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Utility of the Capabilities, Opportunities, Motivations Model for Understanding Changes in Behavior

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Abstract

Background. Wearing face coverings to prevent airborne viral transmission has at times been legally-mandated, followed by periods when rules were relaxed. The present study tracks changes in face covering and the impacts on people's perceptions of their capabilities, opportunities and motivations.

Methods. Three-wave survey. At wave 1 (25 January-6 February 2022), 10,622 UK adults reported: (a) sociodemographic characteristics; (b) face covering in work, public transport and indoor leisure settings; and (c) capabilities, opportunities and motivations. Measures were repeated 1st-18th March 2022 and 20th May- 6th June 2022. Data were analyzed descriptively, within-participants ANCOVA and multiple linear regression.

Results. Face covering decreased over time as rules around the wearing of face coverings relaxed. Perceptions of capabilities, opportunities and motivations to wear face coverings were consistently associated with the actual wearing of face coverings, with marked decreases in motivations over time.

Conclusions. Decreases in motivations seem to explain best the reasons for declining levels of face covering. Further work is required to develop interventions to change people's motivations and promote the wearing of face coverings, should they be required in the future.

KEY WORDS

COVID-19; adherence; intervention; SARS-CoV-2; face covering; face mask

Background

Worldwide efforts to slow the transmission of SARS-CoV-2 focused initially on changing behaviors including maintaining physical distance and improving hand hygiene. Based on evidence that even limited wearing of face coverings should decrease community transmission of airborne viruses [1, 2], governments in the UK mandated the wearing of face coverings in defined public areas (e.g., on public transport). For example, from 15 June 2020, the wearing of face coverings on public transport was a legal requirement enforceable by fines of up to £6,400 (US$8,700) [3]. However, such legal imperatives waxed and waned with increases/decreases in numbers of cases and deaths and it is not known what impact such changes in government advice, as well as fluctuations in morbidity and mortality rates and vaccination rates had on the wearing of face coverings. More importantly, it is not known what would need to change in order to encourage reuptake of face coverings if new airborne viral threats emerged and face covering mandates needed to be reinstated. The aim of the present study was to observe changes in face covering wearing over time and to understand such changes in the context of the capabilities (C), opportunities (O) and motivations (M) model of behavior (B) change ("COM-B"; [4]). Understanding the levels of people's capabilities, opportunities and motivations will provide valuable insights into the kinds of interventions that might be needed to promote reuptake of the wearing of face coverings if required in the future.

Michie et al.'s [4] COM-B is designed to capture all the key drivers of human behavior (e.g., attitudes, social influence, perceptions of control) to help identify what would need to change in order to change people's behavior. COM-B sits within a broader Behavior Change Wheel [4] that provides guidance on the kinds of policies and behavior change techniques that would make effective behavior change interventions. The UK National Institute for Health and Care Excellence endorses the COM-B model as a key theoretical framework for understanding and supporting behavior change [5]. Capabilities are further subdivided into physical capability (e.g., having appropriate skills), psychological capability (e.g., having the requisite knowledge), physical

opportunity (e.g., sufficient time), social opportunity (e.g., supportive colleagues), automatic motivation (e.g., habits), and reflective motivation (e.g., consciously planning to do something).

Previous studies have used COM-B as a lens with which to understand the wearing of face coverings. For example, Wright et al. [6] used indirect indices of people's capabilities (e.g., annual household income) opportunities (e.g., ethnicity) and motivations (e.g., household overcrowding) and recommended focusing on motivation to increase use of face coverings. Similarly, Armitage et al. [7] used direct measures of people's capabilities, opportunities and motivations [8] and showed that although there were differences in people's adherence to the wearing of face coverings in work (<50% adherence), public transport (>80% adherence) and indoor leisure settings (<30% adherence), COM-B consistently predicted behavior. Armitage et al. [7] recommended focusing on interventions designed to provide people with more social opportunities and to support automatic motivation. However, many such studies examine the wearing of face coverings at a single point in time [7] and the changing nature of the pandemic (e.g., morbidity and mortality, government guidance, vaccination rates) has not been captured directly in previous studies. More broadly, there seem to be no papers currently published that assess the predictive validity of COM-B prospectively; given that the model is promoted by UK government agencies such as the National Institute for Health and Care Excellence (NICE), it would be valuable to know that COM-B possesses predictive validity.

The current study

For the first time, the present study aims to assess changes in the wearing of face coverings in a large sample that is representative of the UK population, and to understand these changes using COM-B. Ultimately, the aim is to provide data that will inform the development of evidence-based interventions to improve uptake and use of face coverings when required.

Method

Study Design and Participants

The study design was prospective with three waves of survey data being collected online. YouGov, a market research company, recruited 10,622 UK residents aged 18+ in a sample that was designed to be representative of the UK adult population. YouGov have a database of more than 1 million potential participants and participants were incentivized in line with YouGov's points system. The data were sent securely to the research team for analysis. Ethical approval was obtained from a University Research Ethics Committee and participants gave informed consent at the beginning of the survey.

Of the total wave 1 sample of 10,622, 6,258 (58.9%) people described themselves as either "not currently in work" or "only working from home" (i.e., the working outside of the home sample was 4,364/41.1%); 3,770 (35.5%) described themselves as currently using public transport; and 3,538 (33.3%) described themselves as having taken part in leisure activities that brought them into contact with other people in indoor spaces in the last 7 days (Table 1).

Instrument

Sociodemographic variables. Sociodemographic measures of age, gender, ethnicity, social grade and country (i.e., England, Northern Ireland, Scotland, Wales) were taken using standard UK Office for National Statistics [9] items.

Behavior. Participants rated the extent to which they wore face coverings on 0-100% scales using the items, "Of the time you spent *at work / on public transport / doing leisure activities that brought you into contact with other people in indoor spaces (e.g., cinemas, theatres, live music, nightclubs)* in the last 7 days, roughly what percentage of it did you spend wearing a face covering?"

Psychosocial variables. Keyworth et al.'s [8] COM-B measure was used to assess people's capabilities, opportunities and motivations with respect to wearing face coverings at work, on public transport, and during leisure activities. The items are based on Keyworth et al.'s [8] measure that comprises six items designed to tap physical capability, psychological capability, physical opportunity, social opportunity, reflective motivation, and automatic motivation, which are presented in Table 2. The items are accompanied by brief definitions of each of the constructs (e.g.,

the reflective motivation item is accompanied with: “What is motivation? Conscious planning and evaluation (beliefs about what is good and bad) (e.g., I have the desire to, I feel the need to).

Data Collection

The data were collected via online surveys in three waves. At the time of data collection, there were no legal requirements in England to wear face coverings in any setting, but the government recommended “that you continue to wear a face covering in crowded and enclosed spaces where you may come into contact with other people you do not normally meet” (3). Rules in Northern Ireland, Scotland and Wales were much more stringent (e.g., in Scotland there was a legal requirement for people aged 12 years and older to wear a face covering in most indoor spaces).

Wave 1. Data were collected between 25 January-6 February 2022 when there was a Median of 87,680 (54,326-112,542) new cases of COVID-19 per day (the disease attributed to SARS-CoV-2 infection) in the UK.

Wave 2. Median new COVID-19 cases was 87,282 (43,753-170,467) per day during the period of wave 2 data collection 1-18 March 2022.

Wave 3. Wave 3 was carried out 20 May- 6 June 2022 when Median new COVID-19 cases was 6,336 (4,656-33,053) per day.

Statistical Analyses

Data were weighted, by age, gender, social class, country of residence and level of education to ensure analyses properly reflected the UK population. Descriptive statistics were used to characterize the population (Table 1). Within-persons ANCOVAs with planned contrasts and behavior and COM variables as the dependent variables were used to illustrate changes in levels of the wearing of face coverings for those people who had attended a workplace, used public transport and been to an indoor leisure venue (Table 2). Wearing of face coverings was entered as a dependent variable in multiple linear regressions to examine associations between sociodemographic factors, COM, and adherence. Consistent with previous research [7], three separate linear regression models were used for each of capability, opportunity and motivation.

Each model was adjusted (i.e., control variables were included) for potential correlates of face covering (age, gender, ethnicity, social grade, country).

Results

Participant Characteristics

Consistent with the sampling frame, the wave 1 sample (*N* = 10,622) was broadly representative of the UK population (9). Comparison of sociodemographic characteristics at baseline, using MANOVA, revealed statistically significant differences between those who completed wave 1 only and those who completed all three waves (Table 1). However, the size of the differences between groups was trivial [10], with effect sizes generally < .01. The one exception was age, which explained 7% of the variance of the difference between those who remained in the study and those who dropped out. Participants who completed all three waves of data collection (*N* = 7,291) were, on average, 10 years older than participants who dropped out (Table 1). The subsequent analyses therefore statistically control for age.

Changes in the Wearing of Face Coverings and COM Over Time

Work. Repeated measures ANCOVAs with planned contrasts controlling for age showed that the wearing of face coverings at work declined over time, along with people's capabilities, opportunities and motivations for wearing face coverings, *F*s(2, 2558) = 1.15-58.90, *p*s < .01, N_p^2s > .01 (Table 2). There were particularly marked changes in behavior, *F*(2, 2558) = 43.43, *p* < .01, N_p^2 = .03, reflective motivation, *F*(2, 2558) = 58.90, *p* < .01, N_p^2 = .04, and automatic motivation, *F*(2, 2558) = 52.71, *p* < .01, N_p^2 = .04. For example, rates of face covering wearing at work decreased by more than half between wave 1 and wave 3 (Table 2).

Public transport. Although starting from higher baseline adherence (84.75%), the wearing of face coverings on public transport similarly declined over time, along with people's capabilities, opportunities and motivations, *F*s(2, 2558) = 34.39-173.74, *p* < .01, N_p^2s > .03 (Table 2). Again, there were particularly marked changes in behavior, *F*(2, 1902) = 173.74, *p* < .01, N_p^2 = .15, reflective motivation, *F*(2, 1902) = 144.65, *p* < .01, N_p^2 = .13, automatic motivation, *F*(2, 1902) = 117.27, *p* < .01,

N_p^2 = .11. Rates of face covering wearing decreased by more than half between wave 1 and wave 3 (Table 2).

Leisure. The pattern of findings for wearing face coverings in leisure settings was broadly similar to the work and public transport contexts, with decreases in people's behavior and their capabilities, opportunities and motivations (Table 2). For example, there were particularly marked changes in behavior, $F(2, 1215) = 20.20$, $p < .01$, $N_p^2 = .03$, reflective motivation, $F(2, 1215) = 58.77$, $p < .01$, $N_p^2 = .09$, and automatic motivation, $F(2, 1215) = 52.72$, $p < .01$, $N_p^2 = .08$. However, there were nonsignificant changes in physical capability, $F(2, 1215) = 1.13$, $p = .33$, $N_p^2 < .01$, physical opportunity, $F(2, 1215) = 2.25$, $p = .11$, $N_p^2 < .01$, and social opportunity, $F(2, 1215) = 2.77$, $p = .06$, $N_p^2 < .01$.

Cross-Sectional Associations Between Sociodemographic Variables, COM and Behavior

Multiple linear regression (Table 3) showed that, controlling for sociodemographic variables, people's perceptions of their capabilities, opportunities and motivations were consistently positively associated with wearing face coverings in each context and at each wave of data collection. In each case, increased wearing of face coverings was associated with greater perceptions of capabilities, opportunities and motivations. In contrast, there were few consistent findings for sociodemographic factors and so greater attention might need to be paid to interventions designed to change COM-B variables per se than targeting particular sociodemographic groups.

Prospective Associations Between Sociodemographic Variables, COM at Wave 1 and Behavior at Wave 3 (4 Months)

To evaluate the predictive validity of COM across time, we conducted a series of multiple regressions across work, public transport and leisure contexts (Table 4). Sociodemographic and COM variables at wave 1 were entered as independent variables and behavior at wave 3 as the dependent variables. Across each of the three contexts, it was shown that COM was generally more predictive of behavior than were sociodemographic variables. Perhaps not surprisingly, in the context of changing pandemic-related circumstances, the prospective analyses of COM were weaker than the

cross-sectional analyses reported in Table 3. Nevertheless, the predictive power of COM across time provides confidence in its use as a foundation for the design of behavior change interventions.

Discussion

Main Finding of this Study

The aim of the present study was to track changes in the use of face coverings and the impact on people's perceptions of their capabilities, opportunities and motivations. Understanding what are people's capabilities, opportunities and motivations will provide valuable insights into the kinds of Interventions that might be needed to promote reuptake if the wearing of face coverings is required in the future. Participants reported decreasing levels of face covering over time in work, public transport settings and indoor leisure contexts, consistent with the relaxing of rules, increasing levels of vaccination and lower infection rates. Perceptions of capabilities, opportunities and motivations to wear face coverings were consistently associated with the actual wearing of face coverings across the three settings, but there were marked decreases in automatic motivation and reflective motivation over time.

What is Already Known on this Topic

The present findings are consistent with a growing body of research [8] providing evidence that supports the predictive validity of the COM-B model [4] and thereby its status as a key framework for understanding health behavior [5]. Showing that COM-B was able to account for significant proportions of the variance in behavior measured four-months later extends previous studies that have examined the model cross-sectionally.

What this Study Adds

From the perspective of developing interventions to encourage face covering, the present findings confirm absolute differences in use of face coverings between work, public transport and indoor leisure contexts, with greater use in public transport, work and indoor leisure settings, respectively [7]. What is notable, however, is that the relative declines in uses of face coverings in different contexts is equivalent and that the COM-B model remained the dominant predictor of the

wearing of face coverings irrespective of context. The implication is that COM-B should be used as a starting point for developing interventions to encourage uptake of face coverings in each of these settings. It is notable that there were different patterns of prediction across the three contexts. For example, all six COM variables were predictive of wearing face coverings in work settings; in public transport settings only psychological capability, automatic motivation and reflective motivation were predictive; and in leisure settings only psychological capability and reflective motivation were predictive. The implication is that different intervention strategies would be needed in each of these different contexts.

Limitations of this Study

Although the present research takes the literature on COM-B and face coverings forward in some important respects it is important to acknowledge the strengths and limitations of the study. Among the strengths are the large samples representative of the UK population and the operationalization of a key theoretical framework to the problem of wearing face coverings. Among the limitations is the self-reported outcome measure: It would be valuable if objective measures of face covering wearing could be developed, for example, with wearable sensors. A further limitation concerns the difficulty in pinpointing precisely what may have caused changes in people's perceptions of their capabilities, opportunities and motivations. However, it seems unlikely that changes in government advice would be the main cause, given that the declines in perceived opportunities were shallower than for motivations.

Future Research

The consistent finding that motivation may be particularly problematic, irrespective of context (see also [6, 7]), means that further work using models such as West and Michie's [11] PRIME theory, which seeks to explain the interplay of reflective and automatic motivation, is required to develop interventions to promote the wearing of face coverings, should they be required in the future. These recommendations to focus on changing motivations can be contrasted with much shallower changes in capabilities over time, nevertheless it might be worthwhile examining

these changes further in depth. For example, it may be the case that people retain the physical skills to use face coverings (physical capability), but lack the knowledge (psychological capability) as to when to wear a face covering [4].

CONCLUSIONS

Decreases in reflective motivation and automatic motivation seem to explain best the reasons for declining levels of face covering. Further work using models such as West and Michie's [11] PRIME theory that seeks to explain the interplay of reflective and automatic motivation is required to develop interventions to promote the wearing of face coverings, should they be required in the future.

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Table 1

Wave 1 Sociodemographic Characteristics of People Who Completed Wave 1 Versus Completed All 3 Waves

Variable	Completed Wave 1 Only (*N* = 3,331)	Completed All 3 Waves (*N* = 7,291)	*F*	*p*	N_p^2
Gender			0.72	.40	< .01
Men	48.7%	48.1%			
Women	51.3%	51.9%			
Age	*M* = 40.9	*M* = 50.7	747.30	< .01	.07
	SD = 17.1	*SD* = 16.9			
Social Grade			11.43	< .01	< .01
Non-manual	51.6%	50.5%			
Manual / unemployed	48.4%	49.5%			
Ethnicity[a]					
White English, Welsh, Scottish, Northern Irish, British	79.0%	84.8%			
White Irish	1.2%	1.3%			
White Gypsy or Irish Traveler	0.1%	0.1%			
Any other White background	4.8%	3.8%			
White and Black Caribbean	1.2%	0.5%			
White and Black African	0.6%	0.3%			
White and Asian	1.3%	0.8%			

Any other Mixed / Multiple Ethnic background	1.3%	1.1%			
Indian	2.6%	1.8%			
Pakistani	1.4%	1.3%			
Bangladeshi	0.8%	0.6%			
Chinese	1.0%	0.6%			
Any other Asian background	1.2%	0.5%			
Black African	1.7%	0.8%			
Black Caribbean	0.6%	0.4%			
Any other Black / African / Caribbean background	0.3%	0.4%			
Arab	0.3%	0.2%			
Any other ethnic group	0.8%	0.5%			
Country			3.54	.06	< .01
England	83.9%	84.3%			
Northern Ireland, Scotland, Wales	16.1%	15.7%			

Note. [a]The small cell sizes precluded statistical analysis of ethnicity. Subsequent analyses therefore collapsed categories.

Table 2

Behavioral and Psychosocial Characteristics of the Independent Samples Attending Work, Using Public Transport and Attending Indoor Leisure Venues Across Three Waves of Data Collection

Variable	Work, *N* = 2,561		Public Transport, *N* = 1,905		Leisure, *N* = 1,218	
	M	*SD*	*M*	*SD*	*M*	*SD*
Wore Face Covering (0-100%)						
Wave 1	43.17	39.79	84.75	33.62	23.49	34.91
Wave 2	29.08	37.99	66.68	43.87	13.46	28.54
Wave 3	16.49	31.91	39.16	45.65	6.91	21.47
Physical Capability: "I am PHYSICALLY able to wear a face covering at work / on public transport / doing leisure activities" (0-10)						
Wave 1	8.33	2.46	8.96	2.06	7.72	2.94
Wave 2	8.01	2.65	8.66	2.30	7.60	2.96
Wave 3	7.70	2.94	8.20	2.67	7.38	3.19

Psychological Capability: "I am PSYCHOLOGICALLY able to wear a face covering at work / on public transport / doing leisure activities" (0-10)						
Wave 1	7.90	2.72	8.79	2.17	7.34	3.12
Wave 2	7.50	2.88	8.41	2.49	7.16	3.15
Wave 3	7.11	3.14	7.83	2.78	6.79	3.36
Physical Opportunity: "Of the time you spent working / on public transport / doing leisure activities in the last 7 days, roughly what percentage of it did you have the PHYSICAL opportunity to wear a face covering?" (0-100%)						
Wave 1	73.77	37.99	89.39	28.33	60.21	43.29
Wave 2	71.60	39.98	86.25	31.59	63.75	42.90
Wave 3	69.57	41.93	79.21	37.79	63.35	43.91
Social Opportunity: "Of the time you spent working / on public transport / doing leisure activities in the last 7 days, roughly what percentage of it did you have the SOCIAL opportunity to wear a face covering?" (0-100%)						
Wave 1	63.64	41.60	86.56	30.53	50.79	43.43
Wave 2	60.40	43.29	79.86	35.27	51.32	44.24

Wave 3	55.37	45.38	68.49	41.59	50.92	44.86
Reflective Motivation: “I am motivated to wear a face covering at work / on public transport / doing leisure activities” (0-10)						
Wave 1	6.37	3.39	8.27	2.74	5.54	3.63
Wave 2	5.08	3.53	7.12	3.40	4.16	3.44
Wave 3	3.87	3.46	5.45	3.68	3.03	3.12
Automatic Motivation: “Wearing a face covering at work / on public transport / doing leisure activities is something that I do automatically” (0-10)						
Wave 1	6.19	3.55	8.06	2.83	5.29	3.60
Wave 2	4.86	3.73	6.88	3.50	3.93	3.41
Wave 3	3.51	3.56	5.03	3.79	2.67	3.02

Table 3

Multiple Regression Analyses of Cross-Sectional Associations Between Sociodemographic Variables, COM and Face Covering Across 3 Waves

Variable	Wave 1	Wave 2	Wave 3
Work, N = 2,561			
Gender (1 = Men; 2 = Women)	β = .07, p < .01	β = .07, p <.01	β = .05, p <.01
Age	β = -.03, p = .03	β = -.03, p = .01	β = -.04, p = .01
Social Grade (1 = non-manual; 2 = manual)	β = .10, p < .01	β = .09, p < .01	β = .05, p < .01
Ethnicity (1 = White; 2 = Black, Asian or Minority Ethnic)	β = .10, p < .01	β = .05, p < .01	β = .06, p < .01
Country (1 = England; 2 = Northern Ireland, Scotland, Wales)	β = .02, p = .08	β = .06, p < .01	β = .01, p = .63
Physical Capability	β = .10, p < .01	β = .07, p < .01	β = .10, p < .01
Psychological Capability	β = .24, p < .01	β = .24, p < .01	β = .24, p < .01
Physical Opportunity	β = .26, p < .01	β = .20, p < .01	β = .16, p < .01
Social Opportunity	β = .17, p < .01	β = .14, p < .01	β = .11, p < .01
Reflective Motivation	β = .20, p < .01	β = .15, p < .01	β = .07, p < .01
Automatic Motivation	β = .36, p < .01	β = .48, p < .01	β = .56, p < .01
Public Transport, N = 1,905			

Gender	β = -.01, p = .46	β = -.01, p = .23	β = -.01, p = .85
Age	β = -.05, p < .01	β = .01, p = .96	β = .03, p = .01
Social Grade	β = .01, p = .64	β = .02, p = .16	β = .01, p = .64
Ethnicity	β = -.01, p = .53	β = -.02, p = .12	β = -.01, p = .99
Country	β = -.01, p = .49	β = -.03, p < .01	β = .01, p = .82
Physical Capability	β = .26, p < .01	β = .11, p < .01	β = .10, p < .01
Psychological Capability	β = .21, p < .01	β = .35, p < .01	β = .23, p < .01
Physical Opportunity	β = .45, p < .01	β = .27, p < .01	β = .24, p < .01
Social Opportunity	β = .19, p < .01	β = .09, p < .01	β = .06, p < .01
Reflective Motivation	β = .21, p < .01	β = .32, p < .01	β = .27, p < .01
Automatic Motivation	β = .14, p < .01	β = .39, p < .01	β = .46, p < .01
Leisure, N = 1,218			
Gender	β = .04, p = .02	β = .01, p = .64	β = .01, p = .70
Age	β = -.06, p < .01	β = -.06, p < .01	β = -.06, p < .01
Social Grade	β = .01, p = .58	β = .02, p = .29	β = .01, p = .58
Ethnicity	β = .02, p = .19	β = .05, p < .01	β = .07, p < .01

Country	β = .01, p = .60	β = .08, p < .01	β = .02, p = .29
Physical Capability	β = .10, p < .01	β = .08, p < .01	β = .03, p = .35
Psychological Capability	β = .22, p < .01	β = .16, p < .01	β = .15, p < .01
Physical Opportunity	β = .16, p < .01	β = .16, p < .01	β = .14, p < .01
Social Opportunity	β = .29, p < .01	β = .15, p < .01	β = .11, p < .01
Reflective Motivation	β = .25, p < .01	β = .28, p < .01	β = .12, p < .01
Automatic Motivation	β = .21, p < .01	β = .26, p < .01	β = .40, p < .01

Table 4

Associations Between Sociodemographic Variables, COM and Face Covering Four Months Later

Variable	*B*	*SE*	*95% CI*	*p*
Work, N = 2,561				
Gender (1 = Men; 2 = Women)	2.74	1.16	0.46, 5.03	.02
Age	-0.01	0.05	-0.10, 0.08	.78
Social Grade (1 = non-manual; 2 = manual)	4.46	1.15	2.20, 6.73	< .01
Ethnicity (1 = White; 2 = Black, Asian or Minority Ethnic)	13.00	1.94	9.20, 16.80	< .01
Country (1 = England; 2 = Northern Ireland, Scotland, Wales)	1.03	1.65	-2.21, 4.26	.53
Physical Capability	0.73	0.37	0.01, 1.45	.05
Psychological Capability	1.95	0.34	1.28, 2.61	< .01
Physical Opportunity	0.09	0.02	0.05, 0.14	< .01
Social Opportunity	0.05	0.02	0.01, 0.09	< .01
Reflective Motivation	1.10	0.33	0.47, 1.74	< .01
Automatic Motivation	2.04	0.31	1.43, 2.65	< .01
Public Transport, N = 1,905				

Gender	1.58	1.85	-2.05, 5.21	.39
Age	0.35	0.05	0.25, 0.46	< .01
Social Grade	1.80	1.86	-1.84, 5.44	.33
Ethnicity	3.68	2.74	-1.69, 9.05	.18
Country	-0.77	2.71	-6.08, 4.54	.78
Physical Capability	1.20	0.76	-0.30, 2.69	.12
Psychological Capability	4.07	0.72	2.65, 5.49	< .01
Physical Opportunity	0.04	0.05	-.06, .14	.46
Social Opportunity	0.02	0.05	-.07, 0.12	.65
Reflective Motivation	4.15	0.60	2.98, 5.32	< .01
Automatic Motivation	1.96	0.56	0.87, 3.05	< .01
Leisure, N = 1,218				
Gender	-0.53	1.13	-2.75, 1.70	.64
Age	0.01	0.03	-0.06, 0.07	.79
Social Grade	0.80	1.17	-1.50, 3.10	.50
Ethnicity	8.68	2.14	4.84, 12.87	< .01

Country	1.50	1.67	-1.77, 4.77	.37
Physical Capability	0.23	0.30	-0.36, 0.81	.45
Psychological Capability	0.69	0.28	0.13, 1.25	.02
Physical Opportunity	0.01	0.02	-0.04, 0.04	.87
Social Opportunity	0.01	0.02	-0.04, 0.04	.97
Reflective Motivation	1.37	0.34	0.70, 2.04	< .01
Automatic Motivation	0.10	0.34	-0.56, 0.77	.76