



RESEARCH ARTICLE

The role of desire over obligation in explaining continued smoking abstinence

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Abstract

Objective

To assess the role of self-reported desire over obligation in explaining continued smoking abstinence among people who recently stopped smoking.

Method

An observational study with cross-sectional and 12-month follow up data including 230 (45.2% female; mean age 45.4 years) adults in England who confirmed they had made a serious quit attempt and were not currently smoking at baseline. The predictor variable was assessed at baseline through responses to the statement: "I am stopping smoking because I want to rather than because I feel I have to" on a 7-point Likert scale (1 = 'strongly disagree'; 7 = 'strongly agree'). The outcome was smoking status at 12-month follow-up. Covariates were baseline sociodemographic and smoking-related characteristics. Associations were assessed with logistic regression.

Results

At 12-month follow-up, 59.1% (n=136) reported they were still not smoking and 40.9% (n=94) had restarted smoking. Longer time since quit was positively associated with quit success maintenance at 12-months (adjusted Odds Ratio (AOR) 1.28, 95% Confidence Interval (CI) 1.04-1.58). People who were more strongly motivated to quit by desire

were equally or less likely to still be abstinent at 12-months than those who were more motivated by obligation (AOR 0.85, 95%CI 0.70-1.01).

Conclusion

Being more motivated by desire than obligation does not appear to be positively associated with continued smoking abstinence at 12-month follow-up. This suggests obligation over desire may play more of a role in sustaining quit attempts, but more data across multiple time points are needed to understand this association.

Keywords

smoking, motivation, PRIME theory, cessation, tobacco, ex-smoker, quit success, desire, obligation



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Introduction

Tobacco smoking is a highly addictive behaviour and every year approximately a third of smokers try to quit (Hughes et al., 2004). There is a rich literature which shows higher levels of motivation predict quit attempts (Borland et al., 2010; Perski et al., 2018; Smit et al., 2011; Tombor et al., 2018; Vangeli et al., 2011), and that people who are more dependent on cigarettes (as, for example, indexed by urges to smoke or heaviness of smoking) are less likely to have sustained quit success (Fidler, Shahab, & West, 2011a; Le Grande et al., 2021; Vangeli et al., 2011). Theories of motivation distinguish between evaluations around an individual's belief they *should* quit out of a sense of duty to oneself or others ('obligation'), and the extent to which an individual *wants* to quit ('desire') (West & Michie, 2020). However, only desire to quit has been found to be associated with making a quit attempt at a 3- and 6-month follow-up (Smit et al., 2011). A small minority (3-5%) of people achieve abstinence beyond 6 months and achieving at least one-year abstinence means the chance of remaining abstinent are greater than the chance of relapse (Hughes et al., 2004). Therefore, by assessing the value of desire and obligation in the prediction of longer-term abstinence (i.e., 12 months) alongside other well-established markers of relapse, this may improve relapse prevention models and better shape health messages. In the present study, we assessed the predictive value of desire over obligation measured at baseline, in addition to other markers of tobacco dependence, in explaining continued smoking abstinence for at least 12-months in a sample of people who had recently quit smoking in England.

Desire and obligation are part of the broader motivational system and individually predict quit attempts (Smit et al., 2011; Vangeli et al., 2011). The expectation that different facets of the motivational system are more or less important at different time points during the trajectory from smoking to long-term abstinence is proposed in part by PRIME theory (Plans, Responses, Impulses, Motives, Evaluations) of motivation (West & Brown, 2014; West & Michie, 2020). PRIME theory proposes that different levels of motivation qualitatively differ, operate across different time scales and are ultimately distinguishable: including basic impulses and inhibitions, described as responses to immediate environmental stimuli; motives and desires, experienced as feelings of wanting or needing to act; evaluations, defined as mental representations that are propositional and involve the appraisal of behaviours as good or bad choices; and plans and intentions to make changes. A study with three different aspects of motivation assessed at baseline – i.e. intention, desire and obligation – and with respondents followed up at 3 and 6 months has shown that overall, a greater number of smokers reported obligation than desire to quit (Smit et al., 2011), though desire predicted attempts. While obligation predicted neither quit attempts nor abstinence, both desire and intention were independently associated with quit attempts (but not abstinence) at both follow-ups.

The role of desire versus obligation has been supported by qualitative work by Tombor and colleagues (Tombor et al., 2018); discrete typologies of ex- and current smokers highlight how motivation to stop alone does not appear sufficient in maintaining quit success. Instead, those who have quit smoking appear to be separated from those who relapsed by their desire to be smoke free — rather than feeling obliged — as well as their acceptance of the risks of smoking and a lack of enjoyment in smoking. Despite high levels of motivation to stop, desire can be counteracted by high levels of tobacco dependence. Cigarette dependence and heaviness of smoking are well-established predictors of relapse (Vangeli et al., 2011). Analysis from a representative population survey (Le Grande et al., 2021) show that urges to smoke and perceived addiction to cigarettes add predictive value to models of relapse, although the relationship appears complex — urges to smoke were positively associated with the odds of making a quit attempt as was lower heaviness of smoking and lower perceived addiction. This suggests the need for a more comprehensive account of how we can best assess the likelihood of future quit success.

To date, there is a lack of effective relapse prevention interventions for helping people sustain their quit attempts. A Cochrane review in 2013 highlighted the need for people to avoid 'tempting situations' and to do this by sustaining use of licensed nicotine products or medications (Hajek et al., 2013). Tailored relapse prevention messages at a broader population level may also be a useful adjunct to sustained individual-level treatments but there is a lack of sufficient evidence of which motivational factors should be promoted alongside more practical advice on reducing the desire to smoke.

An important limitation of previous research is the focus on quit attempts (Le Grande et al., 2021) and the relatively short follow-up times (i.e. up to 6 months) (Smit et al., 2011), which cannot provide sufficient evidence for the maintenance of quit success and long-term abstinence. One could also argue, assessing desire and obligation as separate measures (as per (Smit et al., 2011)) makes it difficult to distinguish which one is more important than the other. Therefore, using data from the ongoing Smoking Toolkit Study (Fidler, Shahab, West, et al., 2011b), here we examine the extent to which the relative importance of self-reported desire over obligation, as judged subjectively by people who have quit smoking, predicts continued smoking abstinence at 12 month follow-up. There are many ways to operationalise this, and we have chosen a relatively simple measure desire and obligation with a single item ("I am stopping smoking because I want to rather than

because I feel I have to.”), requiring people to determine on a the scale the extent to which they agree they want to stop smoking (desire) or they should stop smoking (obligation). Quantitative household surveys allow less time for interpretation and the advantage is that because it is not too prescriptive and leaves flexibility in interpretation, and it is also less likely to impose any preconceived notion on respondents. The following research question is addressed:

In people who report having stopped smoking within the past 12 months in England, are those who report stopping because of desire rather than obligation more likely to still be abstinent 12-months later, after adjusting for a range of other known predictors of abstinence?

Methods

Pre-registration

The study was preregistered on the Open Science Framework (Cox et al., 2025, see: <https://osf.io/s8jze/>).

Study design and setting

This was an observational study involving cross-sectional and 12-month follow-up survey data.

The study is part of the ongoing Smoking Toolkit Study (STS), a household survey of adults aged 16+ in England (Fidler et al., 2011b). The sample is recruited via a hybrid of a random probability and quota sampling, which results in a sample that is broadly representative of the adult population of smokers in England. This hybrid method is considered superior to conventional quota sampling (Stephenson, 1979). The choice of households to approach is limited by the random allocation of small geographical areas and one advantage is that interviewers can choose which households within these areas are most likely to fulfil their quotas, rather than being allocated households in advance. Interviews are held with one household member. Respondents provide informed consent prior to each interview. Baseline data were collected between May 2015 and April 2022 and follow-up data were collected from respondents contactable at a 12-month follow-up (May 2016 and April 2023). The STS is a representative survey as baseline, but natural selection bias at follow-up (i.e., those who respond versus those who do not) reduces the representativeness of the survey. Data are usually collected monthly through face-to-face computer assisted interviews. However, physical distancing restrictions under the COVID-19 pandemic meant that no data were collected in March 2020, data from April 2020 onward were collected via telephone, and the minimum age for participation was increased from 16 to 18 years (because of changes in consenting procedures), however both face-to-face and telephone collection provide similar key performance indicator estimates and were broadly comparable over these time points (e.g., Jackson et al., 2020). The telephone-based data collection relied on the same combination of random location and quota sampling and weighting approach as the face-to-face interviews.

Inclusion criteria

For the current study, at baseline participants (aged ≥ 16 years) who have smoked in the past year were asked whether they had made a serious attempt to quit in the last year, this is defined as per the literature as “by serious, we mean that you made a conscious attempt to stay off cigarettes/give up smoking for good” (Chaiton et al., 2016). Those who self-reported they were not smoking at baseline and who self-reported as to whether the attempt was successful at 12-month follow up constituted the analytic sample.

Ethical approval

Ethical approval was granted by UCL’s Research Ethics Committee (0498/001). Our study was conducted in accordance with the relevant guidelines and regulations or in accordance to the Declaration of Helsinki. As data is collected over the telephone (as described above) participants provide informed verbal consent to take part in the study provided to the surveyor over the telephone at the time of survey, and all methods are carried out in accordance with relevant regulations. The data are not collected by UCL and are anonymised when received by the research team.

Measures

Outcome variable

Smoking status indicated at 12-month follow up, by agreement to “I’m still not smoking”, binary coded ‘smoking’ (0)/ ‘still not smoking’ (1).

Explanatory variable

Desire and obligation are measured on a single adapted semantic differential 7-point scale. At baseline, participants are asked: “To what extent do you agree or disagree with the following statement: “I am stopping smoking because I want to

rather than because I feel I have to.” Response options range from 1 (strongly disagree) to 7 (strongly agree) and was treated continuously. A higher score with a positive association with the outcome indicates that desire (over obligation) is more instrumental in explaining maintenance of quit success, and the inverse would be true for a negative association.

Baseline covariates

Smoking-related characteristics

Strength of urges to smoke, is a validated measure of dependence (Fidler et al., 2011a), because urges to smoke vary in intensity between former smokers and can exist even after sustained periods of cessation (Ussher et al., 2013), we included this as assessed by self-reported ratings of the strength of urges to smoke over the last 24 hours [not at all (coded 0), slight (1), moderate (2), strong (3), very strong (4) and extremely strong (5)]. This question was also coded ‘0’ for smokers who responded ‘not at all’ to the (separate) question: ‘How much of the time have you spent with the urge to smoke?’ This six-point scale was treated as continuous. We measured the number of prior quit attempts in the past year (categorised as 1, 2, 3 or ≥ 4), and time since quit attempt started (coded as last week (0), between a week and a month (1), 1-2 months (2), 2-3 months (3), 3-6 months (4) and 6-12 months (5), with this six-point scale treated as continuous in logistic regression models). We measured the number of prior quit attempts in the past year (categorised as 1, 2, 3 or ≥ 4), and time since quit attempt started (categorised as last week (1)/between a week and a month (2)/1-2 months (3)/2-3 months (4)/3-6 months (5) and 6-12 months (6)). We also measured if people have others who regularly smoke in their presence yes (0), no (1), this was also treated continuously. Use of evidence-based support in the most recent quit attempt (i.e., prescription NRT, e-cigarettes, behavioural support, or the medications varenicline, bupropion and telephone/written/digital), coded no (0), yes (1). Quit approach at their most recent attempt (gradual/abrupt) was assessed with the question, ‘Did you cut down the amount you smoked before trying to stop completely at your most recent serious quit attempt?’ and two options: ‘Stopped without cutting down’ (abrupt (0)) or ‘Cut down first’ (gradual (1)), this is included because observational studies often report abrupt quitting as superior for cessation (e.g., Garnett et al., 2022).

Sociodemographic characteristics

Sex was categorized as women (0) versus other (1) and age was treated continuously (owing to small cell sizes). Socio-economic positioning was operationalised by housing tenure (as per a recent analysis (Beard et al., 2021), as mortgage; owned outright; rented from private landlord or other coded as private tenure (0); belongs to housing association or rented from local authority, or social housing coded as social housing (1). Occupational social grade was operationalised using the British National Readership Survey’s Social Grade Classification Tool, which comprises the categories AB (higher and intermediate managerial, administrative and professional), C1 (supervisory, clerical and junior managerial, administrative and professional), C2 (skilled manual workers), D (semi-skilled and unskilled manual workers) and E (state pensioners, casual and lowest-grade workers, unemployed with state benefits), with responses coded into routine and manual (1) (C2DE) and all other (ABC1) social grades (0). Year of survey was also included as a categorical variable.

Data analysis

Analyses were conducted in R version 4.2.

Descriptive analyses

Descriptive statistics (% (n) or means $\pm$ standard deviations (SDs), as appropriate) are presented to report the variables included in the analyses (socio-demographic characteristics and smoking and quitting behaviour).

Data were weighted with raking such that the analytic sample matched the English population profile on the dimensions of age, social grade, region, housing tenure, ethnicity and working status within sex.

Inferential analyses

To assess the predictive value added to the model through the inclusion of the motivation (desire vs. obligation) factor, the analysis was conducted before and after including it as a predictor. To address the research question, unweighted binary logistic regression analyses were conducted with adjustment for all covariates. Analysis was conducted on complete cases at follow-up only. Adjusted odds ratios (AOR) are presented with 95% confidence intervals and p-values. An Akaike information criterion (AIC) was conducted on both models to assess model fit.

Results

A total of 2154 participants reported that they had made a quit attempt and 1345 were not smoking at baseline during the study period (see supplementary material for characteristics of those who followed up versus those who not). Of these, 230 (17.1%) were successfully followed up at 12-months, 136 (59.1%) reported that they were still not smoking and 94 (40.9.7%) had restarted smoking. [Table 1](#) presents the descriptive statistics of the analytical sample.

Table 1. Sociodemographic and smoking characteristics of the analytic sample.

Characteristic	Agree/Desire, N = 155 ⁺	Disagree/Obligation, N = 44 ⁺	Neither, N = 31 ⁺	p-value
Smoking status at 12-month follow up				0.048 [*]
Still not smoking	85 (54.8%)	26 (59.1%)	25 (80.6%)	
Smoking	70 (45.2%)	18 (40.9%)	6 (19.4%)	
Age	45.2 (16.9)	46.1 (17.4)	44.8 (16.6)	0.974
Sex				0.900
Male	87 (56.2%)	24 (54.5%)	20 (64.5%)	
Female	66 (42.6%)	20 (45.5%)	11 (35.5%)	
Prefer not to say	2 (1.2%)	0 (0.0%)	0 (0.0%)	
Occupational social grade				0.064
Professional, managerial, supervisory (ABC1)	82 (52.9%)	21 (47.7%)	15 (48.4%)	
Routine and manual, including unemployed (C2DE)	73 (47.1%)	23 (52.3%)	16 (51.6%)	
Housing tenure				0.999
Private tenure	124 (80.0%)	34 (77.3%)	25 (80.7%)	
Social housing/rented	31 (20.0%)	10 (22.7%)	6 (19.3%)	
Year of survey				0.891
2015	13 (8.0%)	3 (6.8%)	4 (12.9%)	
2016	19 (11.7%)	9 (20.5%)	7 (11.8%)	
2017	18 (13.1%)	13 (29.5%)	4 (12.9%)	
2018	28 (16.8%)	7 (15.9%)	4 (12.9%)	
2019	20 (10.9%)	7 (15.9%)	0 (0.0%)	
2020	27 (19.7%)	3 (6.8%)	4 (12.9%)	
2021	27 (19.7%)	1 (2.8%)	4 (12.9%)	
2022	3 (1.9%)	1 (2.8%)	4 (12.9%)	
Time since most recent quit started				0.054
Last week	11 (7.1%)	2 (4.5%)	0 (0.0%)	
A week to a month	24 (15.5%)	8 (18.2%)	2 (6.5%)	
1-2 months	14 (9%)	10 (22.7%)	5 (16.1%)	
2-3 months	18 (11.6%)	5 (11.4%)	5 (16.1%)	
3-6 months	34 (22.0%)	9 (20.5%)	4 (12.9%)	
6-12 months	54 (34.8%)	10 (22.7%)	15 (48.4%)	

Table 1. *Continued*

Characteristic	Agree/Desire, N = 155 ⁺	Disagree/Obligation, N = 44 ⁺	Neither, N = 31 ⁺	p-value
Strength of urges				0.356
0	97 (62.6%)	24 (54.5%)	17 (54.8%)	
1	25 (16.2%)	0 (0.0%)	2 (6.5%)	
2	18 (11.6%)	10 (22.7%)	4 (12.8%)	
3	9 (5.7%)	3 (6.8%)	6 (19.4%)	
4	5 (3.2%)	5 (11.4%)	2 (6.5%)	
5	1 (0.7%)	2 (4.6%)	0 (0.0%)	
Cut down before quitting (Gradual)	48 (30.9%)	11 (25.0%)	9 (29.0%)	0.783
Used aids in most recent quit attempt (Yes)	75 (52.1%)	29 (65.9%)	18 (58.1%)	0.422

Results are shown here based on answer to the baseline question, to what extent do you agree or disagree with the following statement: "I am stopping smoking because I want to rather than because I feel I have to."

⁺Data are presented as means (M) and standard deviations (SD) for continuous variables and sample size (n) and percentage (%) for categorical variables.

*Indicates a p-value of statistical significance of <0.05.

Table 2. Fully adjusted models with and without inclusion of explanatory variable (measure of desire versus obligation).

Predictor	Model 1				Model 2			
	AOR	p-value	95% CI Lower	95% CI Upper	AOR	p-value	95% CI Lower	95% CI Upper
Desire vs Obligation⁺	0.85	.07	0.70	1.01	-	-	-	-
Age[*]	1.00	.97	0.82	1.22	1.05	.56	0.88	1.26
Sex								
Male/other	REF				REF			
Female	0.84	.54	0.48	1.48	1.09	.73	0.65	1.86
Occupational social grade								
Professional, managerial, supervisory (ABC1)	REF				REF			
Routine and manual, including unemployed (C2DE)	1.10	.79	0.55	2.21	1.01	.98	0.62	2.06
Housing tenure								
Private tenure	REF				REF			
Social housing	1.12	.81	0.44	2.91	1.01	.98	0.41	2.57
Year of survey[*]	0.88	.17	0.73	1.05	0.91	.20	0.78	1.05
Time since most recent quit attempt started[*]	1.28	.02	1.04	1.58	1.26	.01	1.05	1.53
Strength of urges[*]	0.76	.06	0.56	1.01	0.75	.03	0.57	0.96
Stopped without cutting down (Abrupt)	REF				REF			
Cut down before quitting (Gradual)	1.50	.27	0.74	3.12	1.54	.18	0.82	2.92
No use of aids	REF				REF			
Used aids in most recent quit attempt (yes)	0.68	.26	0.34	1.33	0.77	.38	0.43	1.38

p-values <.05 shown in bold.

⁺A higher score with a positive association with the outcome indicates that desire (over obligation) is more instrumental in explaining maintenance of quit success, and the inverse would be true for a negative association. Smoking status coded as 0 (reference category) for return to smoking, and 1 for still not smoking.

*Included as continuous variables.

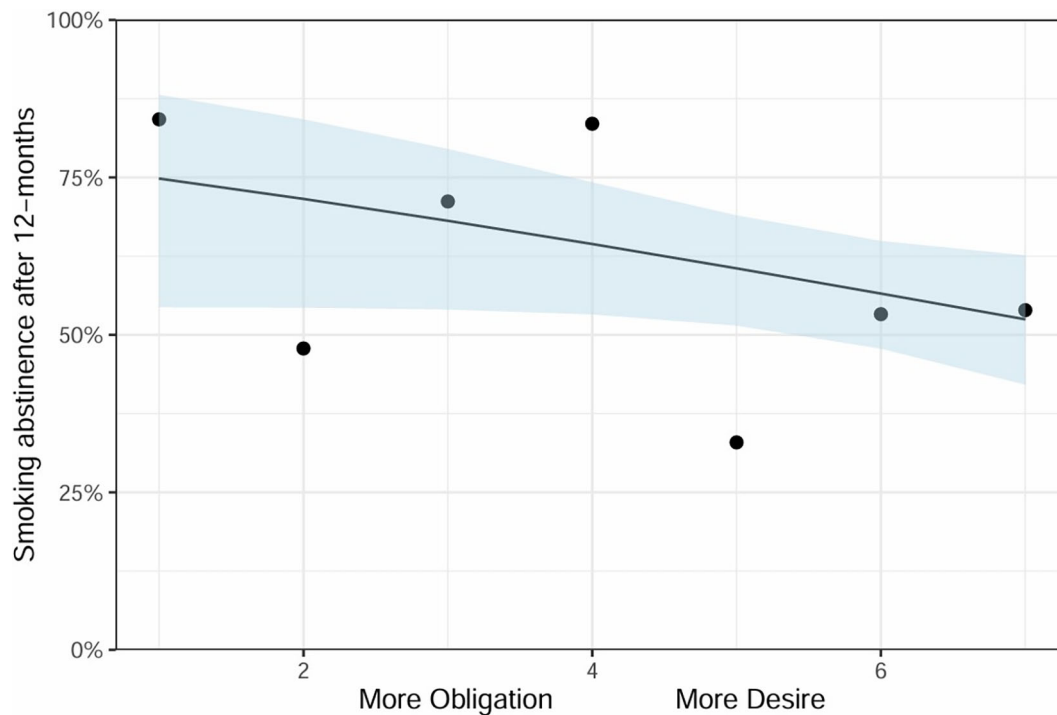


Figure 1. The percentage of people who achieved smoking abstinence at 12-months according to the measure of desire and obligation. The line and shaded band represent estimates and 95% confidence intervals, respectively, from adjusted logistic regression including desire vs obligation as a continuous explanatory variable, holding covariates constant at the mean or most prevalent category. Points represent estimates from an adjusted logistic regression with desire vs obligation included as a categorical variable.

In Model 1, after adjustment for covariates, people with greater desire than obligation to quit had similar or lower odds of continued abstinence from smoking at 12-month follow-up (AOR 0.85, $p = .07$, 95% CI 0.70-1.01). People who had quit for longer at baseline were more likely to remain abstinent at 12-months follow-up (AOR 1.28, $p = .02$ 95% CI 1.04-1.58). Adjusted associations between other covariates are shown in [Table 2](#).

In Model 2, where the measure of desire and obligation was removed from the model, time since quit also remained predictive of smoking status, AOR 1.26, $p = .01$, 95% CI 1.05-1.53. However, removing the measure of desire and obligation reduced the fit of the model (Model 1, AIC = 250.58 and Model 2 = 310.13). [Figure 1](#) presents the predictive odds of continued smoking abstinence at 12-months according to the measure of desire and obligation.

Discussion

Principal findings

This study aimed to assess, in people who report having stopped smoking within the past 12 months, whether those who report stopping because of desire rather than obligation are more likely to still be abstinent 12 months later, after adjusting for a range of other well-known predictors of the outcome. We found evidence that people motivated to quit by desire had similar or lower odds of continued 12-month abstinence than people motivated by obligation. Including a measure of desire and obligation strengthened the model fit, allowing better prediction of which individuals would remain abstinent at 12 months.

Further understanding of the relationship between desire and obligation (and other motivational facets) for sustaining quit attempts is required. To date, the literature suggests those reporting desire over obligation would be more likely to report abstinence (e.g., [Smit et al., 2011](#)), our results indicated that people motivated by desire had similar or lower odds of continued abstinence a year later than people motivated by obligation. There are several possible explanations for this result. We surveyed people who had already quit smoking at baseline, and this may create a selection bias in that desire may have already helped them to achieve a period of success — meaning that those people who relapsed to smoking shortly after attempting to quit, who may have been motivated by obligation, are not included in the sample (as is shown by the low proportion of participants in this study motivated by obligation).

PRIME theory proposes that different facets of the motivational system are likely key at different stages during the quitting process (i.e., time-varying effects) and may be useful for interpreting the findings here (West & Brown, 2014; West & Michie, 2020). Over time, as one quits smoking and experiences the benefits to oneself and others, the strongest wants and needs and impulses in response to smoking related cues or stress, which are often automatic, can be adequately responded to even given challenging psychological and environmental circumstances. Though speculative, one interpretation could be that desire is necessary for the early phase of quitting but as that is realised, even in the short to medium term, obligation to either oneself or indeed others is more important for sustaining abstinence. This is an empirical question and further analysis – ideally using longitudinal survey data with multiple measurements (e.g., Ecological Momentary Assessment in people’s daily lives; (Shiffman et al., 2008) and through greater qualitative exploration over time – is needed to test this theory.

We also tested if our measure of desire and obligation was predictive over and above other known markers of smoking relapse. Removing the measure did reduce the fit of the model but the size of the association with the measure was small and not statistically significant. Time since quit was an independent predictor in both models, and strength of urges became significant only when the measure of desire and obligation was removed (model 2).

Strengths and limitations

The main strengths of this study are that data derive from a nationally representative sample of people who had quit smoking in England, and this was the first analysis to examine desire over obligation over a 12-month period. Such longer-term examinations are needed because less than 5% of those making a quit attempt maintain this for one year without relapsing, and the chances of remaining quit vastly improve thereafter. There are several limitations. The sample was small and although the STS does generally capture a representative sample of adults, those were followed up were more likely to be older and female. Asking people who quit smoking up to 12 months ago to retrospectively report their motives for quitting at that point in time also constitutes a limitation. Indeed, past similar studies have measured motivation prior or at the time of quitting, not post like we have here. Furthermore, people misremember quit attempts and misreport quit attempts especially those that are unaided, so time since quit should be treated with caution in its association with motivational factors (Perski et al., 2022). A longitudinal survey with multiple measurements over time might be better able to capture trajectories of relapse and abstinence. People’s recall of their motivations may also change. We did not adjust for the number of quit attempts, as we included people who had recently quit only measured cross-sectionally at baseline, therefore those who had quit for a longer period would not have had the opportunity to report many previous quit attempts so measure would not have been valid. We cannot ascertain here whether people interpret “should quit” within the survey question as obligation to oneself or to others, or both. Disentangling this is useful from both an empirical point but also to shape public health messages, i.e., is it more powerful to create messages around quitting for one’s own benefit or benefit towards others? Motivation is also dynamic and complex, and PRIME theory suggests is changing over time, we forced people into a choice (because we wanted to establish importance of these constructs), but it cannot be discounted that people felt both obligated by others and had desire for themselves to quit. Lastly, our measure of desire and obligation has not been validated, and therefore how true a measure it is and how reliable it is, is unknown.

Future research should try to ascertain the meaning of obligation, whether this is to oneself or to others, or both. Our measure is a simple one, and receiving public involvement on how this is interpreted may benefit future surveys looking to use the same or a similar measure. As noted above, in-depth qualitative research can also help with this. It is likely of course, that a range of motivational factors vary in intensity and salience across the time someone has quit. As suggested above, future research using real-time Ecologically Momentary Assessment can help capture time while also monitoring within-person changes in both internal and external factors and their potential interactions (e.g., see (Perski et al., 2023)). Motivation is largely influenced by external factors outside of the persons control; for example, while only speculative we saw a non-significant rise in the number of people reporting desire during the pandemic years. It would be useful to know what it was about those circumstances that increased one’s desire to quit which was not present in other years (if this finding is not an artefact). It is also plausible that certain types of quit aids increase or sustain motivation, either through the successful reductions of urges to smoke or other factors. Therefore, understanding the role of aids could also be a useful consideration within future studies.

Conclusion

In a sample of people who had recently stopped smoking in England, being more motivated by desire than obligation does not appear to be positively associated with continued smoking abstinence at 12-month follow-up. This suggests obligation over desire may play more of a role in sustaining quit attempts, but more data across multiple time points are needed to understand this association.

Declaration section

Ethics approval and consent to participate

Ethical approval was granted by UCL's Research Ethics Committee (0498/001). Our study was conducted in accordance to the relevant guidelines and regulations or in accordance to the Declaration of Helsinki. Respondents provide informed consent prior to each interview.

Consent for publication

N/A

Authors' information

N/A

Data availability

Underlying data

The data used within this analysis can be found on Open Science Framework. Title of dataset: open data set.sav.

Persistent identifier: <https://osf.io/s8jze/files/osfstorage> DOI: [10.17605/OSF.IO/S8JZE](https://doi.org/10.17605/OSF.IO/S8JZE) (Cox et al., 2025).

This project contains the following underlying data:

open data set.sav (SPSS fil). Data contained in this file includes demographic data: including age (continuous, categorical), gender, social grade. Smoking variables include, smoking status at 12 month follow up (dependent variable), motivation to stop smoking, desire versus obligation variable (independent variable) and the covariates included in this study as outlined above.

The data that support the findings of this study are available on the Open Science Framework (OSF) at <https://osf.io/s8jze/files/osfstorage>, DOI: [10.17605/OSF.IO/S8JZE](https://doi.org/10.17605/OSF.IO/S8JZE) (Cox et al., 2025).

The data are available under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/) (CC-BY 4.0).

Extended data

Repository name: *Smoking in England*. <https://smokinginengland.info/resources/sts-documents>.

This project contains the following extended data:

- Questionnaires used for this study and the wider Smoking Toolkit Study can be found at the above website.

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