sample. Respondents living in mid-size cities (10.000-100.000 inhabitants) are 20% of the sample.

	Respondents	Percentage
Gender		
Male	908	49,7%
Female	919	50,3%
Age		
18-25	265	14,5%
26-35	319	17,5%
36-45	301	16,5%
46-55	372	20,4%
56-65	378	20,7%
>65	192	10,5%
Occupation		
Employed	924	50,6%
Retired	293	16,0%
Student	223	12,2%
Student and employed	130	7,1%
Self-employed	115	6,3%
Unemployed	67	3,7%
Other	54	3,0%
Homemaker	21	1,1%

Table 2. Sample sociodemographic characteristics

	Respondents	Percentage
Household size		
1	221	12,1%
2	600	32,8%
3	451	24,7%
4	422	23,1%
5+	133	7,3%
Type of housing		
Attached or semi-detached with garden and private open-air space	293	16,0%
Attached or semi-detached without garden nor private open-air space	38	2,1%
Other	71	3,9%
Apartment	1425	78,0%
Home location		
Low density city area	109	6,0%
Center of a big city (>100.000 inhab.)	690	37,8%
Small town (2.000-10.000 inhab.);	151	8,3%
Mid-size city (10.000-100.000 inhab.);	366	20,0%
Other	20	1,1%
Suburbs of a big city	412	22,6%
Village (<2.000 inhab.);	79	4,3%

Table 3. Sample residence characteristics

5. MOBILITY DURING THE LOCKDOWN

The average number of times respondents left home to carry out any of the allowed activities during the lockdown was 4.9 per week, and the median value is 2.25.

Considering that the sample is overrepresented in those with age between 45 and 64, and those employed, the real value of mobility during the lockdown will be somehow lower. In any case, that value contrasts with the estimated mobility before the Covid-19 pandemic in the Valencian Region of Spain: average of 2.5 daily trips per person (Generalitat Valenciana, 2018). Therefore, the mobility during the lockdown was approximately half than before. This is in line with the study carried out by Ministerio de Transportes in Spain using cellphone data (MITMA, 2020), who reported reductions between 40% and 53% of vehxkm on the weekdays of the second half of March 2020.

Mobility during the lockdown was a slightly higher for men than for women and increased with age. Men left home a median value of 2.5 times per week, and women 2.25 times per week. On the other hand, those with age less than 26 presented the lowest mobility, leaving home only 1.5 times per week. Respondents between 26 and 45 years old left home 2.25 times per week. The highest mobility during the lockdown were performed by those between 46 and 65 years old, who left home 3.0 times per week. And the older respondents presented a mobility during lockdown of 2.0 exits from home per week.

The median value of time spent traveling per week during the lockdown was only 20 minutes for those younger than 26. This value increased to 33 minutes for respondents between 26 and 35 years old, and the value is a slightly higher for those between 26 and 45 years old. Participants between 46 and 55 years old spent the maximum time per week traveling: 58.7 minutes. Those between 56 and 65 years old spent a median value of 55 minutes traveling per week. And those older than 65 spent 38.1 minutes per week during the lockdown.
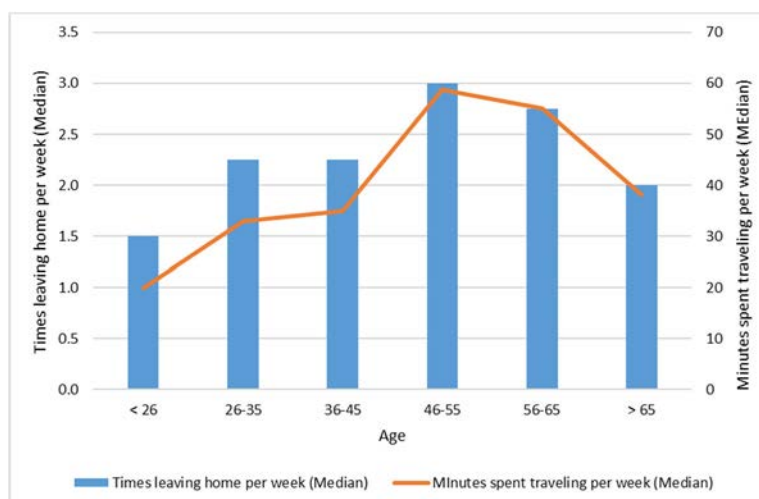

Fig. 1. Degree of mobility during the lockdown by age

The mobility was relatively high for self-employed respondents, who left home a median value of 3,25 times per week. Employed respondents left home 2,5 times per week. Students who also work left home 2 times per week, and students only left home 1,5 times per week. Those who do not work, nor study left home 2 times per week during the lockdown.

Self-employed participants in the study spent the maximum time traveling per week during the lockdown: a media value of 90 minutes. Employed respondents spent a much lower amount of time traveling per week: 45 minutes. Those who studied and were employed part-time spent 25 minutes per week traveling. Students spent the minimum amount of time traveling per week during the lockdown: a median value of 24.3 minutes.
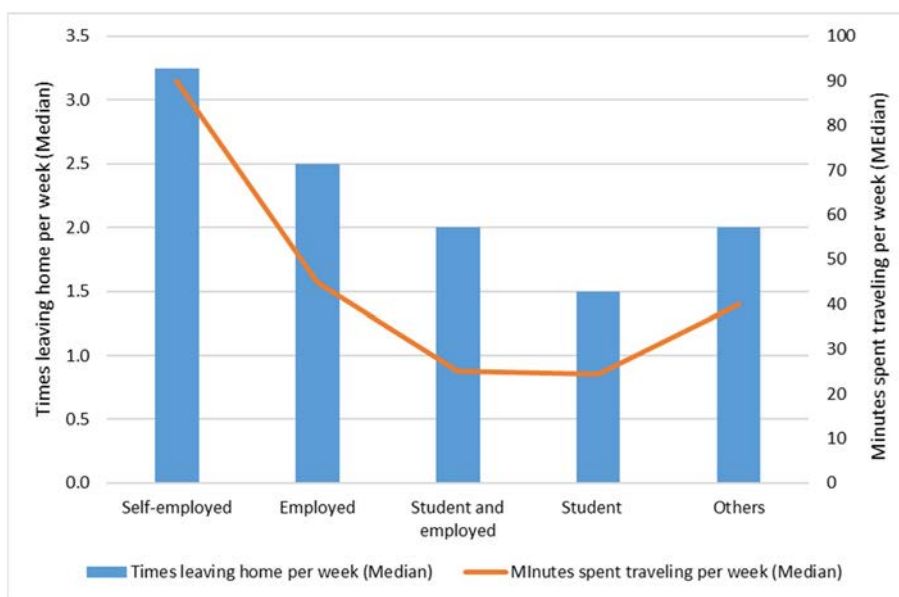
Fig. 2. Mobility during the lockdown by occupation

The travel mode most used when the participants of the study exit from home during the lockdown was walking: the percentage of walking was 77.5%. The second travel mode more used was car, but with only 18.9% of all times respondents left home. The rest of travel modes was hardly used: public transport (2.0%), Bicycle (0.8%), Others (0.8%). It is important to note that almost half of the individuals 849.2%) in the sample only walked when exit from home during the lockdown. In the case of those who used car, 29.7% did not used other travel mode.

Women walked a little bit more than men when leaving home during the lockdown (FIG 4). They also used less the car. Public transport was used by 3% of males, but only by 1% of females.
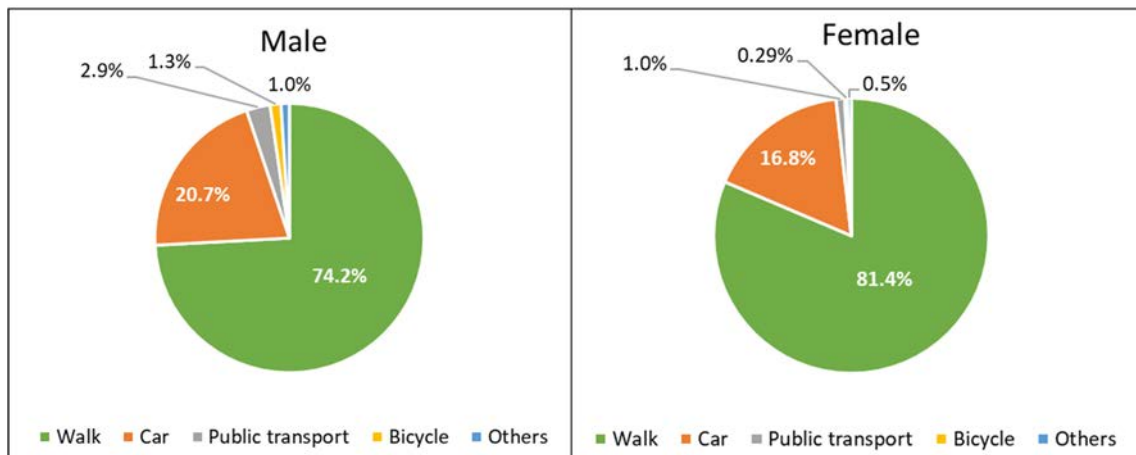
Fig. 3. Travel mode used by gender

The high percentage of walking is due to the consideration of home exits for walking the dog, an out-door activity allowed during the lockdown: more half of the number of times respondents left home walking was to take their dog for a walk (53.3%). The second most important motive for exit home walking is grocery shopping (26.7%). On the other hand, when respondents left home using the car during the lockdown was mainly for going to work (46.6%). Grocery shopping (32.3%) and caring others (14.4%) are the following motives to exit home using car in order of importance.
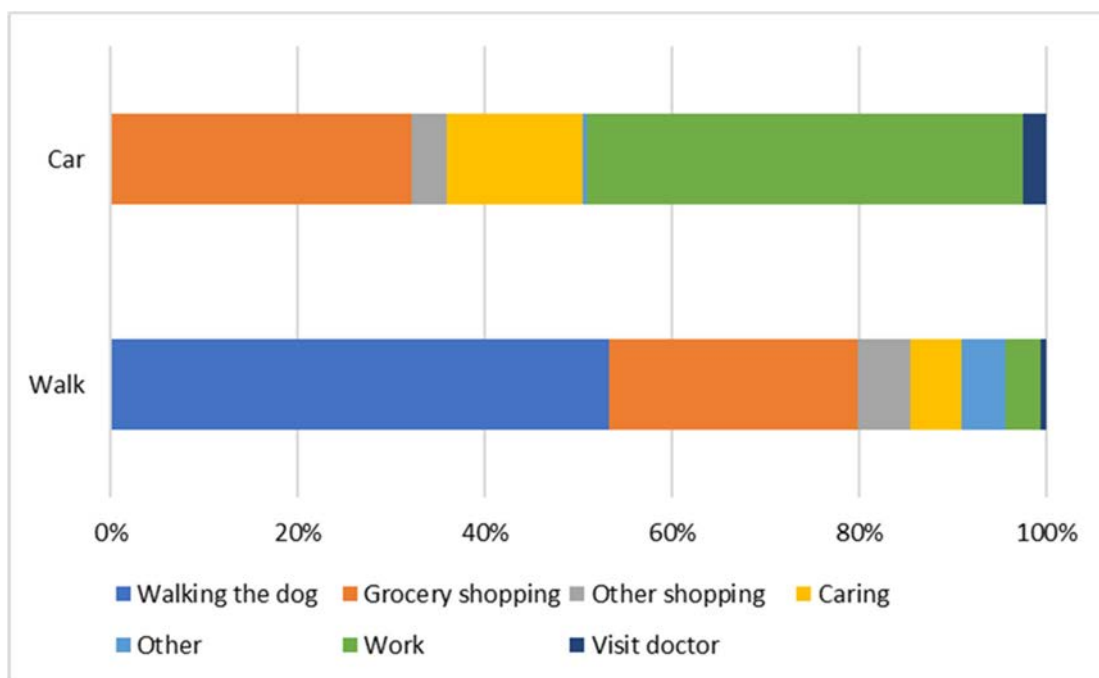
Fig. 4. Motives for leaving home by car and walking during the lockdown

When leaving home during the lockdown, the youngest respondents were those who walk the most (87.9%). In contrast, the walk share of those between 36- and 45-years is 69.8%.
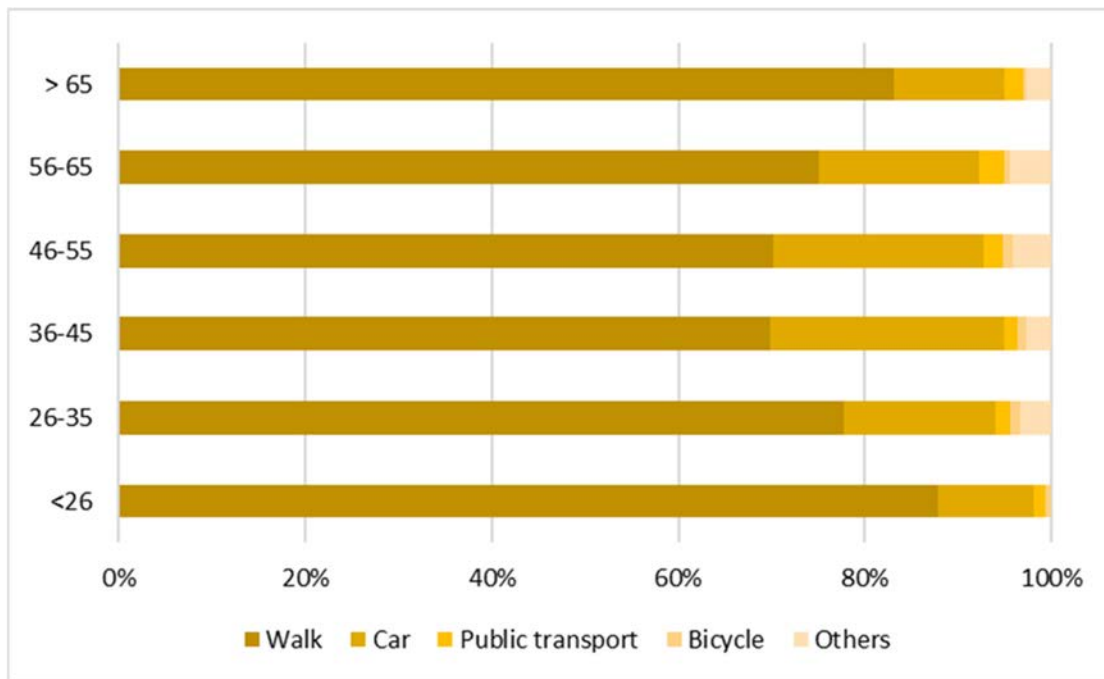
Fig. 5. Travel mode used by age

Mann-Whitney tests are used to find statistically significant differences among median values of PWB variables and Positive and Negative affect according to the characteristics of mobility during the lockdown.

Those who had a low degree of mobility during the lockdown (a median value of times leaving home per week lower than 1.25), and a percentage of walking higher than 66%, present statistically significant higher values of Positive affect (Z=-1.998, Sig=0.046) and lower values of Negative affect (Z=-2.139, Sig=0.032) than those with a percentage of walking between 33% and 66%.

On the other hand, participants who had a high degree of mobility during the lockdown (a median value of times leaving home per week between 2.25 and 6.00) and a low percentage of walking, present statistically significant higher values of Competence satisfaction (Z=-2.523, Sig=0.012) and lower values of Competence frustration (Z=-1.990, Sig=0.047) than those with a percentage of walking higher than 66%.

Similarly, respondents who had a very high degree of mobility during the lockdown (a median value of times leaving home per week higher than 6.0) and a percentage of walking between 33% and 66%, present statistically significant higher values of Positive affect (Z=-2.353, Sig=0.019) than those with a percentage of walking higher than 66%.
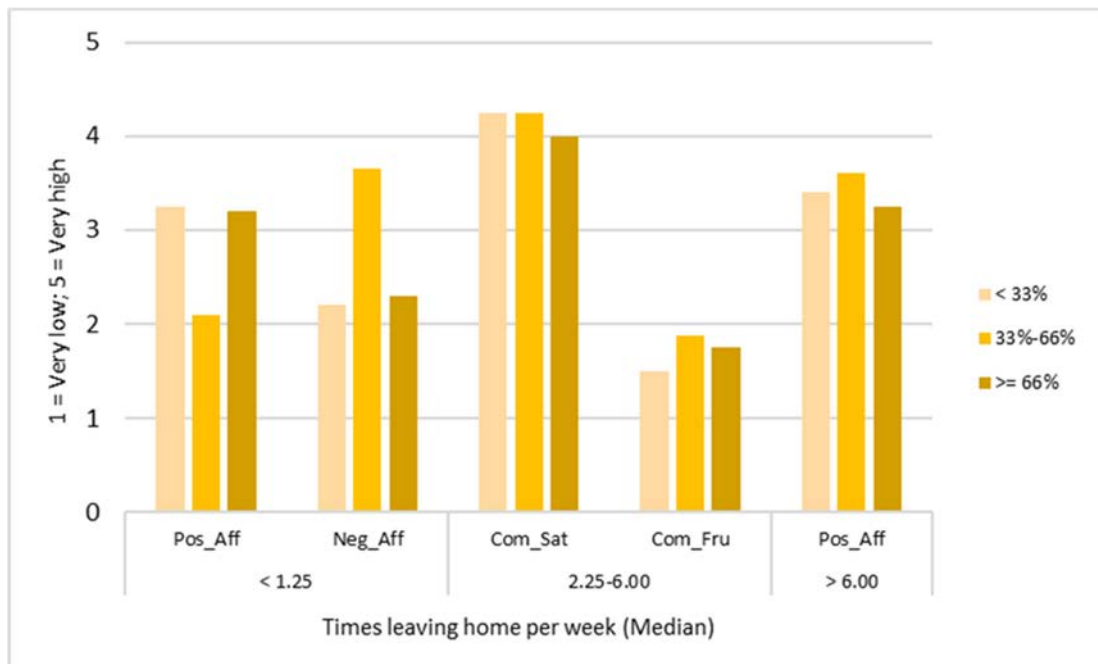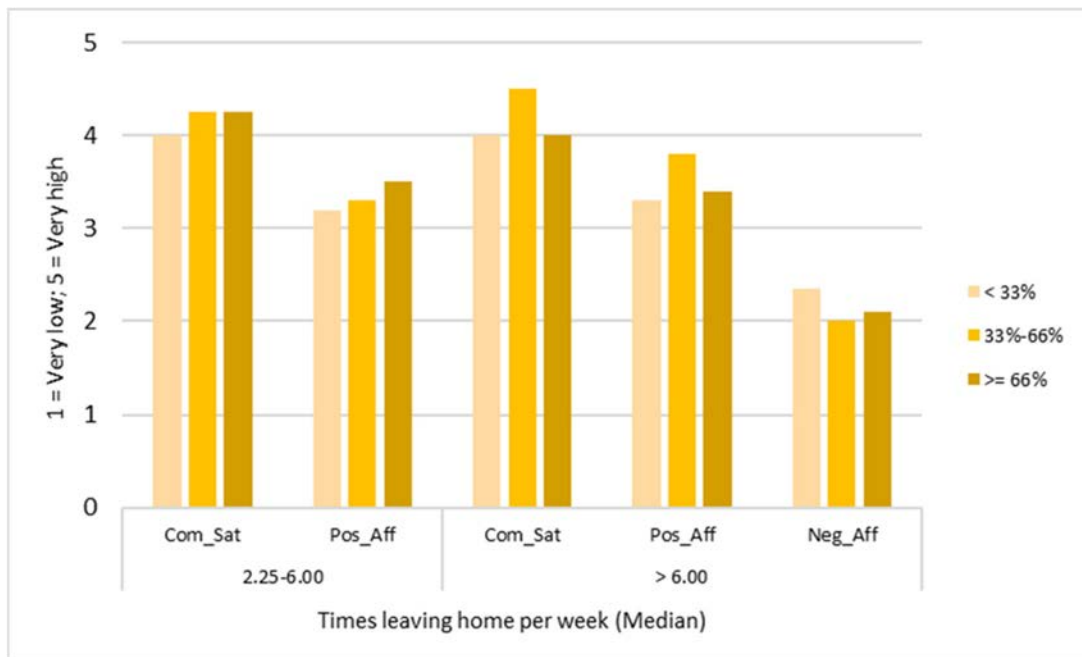
Fig 6. Significant differences of PWB indicators and Positive affect by degree of mobility and % of walking during the lockdown

Those who had a high degree of mobility during the lockdown and a low percentage of car use, present statistically significant lower values of Competence satisfaction (Z=-2.257, Sig=0.024) and Positive affect (Z=-2.289, Sig=0.022) than those with the higher percentage of car use.

Respondents who had a very high degree of mobility during the lockdown and a low percentage of car use, present a statistically significant lower values of Competence satisfaction (Z=-2.616, Sig=0.009) and Positive affect (Z=-3.961, Sig=0.000) than those who use the car between 33% and 66% when leaving home. They also have statistically significant higher values of Negative affect (Z=-2.206, Sig=0.027) than those with higher percentage of car use.

Fig 7. Significant differences of PWB indicators and Positive and Negative affect by degree of mobility and % of car use during the lockdown

Respondents who only walked when leaving home during the lockdown (n=899) present statistically significant lower values of Competence satisfaction (Z=-3.201, Sig=0.001) and Positive affect (Z=-2.215, Sig=0.027) than those who only used car (n=208). They also present statistically significant higher values of Competence frustration (Z=-2.817, Sig=0.005).
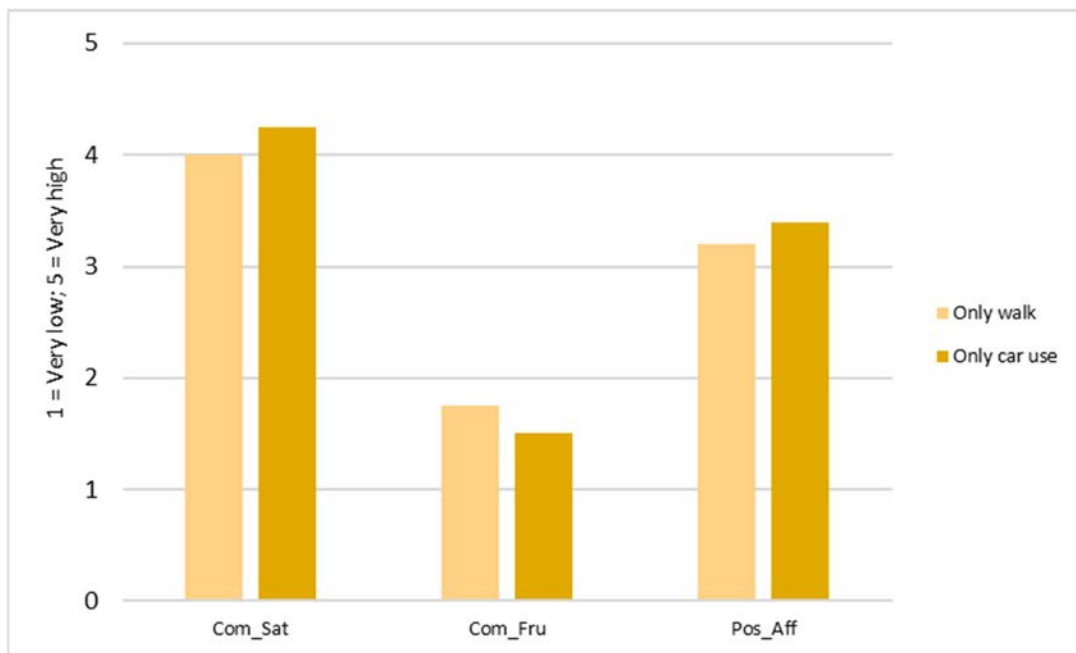
Fig 8. Significant differences of PWB indicators and Positive affect by only walkers versus only car users during the lockdown

Male respondents who only walked when leaving home during the lockdown (n=399) present a statistically significant lower competence satisfaction (Z=-2.506, Sig=0.012) than those who only used the car (n=199). Coherently, male only-walkers present higher competence frustration (Z=-2.995, Sig=0.003) than male only-car users.

Those between 25 and 44 years of age and only walked when leaving home during the lockdown (n=476) present a statistically significant higher competence frustration (Z=-2.672, Sig=0.008) than those who only used the car (n=83). On the other hand, respondents with 65 years old or more who only walked (n=476) present a lower relatedness frustration (Z=-2.272, Sig=0.023) than those who only used the car (n=83).

Self-employed respondents who only walked (n=40) present a higher competence frustration (Z=-2.190, Sig=0.028) and lower positive affect (Z=-2.177, Sig=0.029) than their only car users' counterparts.
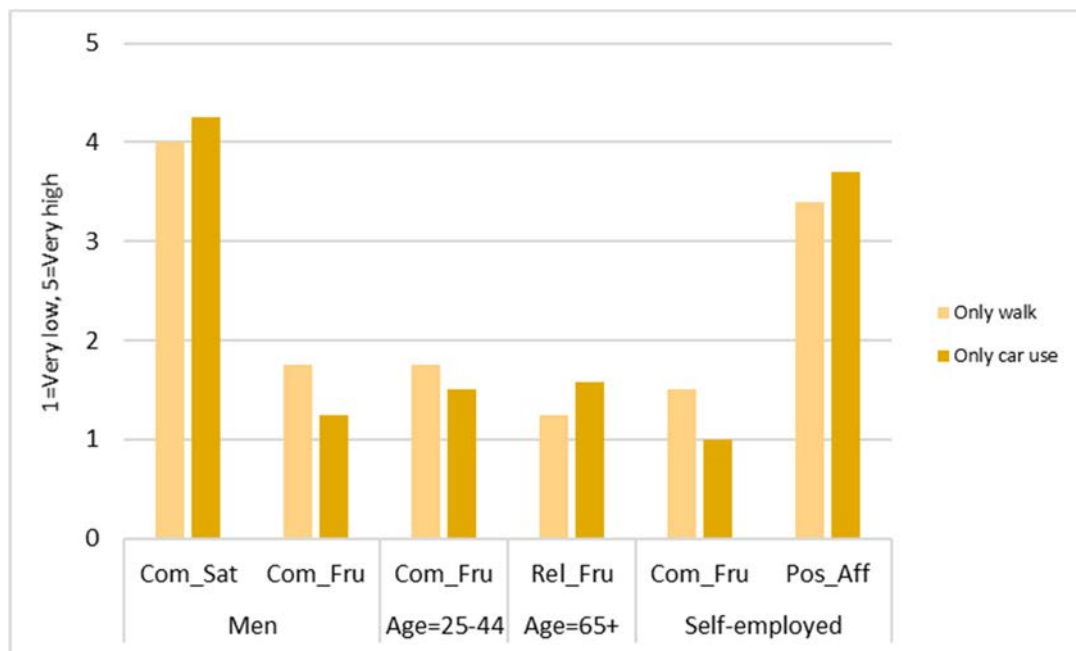

Fig 9. Significant differences of PWB indicators and positive affect of only walkers versus only car users during the lockdown by sociodemographics

Those living in an apartment who only walked when leaving home during the lockdown (n=769) present a statistically significant lower competence satisfaction (Z=-2.520, Sig=.012), and higher competence frustration (Z=-2.468, Sig=0.014) than those who only used the car (n=98).

Similarly, respondents who lived in attached or semi-detached houses with garden and private open-air space and only walked (n=70) present lower competence satisfaction (Z=-2.278, Sig=0.023) and higher competence frustration (Z=-2.780, Sig=0.005) than those who only used the car (n=88).
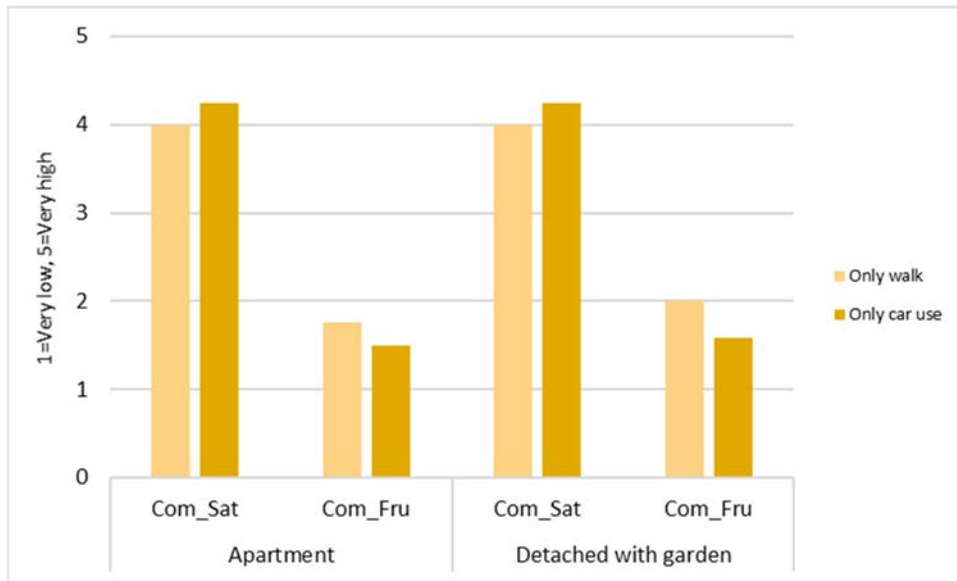
Fig 10. Significant differences of PWB indicators and positive affect of only walkers versus only car users during the lockdown by type of housing

Respondents living in 2-member households who only walked when leaving home during the lockdown (n=314) present a statistically significant a higher competence frustration (Z=-2.201, Sig=0.028) than those who only used the car. Logically, those living in 4-member households who only walked (n=173) present a lower competence satisfaction (Z=-2.448, Sig=0.014) than those who only used the car. And those living in 5+-member households who only walked (n=57) present a lower relatedness satisfaction (Z=-2.075, Sig=0.038) than those who only used the car.
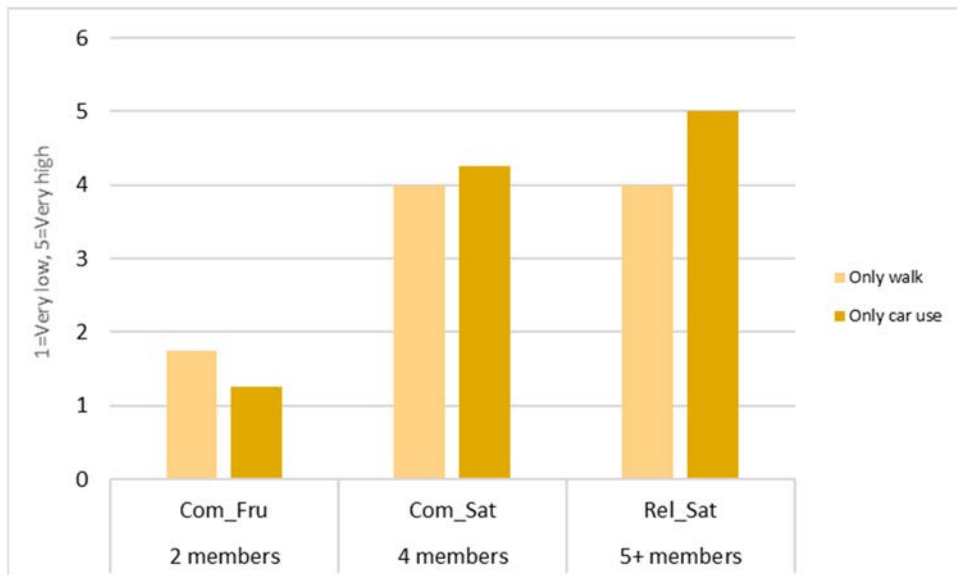

Fig 11. Significant differences of PWB indicators and positive affect of only walkers versus only car users during the lockdown by household size

Those living in the suburbs of a big city who only walked when leaving home during the lockdown (n=219) present a statistically significant lower competence satisfaction (Z=-2.070, Sig=0.038) and higher competence frustration (Z=-2.803, Sig=0.005) than those who only used the car. Respondents living in mid-size cities and only walked (n=161) present a higher competence frustration (Z=-2.490, Sig=0.013) than those who only used the car.
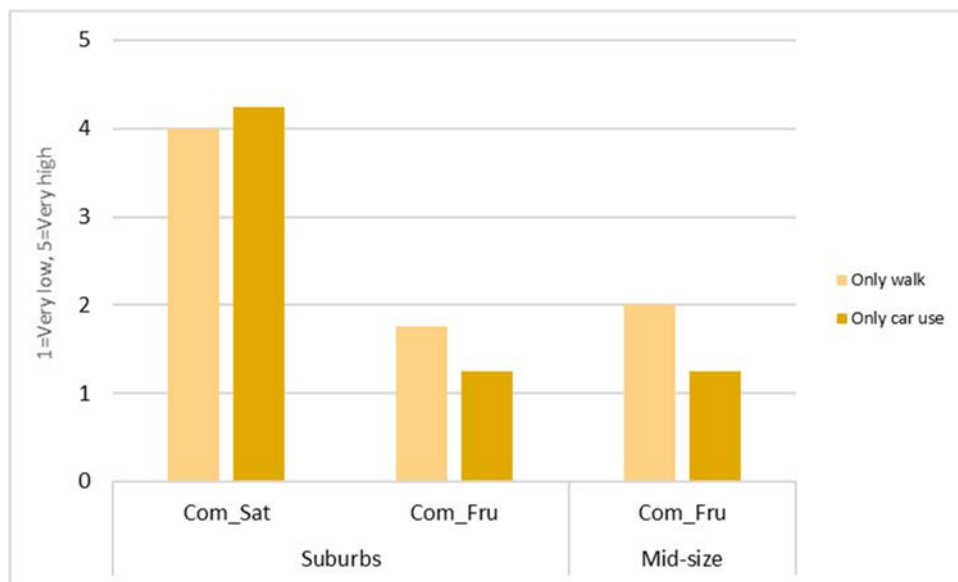

Fig 12. Significant differences of PWB indicators and positive affect of only walkers versus only car users during the lockdown by home location

6. CONCLUSIONS

This paper presents a study of wellbeing of people during the lockdown of March and April 2020 cause by the Covid-19 pandemic in the Valencian Region of Spain. Descriptive and confirmatory analyses are used to study the influence of sociodemographic characteristics of the participants in the research and their mobility attributes on their satisfaction and frustration of basic psychological needs and positive and negative affect.

Mobility was characterized by the percentage of walking and car use when leaving home during the lockdown. For those with a higher the percentage of walking present a lower competence satisfaction and a higher the competence frustration. Moreover, those with the highest degree of mobility during the lockdown and a percentage of walking between 33% and 66% present statistically significant higher values of positive affect than those with a percentage of walking higher than 66%. Only those with a low degree of mobility during the lockdown present statistically significant higher values of positive affect and lower values of negative affect when walking more. These results contrast with the findings related to walking and SWB elsewhere.

During the lockdown people felt more insecure when walking because of the possibility of contagion, which was amplified in urban areas with insufficient pedestrian infrastructure. Besides, walking along complete empty streets increase the sense of insecure (Ferrer et al., 2015).

Some statistically significant differences are found when considering the percentage of car use. Results from the Mann-Whitney test reveal that the more car use, the better the feel in terms of competence satisfaction and positive affect, and present lower values of negative affect. Using car during the lockdown was perceived by people as more secure. During the first weeks of the lockdown, authorities recommended to use private vehicles to those that had to leave home. This fact emphasized the sense of security associated with car, but deteriorated the health security perception of public transport, which persist until today.

Using a subsample of those who only walked or only used car when leaving home during the lockdown, Mann-Whitney tests confirm previous findings: those who only walked felt somewhat worse than those who only used car in terms of competence satisfaction, positive affect and relatedness satisfaction. In particular, men, those living in apartments and attached or semi-detached houses with gardens, those living in 4-member households and those living in the suburbs of big cities, present lower competence satisfaction and higher competence frustration if they only walked. Those self-employed who only walked present lower positive affect. And those living in 5+-member households who only walked present lower relatedness satisfaction. Many people who only walked when leaving home during the lockdown were not used to do it, and they had to walk threaten by the pandemic.

On the other hand, most of those who only drove just kept doing the same thing than before but with the sense of being safer from contagion.

Despite the participants in the research walked a lot during the lockdown, results of this study indicate that those who walked more and those who only walked when leaving home felt somewhat worse compared with those who only used car. There is a need to improve pedestrian infrastructures to provide enough space for people to walk, considering not only the level of service but also health security, which is a factor that should be considered in all transportation planning studies from now on.

ACKNOWLEDGMENTS

REFERENCES

ANGLIM, J., & HORWOOD, S. (2020, OCTOBER 2). Effect of the COVID-19 Pandemic and Big Five Personality on Subjective and Psychological Well-Being.

CHENG, T. C., KIM, S., & KOH, K. (2020). The Impact of COVID-19 on Subjective Well-Being: Evidence from Singapore. http://ftp.iza.org/dp13702.pdf

ETTEMA, D., FRIMAN, M., GÄRLING, T., & OLSSON, L. E. (2016). Travel Mode Use, Travel Mode Shift and Subjective Well-Being: Overview of Theories, Empirical Findings and Policy Implications. In Mobility, Sociability and Well-being of Urban Living (pp. 129-150). Springer Berlin Heidelberg.

FERRER, S., RUIZ, T., & MARS, L. (2015). A qualitative study on the role of the built environment for short walking trips. Transportation research part F: traffic psychology and behaviour, 33, 141-160.

FOA, R., GILBERT, S., & FABIAN, M. O. (2020). COVID-19 and Subjective Well-Being: Separating the Effects of Lockdowns from the Pandemic. Available at SSRN 3674080.

GENERALITAT VALENCIANA (2018). Plan básico de movilidad del área metropolitana de Valencia. www.pmomevalencia.com

KIMHI, S., ESHEL, Y., MARCIANO, H., & ADINI, B. (2020). A Renewed Outbreak of the COVID− 19 Pandemic: A Longitudinal Study of Distress, Resilience, and Subjective Well-Being. International Journal of Environmental Research and Public Health, 17(21), 7743

LUNKE, E. B. (2020). Commuters' satisfaction with public transport. Journal of Transport & Health, 16, 100842

MITMA (2020). Análisis de la movilidad en España durante el Estado de Alarma. https://www.mitma.gob.es/ministerio/covid-19/evolucion-movilidad-big-data

MORRIS, E. A., & GUERRA, E. (2015). Mood and mode: does how we travel affect how we feel?. Transportation, 42(1), 25-43.

NORDBAKKE, S., & SCHWANEN, T. (2014). Well-being and mobility: A theoretical framework and literature review focusing on older people. Mobilities, 9(1), 104-129.

SIBLEY, C. G., GREAVES, L. M., SATHERLEY, N., WILSON, M. S., OVERALL, N. C., LEE, C. H. & HOUKAMAU, C. A. (2020). Effects of the COVID-19 pandemic and nationwide lockdown on trust, attitudes toward government, and well-being. American Psychologist

SINGLETON, P. A. (2019). Walking (and cycling) to well-being: Modal and other determinants of subjective well-being during the commute. Travel behaviour and society, 16, 249-261.

STUTZER, A., & FREY, B. S. (2008). Stress that doesn't pay: The commuting paradox. Scandinavian Journal of Economics, 110(2), 339-366

SUSO-RIBERA, C., & MARTÍN-BRUFAU, R. (2020). How much support is there for the recommendations made to the general population during confinement? A study during the first three days of the covid–19 quarantine in Spain. International Journal of Environmental Research and Public Health, 17(12), 4382.

VÁZQUEZ, C., HERVÁS, G., RAHONA, J. J., & GÓMEZ, D. (2009). Bienestar psicológico y salud: Aportaciones desde la psicología positiva. Anuario de psicología clínica y de la salud, 5, 15-28.

ZACHER, H., & RUDOLPH, C. W. (2020). Individual differences and changes in subjective wellbeing during the early stages of the COVID-19 pandemic. American Psychologist. Advance online publication

ZHU, Z., LI, Z., CHEN, H., LIU, Y., & ZENG, J. (2019). Subjective well-being in China: how much does com