

Exploring Self-Regulation in Ego Depletion and Under Relationship Power Pressure: The Example of Young Females' Oral Sex Behaviour

E. Sovetkina *

Department of Psychology, University of Bath, Claverton Down, Bath BA2 7AY, UK

*Corresponding author: E. Sovetkina, Department of Psychology, University of Bath, Claverton Down, Bath BA2 7AY, UK, Tel: +44 7803343087 ; Email: elena.c.sovetkina@bath.edu

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Abstract

The present study explored complex aspects of self-regulation involved in managing females' oral sex behaviour in ego depletion and under relationship power pressure. Online survey on sexual behaviour was completed by 248 female university students aged 18-24. Impulsivity, normative beliefs, attitudes to oral sex, motivation to control sexual behaviour, trait self-control and sex-related self-control were measured. Stepwise hierarchical regression was used to identify the predictors of engagement in oral sex. Causal relationships between the main predictors were explored by structural equation modelling (SEM). The study found sex-related self-control and motivation to control sexual behaviour to be the two important components of self-regulation serving the same purpose but working in different ways. The effect of sex-related self-control on oral sex behaviour varied depending on females' individual trait self-control and relationship power pressure. Besides the main effects of self-control and motivation, the important role of attitudes to oral sex and normative beliefs in engagement in oral sex behaviour was demonstrated. Exploring relationship between all variables involved in regulating oral sex behaviour proposed the path by which they can influence engagement in oral sex. Findings from this study have implications on theoretical and practical level.

Keywords: Oral sex; Sexual self-control; Motivation; Social pressure; Relationship power pressure; Young females

Introduction

Sexual behaviour is an essential part of human life (WHO, 2006). Safe, positive and fulfilling sexual experiences require responsible approach to individual's sexual desires and their sexual behaviour. Such experiences are impossible without an understanding of personal, relationship, social and cultural factors involved in regulation of sexual behaviour. This is especially important for young females who are just entering in the realm of sexual life.

Personal factors involved in behavioural regulation

Research indicates that individuals differ in their reasoned attitudes (standards) to restrain potentially problematic behaviour and in their impulsive reactions toward tempting stimuli (due to genetic endowment, differences in learning history and current need states) [1]. They can also differ in their general level of self-control capacity (trait self-control), as well as in their ability to exert self-control over particular domain-specific behaviour in tempting situations (e.g. sex-related self-control). Trait and domain-specific self-control were found to be correlated and most likely to act simultaneously [2]. The precise mechanism of their operation has been hardly investigated. Interplay of trait and state self-control received relatively little attention in research literature, and the existing empirical evidence is mixed [3].

Findings from several domains of health-related behaviour suggested that the most successful self-regulators often not entirely rely on their high self-control abilities but rather use different strategies to avoid any tempting situations [4,5]. These strategies were found to vary, and can include simply withdrawing the tempting stimuli, social and situational cues leading to temptation from their environment. While taken from the 'safety net' of their preventive behaviour, such high in trait self-control individuals demonstrated lower ability to resisting acute temptations than individuals with lower level of trait self-control who are frequently fighting temptations in their daily routines (i.e. 'ironic effects of high trait self-control') [6]. This phenomenon is still waiting for scientific explanation.

Besides, it was found that some boundary conditions (such as an individuals' mood, motivation, alcohol consumption, available cognitive resources) can also influence the effective operation of self-regulation by compromising their self-control resources and shifting the balance in favour of impulsive behaviour [7-9].

Socio-cultural and relationship factors involved in sexual behaviour

Social behaviour is suggested to be automatically regulated and adopted to the current social environment and learnt

through repeated practise [10]. As a particular type of social behaviour, sexual behaviour is also guided by societal, cultural and religious rules.

Within contemporary gender theory's construct of young adulthood sexuality, young people's sexual behaviour is often considered through the concept of gender and in context of sexual interaction. Gender beliefs, as a social structure, are argued to be embedded at multiple levels of society. In area of sexual behaviour, gender beliefs generated a powerful set of public beliefs about women's sexuality and sexual double standards: males are expected to pursue sexual behaviour regardless of context, whereas female are expected to avoid casual sex and have sex only in love and in relationships. Subsequently, as part of their gender socialisation, adolescent girls are taught to be passive and to refrain from exhibition of their own sexual desire. They also expected to manage social pressure regarding their sexuality from their peer group. This put young females in a more vulnerable population affected by social expectations and social pressures related to their sexual behaviour than young males [11-13].

Due to relationship power pressure, identical context of sexual behaviour may also encompass the unique effects on young females and males [14-18]. Because young females are often seen to be the less powerful partner in relationships, it was argued that they are more likely to experience increased difficulty negotiating safer sex behaviour [15,17] and hold less self-efficacy for refusing sex [18].

The dynamics of sexual behaviour was found to be further amplified by young females' perception of current relationship extended version of the Theory of Gender and Power (TGP) suggests that an imbalanced sexual situation increasingly favours the female's male partner, and these dynamics are thought to be further enlarged in relationships perceived by females as long-term or serious relationships [19,20].

This means that, for young females, their self-regulation of sexual behaviour may face some additional challenges. These challenges can be framed in terms of a conflict between immediate impulses to engage in sexual behaviour, on one hand, and reasoned personal attitudes and socio-cultural standards to restraint behaviour, on the other [21,22].

Mechanisms of resolving behavioural conflict: the role of self-control and motivation to control behaviour

The mechanisms of resolving this conflict for actual sexual behaviour are not fully understood yet. So far, the effect of personal and socio-cultural factors on young females' engagement in oral sex behaviour has been hardly considered in previous research.

The modern dual-process model (RIM) theory proposed that both reasoned reflective system and impulsive system have simultaneous access to overt behaviour, and which behavioural schema is about to win depends on the strength of the impulse received from each of these systems [23,24]. Between these systems, self-control serves as a force that helps to monitor and

adjust behaviour to the changing environmental requirements [25,26]. Therefore, a significant level of self-control and cognitive resources available to exert it can potentially switch on sexual behaviour in these situations to the reflective route, which represents the traditional attitude-behavioural relation.

The Strength (or Resource) Model of self-control proposes that individual's self-control operates in a manner of a body muscle, thus implying that consisting and repeated exercises of self-control can sufficiently increase its capacity [21,27,28]. This imply that the current available resources for exerting self-control (state self-control) may fluctuate and are dependable on the momentarily availability of self-control resources [4] which can be temporarily limited or exhausted as a result of performing other tasks (i.e. ego depletion) [29].

The role of motivation to control behaviour proposed to be the most salient in ego depletion as a substitution for self-regulatory strength, and, to some extent, as a compensation for the impaired capacity to self-monitor [30,31]. It was suggested that power of motivation to overcome depletion may lie in the fact that the depleted states do not reflect a complete exhaustion of resources, but their temporarily deficit, and ego depletion effects indicate the point on which self-regulation resources are cut back to save some of the resources in case of pressing need or exceptional opportunity (e.g. the conservation hypothesis) [32]. Subsequently, motivation also may vary situationally and dispositionally and, therefore, be a function of perception of the relevant self-control processing [33].

In relation to the sexual behaviour, on the positive side, this means that, for some individuals, high motivation to control their sexual behaviour may compensate for the detrimental effects of reduced resources in ego depletion by giving them abilities to recruit any left-over resources to boost reflective self-control processing and behave according to expected standards. But at the same time, on the negative side, this means that if motivation is low, even individuals with high self-control capacities will be inclined to 'conserve' their remaining resources for the tasks that they consider more important, and sexual behaviour will be left to impulsive self-control processing.

The current study

The present study aimed to investigate the patterns of self-regulation involved in management of young females' sexual behaviour in ego depletion, accounting for their personal attitudes to oral sex and social context of this behaviour (i.e. socio-cultural and relationship power pressure to engage/not engage in oral sex). The choice to investigate these patterns on the example of oral sex behaviour undoubtedly provided us with some advantages. Sexual double standards in oral sex are further stretched to the societal and personal acceptance given to understanding of appropriateness of oral sex on gender level.

Following a dual-system perspective [34], we proposed that females' differences in trait self-control, dispositional ability to restrain sexual behaviour and motivation to control sexual behaviour will be the factors that can strengthen the reflective route against impulsive route in managing their sexual behaviour (i.e. represented by the attitudes towards oral sex against the

tendency to engage in oral sex on impulse). Accordingly, we expected females with higher level of sex-related self-control and less difficulty to motivate themselves to control sexual behaviour to demonstrate lower likelihood of engagement in oral sex behaviour. We also predicted that, in ego depletion, females' motivation to control sexual behaviour can compensate for their impaired self-control resources.

Accounting for social and relationship pressure, we expected that in ego depletion and in absence of relationship power pressure females' engagement in oral sex behaviour will follow traditional reflective behaviour-intention route [35], in which attitudes, normative beliefs, self-control and motivation to control sexual behaviour will influence females' engagement in oral sex directly. Conversely, we predicted that relationship power pressure will affect this traditional behaviour-intentional route by compromising females' self-control and motivation and thus supporting the impulsive route.

Considering the substantial correlation found in previous studies between trait self-control and dispositional ability to restrain sexual behaviour [2], we predicted that ego depletion and relationship power pressure can affect sex-related self-control and trait self-control in different manner. Based on Hofman and Kotabe concept of preventive/interventive types of self-control we expected to find some evidence for trait self-control to act as a preventive self-control and for dispositional sex-related self-control to act as interventive self-control. Therefore, we expected participants with high trait self-control to be more sufficiently dependent on motivation to control sexual behaviour. Conversely, we expected that participants with low trait self-control will be more likely to demonstrate approximately equal usage of motivation and sex-related self-control to regulate their engagement in oral sex in ego depletion for both conditions of relationship pressure.

Finally, in line with dual-process approach, we also hypothesised that in ego depletion and under relationship pressure, participants' level of trait self-control will still have some effect on regulating their engagement in oral sex behaviour by moderating relationship between the inputs from reflective and impulsive systems (i.e. attitudes and impulsivity).

Method

Participants

Female university students from different departments were recruited via inviting them to take part in online survey. The participation was on a volunteer basis. The study advert was placed on the main university website to be available to every female student from the university. The final sample consisted of 248 female students. Their age ranged from 19 to 25 years; mean age 20.37 years (SD=1.42 y).

Procedure

The online survey was privately and anonymously completed by each participant. In order to ensure participants' anonymity and to prevent multiple completions every participant received

a unique coded identifier to log on surveys website. All participants were given clear information about their right to withdraw from participating in research at any time. The survey was completed on one occasion.

Measures

Attitudes to oral sex

Attitudes towards engagement in oral sex were measured by asking participants the question: "Oral sex is..." with the following responses: "pleasant", "acceptable" or "exciting". The items were measured on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). In the present study, the internal reliability of this measure was good, coefficient alpha=.87.

Sex-related impulsivity

Impulsivity towards engagement in oral sex was measured by three items, which were taken and adapted. The items were presented as related to sexual behaviour: "I often end up engaging in oral sex without thinking", "I find it difficult to turn down the offer to engage in oral sex", and "I sometimes cannot suppress the feeling of wanting to be engaged in oral sex". They were measured on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). In the present study, an alpha coefficient was .78.

Self-control

Sex-related self-control was assessed by three items, which were taken and adapted from Baumeister et al.[2]. These items were as follow: "I wish I had more self-discipline when it comes to getting involved in oral sex", "Sometimes I cannot stop myself from being engaged in oral sex, even if I know it's wrong to do so", and "When I am with a guy or a girl who I like and who wants to engage in oral sex and I do not, I still engage in that behaviour". They were measured on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). In the present study, an alpha coefficient was .78.

Trait self-control was measured by Brief Self-Control Scale (BSCS) [4]. This is the 13-items scale with items rated on a 5-point Likert scale where 1=not at all and 5=very much. The BSCS demonstrated good internal consistency (α ranging from .83-.85) [4] in research with college students and good internal consistency (α ranging from .83-.84; Quinne & Fromme, 2010) in research with university students. In the present study, an alpha coefficient was .78.

Motivation

As a validated measure of motivational strength to control sexual behaviour is still waiting to be developed, motivation to control oral sex behaviour was assessed by asking participants to indicate "How hard they were ready to motivate themselves to make a conventional behavioural choice" in each ego depletion scenario. We measured this motivational factor on a 1-5 Likert scale with '1' labelled as 'very much' and '5' labelled as 'just a natural choice for me/not at all'. After completing the responses

to all eight of the scenarios, the highest score a person could get was 40 and the lowest possible score was 8. Higher scores indicated the lower motivation effort to choose the appropriate behavioural choice. The internal reliability of this measure was good, alpha coefficient=.83.

Relationship power pressure

Relationship power pressure to get engaged in oral sex behaviour was assessed in two conditions: in casual oral sex, as representing the case of 'no relationship pressure' for young females to perform oral sex to keep their partners happy, and in oral sex in close relationship, as representing the case of 'existing relationship pressure' for young females to perform oral sex to keep their partners happy.

Likelihood of engagement in oral sex behaviour in ego depletion

In ego depletion this relationship power pressure was manipulated using structural tasks developed for this study (i.e. vignettes). These vignettes aimed to represent four types of ego depletion: physical tiredness, alcohol intoxication, cognitive load and emotional rise. Participants were given four choices to reply to these scenarios which included two non-engagement options: a) say no and leave; b) say no and stay; and two engagement options: c) agree to have oral sex; d) agree to have full sex. Participants' behaviour was measured on a Likert scale from 1 (least likely) to 7 (most likely). Each vignette scenario was presented in two versions (e.g. versions A and B): without or under relationship power pressure (i.e. casual oral sex vs. oral sex in relationship). Each participant was presented with 8 of these vignettes: four of them included oral sex behaviour outside relationships and the other four - same type of behaviour in relationships. Each participant was provided with only one version assigned to them randomly, in order of their participation (e.g. participant 1 was given scenario Version A, participant 2 was given scenario Version B, and then again following this order). The scale showed good internal reliability, alpha coefficient=.83.

Social pressure

Social pressure was assessed by a questionnaire developed for this study which aimed to measure females' concern of acting sexually preoccupied (CASP). This questionnaire consisted from 8 items. Some sample items were as: "In today's society it is important that one is not perceived as being sexually preoccupied in any manner"; "I get angry with myself when I get thoughts or feelings that might be considered as sexually preoccupied"; "It is important for me that other people don't think that I am sexually preoccupied", and "If I have sexual thoughts or feelings, I keep it to myself". Responses were given on 5-point scales, ranging from 1 (strongly disagree) to 5 (strongly agree). High scores indicated a strong degree of concern. The internal reliability of the proposed scale was good, alpha coefficient=.84.

Analysis

Descriptive

The descriptives were presented by means, SDs and Pearson's inter-correlations of the study variables.

Regression analysis

A series of hierarchical multiple regression analyses were conducted to assess the relative importance of all potential variables in predicting the dependent variables. A hierarchical approach was used to retain the theoretical coherence of the relationships between independent variables [36]. Attitudes to oral sex, concern to acting sexually inappropriate, impulsive tendencies, sex related self-control, and strength of motivation to control sexual behaviour, as independent variables, were regressed on likelihood of engagement in oral sex behaviour in relationship and outside relationship. The independent variables were entered in consequential steps. To identify the influence of trait self-control and motivation on likelihood of engagement in oral sex, the initial sample was split according to the means on high /low trait self-control and high /low motivation to control sexual behaviour. The hierarchical multiple regression analysis was then performed on each of these groups. In all analyses, results were judged to be non-significant (NS) if $p > .05$. Effect sizes (Hedges g) were considered to be large if above .80, moderate if above .50, small if above .20, but not to be meaningful if below .20.

Moderation analysis

Beside the main effects, we examined if self-control can moderate relationship between attitudes, impulsivity and engagement in oral sex behaviour. Attitudes and impulsivity, as independent variables, and trait self-control, as presumed moderators, were centred by converting them to Z-scores with means of zero, and the interaction variables were created by multiplying the two Z-scores together. The independent variables and the presumed moderator were entered into a regression as a group, followed by the entry of the interaction variables. For moderation analysis of high/low groups, outputs were organised by groups. Participants were allocated to the appropriate group by the mean of their total score. To probe the possible interaction effect, we plot the effect of self-control and motivation on oral sex behaviour at low and high values of attitudes and impulsivity (e.g. values that are one standard deviation above and below the mean were chosen for this) and supplement it by simple slope analysis.

Testing causal relationships

Relationships between self-regulation variables and variables representing reflective and impulsive behavioural route were assessed in estimated theoretical model by structural equation modelling (SEM) using AMOS Version 22.0. This approach allowed us to overcome the limitations of multivariate regression or sub-group analysis, which can lead to a reduction of statistical power and to account for measurement errors [37]. The adequacy of model fit was judged on the basis of generally

accepted thresholds of the following fit indices: the Comparative Fit Index (CFI) and Incremental Fit Index (IFI), which both compare the fit of the model to a hypothetical case in which all variables are unrelated; and the Root Mean Square Error of Approximation (RMSEA) as a measure of absolute fit. A model that fits the data well, should generate values close to or greater than .95 for the CFI and IFI, and values of (or less than) .08 and .06 for RMSEA [38].

Results

Means, Standard Deviations and correlations of the study variables are represented in Table1.

Table 1: Means, SDs and correlations of the study variables. N=248; *p<0.05, ** p<0.01

Variable and range	M	SD	2	3	4	5	6	7	8	9
Attitudes to oral sex	15.98	4.21	.390**	-0.093	-.18**	-0.123	-0.022	-.269**	.196**	.189**
Impulsivity	8.34	4.56		-.629**	-.351**	-.304**	-0.097	-0.014	.403**	.301**
Sex-related self-control	17.82	3.72			.284**	.27**	.145*	-.266**	-.421**	-.268**
Trait self-control	41.08	7.87				.246**	0.02	0.07	-.346**	-0.111
Motivation to control sexual behaviour outside relationship	15.33	3.57					.447**	-0.14	-.465**	-.232**
Motivation to control sexual behaviour inside relationship	14.22	3.89						-0.089	-.155**	-.380**
CASP	19.43	5.92							-0.103	0.052
Engagement in oral sex outside relationship	9.77	5.57								.382**
Engagement in oral sex inside relationship	14.03	7.01								

Trait self-control and sex-related self-control were moderately positively correlated with each other. Engagement in oral sex outside relationship and in relationship were significantly positively correlated with attitudes to oral sex and sex-related impulsivity, and significantly negatively correlated with sex-related self-control and motivation to control sexual behaviour. Whereas engagement in oral sex outside relationship was significantly negatively correlated with trait self-control, engagement in oral sex in close relationship was not. High negative correlation existed between sex-related self-control and sex-related impulsivity, and medium negative correlation between trait self-control and sex-related impulsivity. Concern about acting sexually inappropriate (CASP) was significantly negatively correlated with attitudes to oral sex and sex-related self-control.

Role of sex-related self-control and motivational efforts to control sexual behaviour in engagement in oral sex

Hierarchical multiple regression analyses with self-control, motivation to control sexual behaviour, impulsivity, attitudes to oral sex and concern about acting sexually preoccupied, as predictors of engagement in oral sex, were conducted for both conditions of relationship power pressure. The results are presented in Table 2. The variance inflation factors varied from 1.00 to 1.66 in both analyses, indicating that there were no multicollinearity problems.

Table 2: Hierarchical multiple regression analysis predicting oral sex behaviour choice outside relationships and oral sex behaviour choice inside relationships. **p<.01, ***p<.001. N=248. Effect size is represented by the squared semi-partial correlation. Oral sex behaviour choice outside relationship: R²=.38, R²-adjusted=.36. Oral sex behaviour choice inside relationship: R²=.23, R²-adjusted=.22.

Oral sex behaviour choice outside relationship							Oral sex behaviour choice inside relationship					
Predictor	B	SE B	β	ΔR ²	Final β	Final effect size	B	SE B	β	ΔR ²	Final β	Final effect size
Step 1 Attitudes	0.26	0.08	.19**	.04**	0.16	0.19	0.32	0.1	.19**	.04**	0.11	0.19
Step 2 Impulsivity	0.47	0.07	.39***	.13***	0.07	0.36	0.41	0.1	.27***	.06***	.15*	0.25

Step 3 Sex Self-control	-0.46	0.11	-.30***	.05***	-.31***	-0.27	-0.29	0.15	-.16*	.01*	-0.11	-0.13
Step 4 Motivation	-0.55	0.09	-.36***	.11***	-.33***	-0.37	-0.64	0.1	-.35***	.22***	-.35***	-0.36
Step 5 CASP	-0.17	0.05	-.18**	.03**	-.17**	-0.19						
Step 6 Trait Self-control	-0.1	0.04	-.14**	.02**	-.14**	-0.17						

Motivation to control sexual behaviour appeared to be a significant predictor of engagement in oral sex outside relationships ($t(5,247)=-6.47, p<.001$) and inside relationships ($t(4,247)=-6.03, p<.001$). Accounting for motivation, engagement in oral sex outside relationship was associated with sex-related self-control ($t(5,247)=-4.54, p<.001$), CASP ($t(5,247)=-3.21, p=.002$) and trait self-control ($t(5,247)=-2.59, p=.01$), whereas in relationship it was predicted by impulsivity ($t(4,247)=1.94, p=.05$).

The interplay between self-control and motivation in regulating oral sex behaviour

To test if there was any interplay between self-control and motivation to control oral sex behaviour we split the file to high/low self-control groups and performed the same regression analyses as in previous section. The results for oral sex behaviour choices in different relationship power imbalance situations for females in low and high self-control groups are presented in Table 3.

Predictor	Oral sex behavior choice outside relationship					Oral sex behaviour choice inside relationship													
	High trait self-control (N=123)					Low trait self-control (N=125)													
	B	SE	β	ΔR^2	Final β	B	SE	β	ΔR^2	Final β	B	SE	β	ΔR^2	Final β				
Step 1 Attitudes	0.26	0.08	.28*	.08*	.22*	0.33	0.11	.33*	.11*	.04	0.21	0.07	.21*	.04*	.21*				
Step 2 Impulsivity	0.34	0.09	.31*	.08*	0.14	0.43	0.11	.33*	.11*	0.04	0.45	0.13	.30*	.09*	0.13				
Step 3 Sex Self-control	-0.33	0.14	-.26*	.04*	-.015	-0.41	0.16	-.31*	.06*	-.40*	-0.44	0.19	-.25*	.04*	-.23*				
Step 4 Motivation	-0.58	0.09	-.44*	.18*	-.44*	-0.51	0.14	-.32*	.09*	-.32*	-0.63	0.14	-.37*	.14*	-.37*				
Step 5 CASP	-0.19	0.09	-.19*	.03*	-.19*	-0.21	0.09	-.19*	.03*	-.19*	-0.22	0.11	-.20*	.03*	-.19*				
R ² =.38, R ² -adjusted=.36					R ² =.29, R ² -adjusted=.27					R ² =.18, R ² -adjusted=.17					R ² =.25, R ² -adjusted=.23				

For oral sex behaviour outside relationships, in the high self-control group, oral sex behaviour choice was predicted by females' attitudes ($t(4,122)=2.79; p=.006$) and motivation to control their sexual behaviour ($t(4,122)=-5.85; p<.001$). In the low self-control group, significant predictors of engagement in

oral sex were CASP ($t(4,124)=-2.33; p=.02$), sex-related self-control ($t(4,124)=-3.8; p<.001$) and motivation ($t(4,124)=-3.87; p<.001$).

For oral sex behaviour inside relationships, in high self-control group, the choice of engagement in oral sex behaviour was predicted also by females' attitudes ($t(2,122) =2.56; p=.01$) and

oral sex outside relationship. The total sample was split and organised by groups with high/low self-control/motivation. The results are presented in Table 5.

Table 5: Moderation effects of self-control and CASP in groups of participants with high and low self-control/motivation; N=248.

IV	Moderator	R2 Change	F Change	p-value	R2 Change	F Change	p-value
		High trait self-control (N=123)			Low self-control (N=125)		
Attitudes		0.02	5.23	0.02			
Impulsivity	TSC	0.05	14.79	0.001			
		High motivational efforts (N=122)			Low motivational efforts (N=126)		
Attitudes					0.05	7.1	0.01
Impulsivity	TSC	0.04	5.15	0.03			

In high trait self-control group, trait self-control was found to moderate relationship between attitudes and engagement in oral sex, and relationship between impulsivity and engagement in oral sex behaviour. In group of females who had difficulties in motivating themselves to control their sexual behaviour, trait self-control moderated relationship between impulsivity and engagement in oral sex behaviour. TCS also moderated relationship between attitudes and engagement in oral sex behaviour for females who had no difficulties in motivating themselves to control their sexual behaviour.

relationship power pressure, were elaborated and tested to explore possible causal relationship between main self-regulation variables: the Model of casual engagement in oral sex (no relationship pressure) and the Model of oral sex in relationship (relationship power pressure). Both models showed a reasonable fit to the data ($\chi^2(5)=13.4$, $p=.02$; NFI=.96; CFI=.98; IFI=.98; RMSEA=.08 [.03 -.14] and $\chi^2(8)=17.48$, $p=.03$; NFI=.94; CFI=.97; IFI=.97; RMSEA=.07 [.02 -.11], respectively).

The standardised solutions for each model are presented in Figures 1 and 2.

Testing relationships between all variables

Based on regression analyses, two estimated models of engagement in oral sex in ego depletion, accounting for

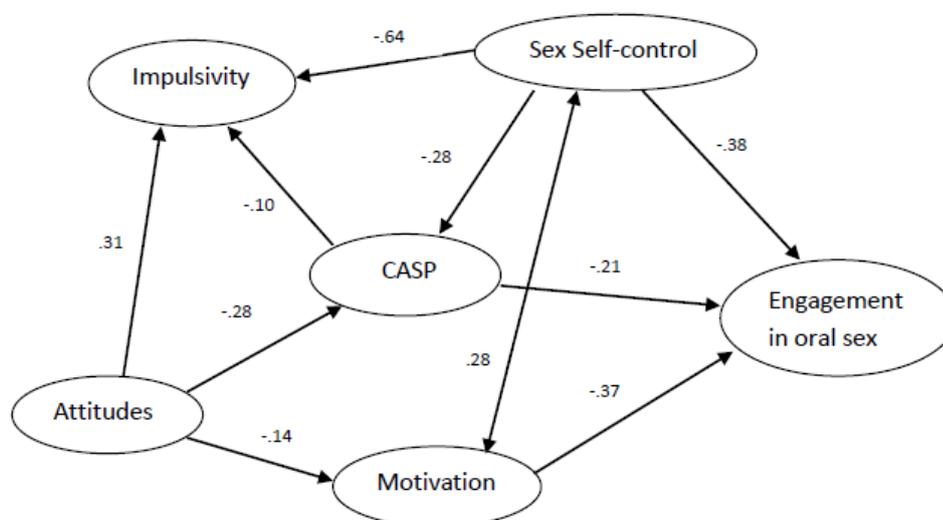


Figure 1: Model of casual engagement in oral sex (no relationship power pressure)

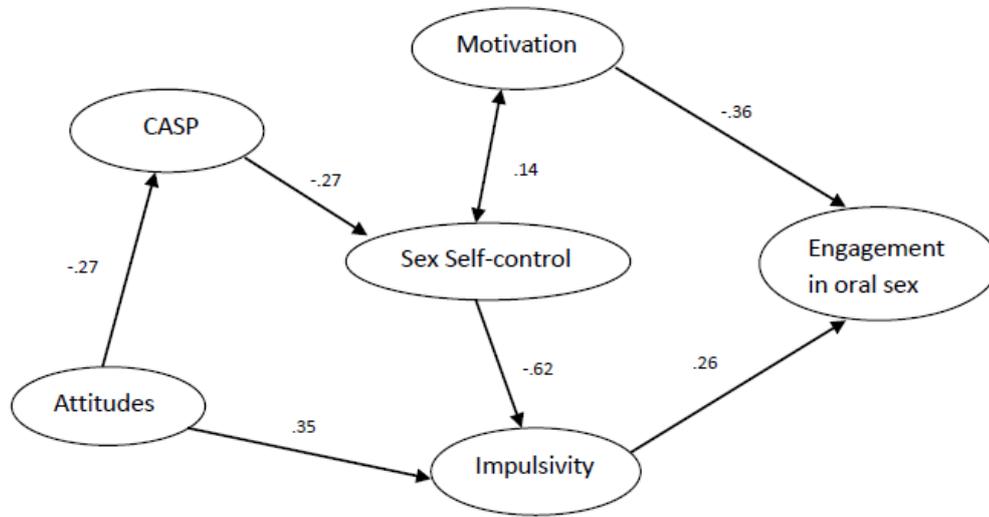


Figure 2: Model of oral sex in relationship (relationship power pressure)

These models were then used as a baseline for the TSC multi-group analysis. The statistical indices showed acceptable fit for both TSC groups ($\chi^2(10)=20.45$, $p=.03$; $NFI=.94$; $CFI=.97$; $IFI=.97$; $RMSEA=.06$ [.02 -.11] and $\chi^2(16)=25.57$, $p=.06$; $NFI=.91$; $CFI=.96$; $IFI=.97$; $RMSEA=.05$ [.01 -.08], respectively). With the few exceptions, all individual paths remained significant.

The beta weights indicating path strength for the final models across TSC groups are presented in Table 6.

Table 6: Standardised beta weights for the models separated by TSC group. NS=not significant; self-control=sex-related self-control

Model of casual engagement in oral sex			Model of engagement in oral sex in relationship		
Path	High TSC (N=123)	Low TSC (N=125)	Path	High TSC (N=123)	Low TSC (N=125)
Attitudes→Motivation	-.04 ^{NS}	-0.19	Motivation→Engagement in oral sex	-0.36	-0.36
Attitudes→Impulsivity	0.3	0.35	Self-control→Motivation	0.2	.11 ^{NS}
Motivation→Self-control	0.25	0.24	Self-control→CASP	-0.21	-0.38
Motivation→Engagement in oral sex	-0.45	-0.31	Self-control→Impulsivity	-0.61	-0.59
Self-control→Impulsivity	-0.62	-0.62	Attitudes→Impulsivity	0.32	0.38
Self-control→CASP	-0.21	-0.39	Impulsivity→Engagement in oral sex	0.2	0.25
Self-control→Engagement in oral sex	-0.28	-0.4	CASP→Attitudes	-0.28	-0.24
CASP→Attitude	-0.28	-0.25			
CASP→Impulsivity	-.05 ^{NS}	-.10 ^{NS}			
CASP→Engagement in oral sex	-0.21	-.20 ^{NS}			

Discussion

The present study aimed to investigate self-regulation processes involved in female students’ oral sex behaviour. We were particularly interested in the nature of interactions between two self-control variables (trait self-control and sex-related self-control) and motivation to control sexual behaviour in ego depletion (e.g. tiredness, alcohol intoxication, cognitive

load and emotional rise) accounting for relationship power pressure.

Interplay of trait self-control, sex-related self-control and motivation to control sexual behaviour: role of relationship power pressure

Our results showed that sex-related self-control and motivation to control sexual behaviour have had a direct effect on females' oral sex behaviour in ego depletion, but this effect varied depending on relationship power pressure.

In line with research on capacity of self-control and motivation [2,39] our findings indicated that females with a higher level of sex-related self-control reported less engagement in oral sex. Accordingly, females who experienced difficulties to motivate themselves to control their sexual behaviour reported a higher engagement in oral sex, irrelevant of their level of self-control.

In general, oral sex behaviour was found to be predicted by self-control, impulsivity, normative beliefs (i.e. concern to act sexually inappropriate) and motivation to control sexual behaviour. In casual relationship, we found that both trait and sex-related self-control and motivation to control sexual behaviour were important predictors of engagement in oral sex, whereas under relationship power pressure motivation appeared to be the only element of self-regulation managing oral sex behaviour. In close relationships, females' engagement in oral sex was predicted by impulsivity and motivation, but not self-control. This implies that under relationship power pressure, the level of sex-related self-control for some reasons failed to reach the threshold of significance in contributing to the input of reflective behavioural system activation, and thus the motivation component of self-regulation appeared to hold a crucial importance on the choice of engagement in oral sex. As sex-related self-control and motivation to control sexual behaviour showed a modest significant positive correlation in this study, it is possible that the relationship between self-control and motivation in oral sex behaviour may be not straightforward, and although these two important components of self-regulation may serve the same purpose, they can work in different ways. This finding is supported by research proposing that self-control and motivation could have different functions in behavioural self-regulation, and that in ego depletion state motivation can be a force that compensates for depleted self-control resources [30,31,40,41].

Looking closely at the difference between sexual behaviour of females with high and low trait self-control allowed us to further clarify the picture of self-regulation processes involved in oral sex behaviour. Our results revealed that motivation was a significant predictor of oral sex behaviour choices in both, high and low self-control groups and in both relationship power pressure conditions. Thus engagement in oral sex for females with high level of trait self-control was predicted by their attitudes to oral sex and motivation to control sexual behaviour but not by their sex-related self-control. Conversely, for females with low level of trait self-control sex-related self-control has operated in conjunction with their motivation to control sexual behaviour.

This implies, firstly, that in ego depletion, for females high in trait self-control, sex-related self-control appeared to be a

relatively weak regulation force in managing their oral sex behaviour. This finding indicates that the failure of sex-related self-control to regulate engagement in oral sex cannot be explained by the impact of relationship power on sexual behaviour.

The other possible explanation of this failure can be a lack of available self-control resources in ego depletion. Nevertheless, our finding indicates that this would be very simplistic explanation. They suggest that, irrespective of relationship power pressure, this failure affected only females with high level of trait self-control, while females with low trait self-control demonstrated the ability to effectively exercise sex-related self-control to manage their engagement in oral sex behaviour. The very similar results were reported in recent research on the interplay of trait self-control and ego depletion [6] which found that individuals with high level of trait self-control consistently failed to successfully control their behaviour while facing immediate temptations.

The cause of this phenomenon may be rooted in the existence of two distinctive types of self-control [34]. Within this framework, sexual behaviour of females high in trait self-control can demonstrate a typical case of preventive self-control, when they can predict the potentially challenging situations and to avoid them, and thereby under-exercise their interventive, sex-related self-control. Subsequently, when facing temptation, the lack of experience in resisting acute temptations can leave them vulnerable to a failure in using sex-related (i.e. sex-related) self-control, as they do not have a history of repeatedly exercising and strengthening this type of self-control due to their habitual use of preventive (i.e. trait self-control) self-control. Adopting this explanation has an additional implication for self-control research. This implies the operational difference between trait and sex-related self-control. Our findings indicated that females with high sex-related self-control demonstrated lower engagement in oral sex, irrelevant of their level of trait self-control.

For females high in trait self-control, engagement in oral sex behaviour was indeed indirectly influenced by their trait self-control. In casual relationship, trait self-control moderated relationship between both, attitudes and impulsivity, and engagement in oral sex behaviour. This finding is in favour to research proposing that people with high self-control can form the automatic habitual link between self-control and overt behaviour, and this link may be unconsciously activated by the exposure to the certain situational cues from the social environment [42].

Looking at the effect of motivational differences in controlling sexual behaviour on engagement in oral sex, we found that self-control was a significant predictor of engagement in oral sex amongst females with no difficulties to motivate themselves to control their sexual behaviour, irrelevant of relationship power pressure. Higher motivational efforts were associated with some deficiencies in sex-related self-control. For females who had motivational difficulties to control their sexual behaviour, trait self-control had an indirect effect on their engagement in oral sex (i.e. moderated relationship between impulsivity and engagement in oral sex). Nevertheless, the sole efforts of self-

control was not enough to follow the reflective behavioural route, thus engagement in oral sex in ego depletion for females with motivational difficulties to control their sexual behaviour slipped to impulsive system processing.

Impact of personal attitudes and socio-cultural normative beliefs

Besides the main effects of self-control and motivation, our findings demonstrated the important role of attitude to oral sex and normative beliefs (CASP) in engagement in oral sex behaviour.

Both, in casual and in close relationship, for females high in trait self-control and with less difficulties to motivate themselves to restrain their sexual behaviour, it was their positive attitudes to oral sex that influenced their decision to get involved in oral sex behaviour. For females low in trait self-control, their higher level of concern with acting sexually inappropriate (i.e. normative beliefs) appeared to restrain their engagement in oral sex in casual relationship. This concern had a direct effect on engagement in oral sex, next to the effects of self-control and motivation. The role of attitudes and normative beliefs in engagement in oral sex was outlined more salient in the example of sexual behaviour females with less difficulty to restrain their engagement in casual oral sex: on this occasion both their attitudes to oral sex and concern with acting sexually inappropriate were direct predictors of their engagement in oral sex, former with encouraging effect and latter with discouraging effect.

Exploring relationship between variables involved in regulating oral sex behaviour proposed the path by which normative beliefs can possibly influence engagement in oral sex. As being both attitudinal and social component of self-regulation, CASP demonstrated a potential to influence relationship between attitudes to oral sex and engagement in oral sex, and relationship between self-control and engagement in oral sex. The interplay between CASP, attitudes, self-control and engagement in oral sex can offer the possible explanation of the failure to regulate engagement in oral sex for females high in trait self-control. According to the Model of casual oral sex behaviour, the strength of the link between sex-related self-control and engagement in oral sex behaviour appeared to be approximately equal for females with high and low TSC. At the same time, a dual nature of causality involved in self-regulation presented a real regulation dilemma for females with high level of trait self-control. On the one hand, the higher level of self-control for them can result in higher motivation to control sexual behaviour and be followed by lower engagement in oral sex. On the other hand, the higher level of self-control for them can result to lower level of concern about acting sexually inappropriate and be followed by higher engagement in oral sex (i.e. as the Model suggests that the link between CASP and engagement in oral sex is significant for females with high TSC but this link is losing power for females with low TSC). As a result of this controversy, it sounds plausible that while sex-related self-control was trying to resolve this dilemma, motivation was left as sole self-regulation force to manage sexual behaviour.

Study Limitations

One of the major limitations of this study was that our sample was restricted by gender. It is worth noting that in this study we did not aim to provide a comprehensive account of self-regulation processes involved in controlling oral sex behaviour, and our study was primarily designed to test a model of predicted associations for females. As such, the findings from this research are still fit for the purpose despite these limitations; however, the restricted gender range limits the degree to which the findings can be generalised.

Secondly, in this study we used self-reported measures of oral sex behaviour and likelihood approach. Although methodologically justified for assessing sexual behaviour in online self-administrated surveys, self-reported measures are still highly susceptible to self-serving and social desirability bias [43].

Finally, due to methodological difficulties in the assessment of sex-related self-control and motivation to control sexual behaviour, this study measured motivational components of self-control and oral sex behaviour in ego depletion by purposely developed for this study ego depletion vignettes and CASP questionnaires. Although both of these instruments were rooted in previous research, further studies are needed to test reliability and validity of these questionnaires and feasibility of our results.

Study Implications

Despite these limitations, the present study has several implications on theoretical and practical level.

On the theoretical level, our results may support the conservation hypothesis [32] in the part stating that self-control resources during ego depletion are not exhausted but temporarily conserved and a new additional challenge can bring them to life. Our findings can be interpreted in the way that engagement in oral sex in ego depletion facing the additional challenge of relationship pressure might push females to activate any left-over resources of self-control, such as motivation to control sexual behaviour. The ability of motivation to overcome depletion is known from the other studies [7].

Beside, our results allow suggesting that when resources of general trait self-control are not sufficient due to ego depletion, any left-over self-control resources may be very specific for particular behaviour, such as sex-related self-control to sexual behaviour. Thus, our results support the hypotheses about the operational differences in trait self-control and sex-related self-control.

On the practical level, the current study has implications for educators and health authorities. As the spread of oral sex behaviour amongst teenagers and young people is relatively high, it makes imperative to consider long-term consequences of practising oral sex, such as increase in STIs and anxiety and depression associated with oral sex behaviour, particularly in young females. Our results indicate that engagement in oral sex for young females often occur on impulse and as a result of

positive attitudes to oral sex and normative beliefs, which are influenced by modern culture and media. The realities of modern life is that school sex education programmes have adopted the approach to promote oral sex as a safer alternative to vaginal sex in terms of teenage pregnancy, without covering the possible physical and psychosocial consequences of such practise for young females, including the impact of relationship power pressure. One of the consequences of this approach stimulating impulsive sexual behaviour in teenagers and young females is that they are left alone and without appropriate communication skills to figure out how to regulate their sexual behaviour and their sexuality. Offering the young females an opportunity to learn how to reduce their impulsive behaviour could be the possible way to eliminate psychological and physical health consequences of their early engagement in oral sex. The results of this study indicated that helping young females to develop better sex-related self-control and motivation to control sexual behaviour can be beneficial for them. In order to ease relationship and social pressure to engage in oral sex behaviour for young females, school educators need to pay more attention to youngster's socio-cultural normative beliefs and to making them aware of how to handle the relationship power pressure.

Conclusion

The present study explored more complex aspects of self-regulation in shaping females' oral sex behaviour; particularly, the interplay between self-control and motivation processes in ego depletion under relationship power pressure. This study was, to our knowledge, the first study that aimed to explore the combined effects of self-control and motivation to control sexual behaviour on oral sex behaviour. Although research on capacity of self-control and on motivational elements of self-control have existed for more than two decades now, in this study we investigated the mechanism of their functioning and interacting in situations of temporarily limited resources of self-control (i.e. ego depletion).

One of the main implications of this study was the finding that in ego depletion both, motivation to control sexual behaviour and sex-related self-control, had a direct and independent effect on females' oral sex behaviour, and that this effect appeared to depend on relationship power pressure. Despite the fact that in ego depletion self-control appeared to be affected by relationship power pressure, motivation to control sexual behaviour emerged as a force that was able to compensate for depleted resources of self-control; moreover, the strength of motivation seems to possess a universal capacity to compensate for depleted self-control resources, irrelevant of their level of self-control.

Findings from this study indicate that, beyond females' level of self-control and availability of self-control resources, the explanations for female's decisions to engage in oral sex behaviour may be grounded in perceived value and strength of the current relationship and in the level of partner's attractiveness for them. These factors have potential to determine how hard they would be willing to motivate themselves before making oral sex behaviour choices.

Future research might broaden the construct of motivation to access other facets of this phenomenon beyond the simple measures that been employed in this study and to deeper the analyses of females' decision-making strategies involved in engagement on oral sex by complementing quantitative analyses with qualitative accounts. Future research also needs to trace the development of these constructs in females across different time points during the adolescent lifespan.

References

1. Verplanken B, Sato A (2011) The Psychology of Impulse Buying: An Integrative Self-Regulation Approach. *J Consume Policy* 34: 197-210.
2. Gailliot MT, Baumeister RF (2007) Self-regulation and sexual restraint: Dispositionally and temporarily poor self-regulatory abilities contribute to failure at restraining sexual behaviour. *Pers Soc Psychol Bull* 33: 173-186.
3. Hagger MS, Wood C, Stiff C, Chatzisarantis NLD (2010) Ego depletion and the strength model of self-control: A meta-analysis. *Psychol Bull* 136: 495-525.
4. Tangney JP, Baumeister RF, Boone AL (2004) High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *J Pers* 72: 271-322.
5. Fujita K (2011) On conceptualizing self-control as more than effortful inhibition of impulses. *Pers Soc Psychol Rev* 15: 352-366.
6. Imhoff R, Schmidt AF, Gerstenberg F (2014) Exploring the Interplay of Trait Self-Control and Ego Depletion: Empirical Evidence for Ironic Effects. *Eur J Pers* 28: 413-424.
7. Muraven M, Collins RL, Neinhaus K (2002) Self-control and alcohol restraint: An initial application of the self-control strength model. *Psychol Addict Behav* 16: 113-120.
8. Vohs KD, Heatherton TF (2000) Self-regulatory failure: A resource-depletion approach. *Psychol Sci* 11: 249-254.
9. Fillmore MT, Vogel-Sprott M (2006) Acute effects of alcohol and other drugs on automatic and intentional control. Thousand Oaks, CA: Sage 293-306.
10. Bargh JA (2005) *Bypassing the will: Towards demystifying the nonconscious control of social behavior*. New York, NY: Oxford University Press 37-58.
11. Travis CB (2006) *Risks to healthy development: The somber planes of life*. New York, NY: Oxford University Press 15-24.
12. Byers ES (1996) *How well does the traditional sexual script explain sexual coercion? A review of a program of research*. New York, NY: Haworth 7-25.
13. Morokoff PJ (2000) *A cultural context for sexual assertiveness in women*. Washington, DC: American Psychological Association 299-319.
14. Holland J, Ramazanoglu C, Scott S, Sharpe S, Thomson R (1990) Sex, gender and power: young women's sexuality in the shadow of AIDS. *Sociol Health Illn* 12: 336-350.
15. Holland J, Ramazanoglu, C Sharpe S, Thomson R (1992) Pleasure, pressure and power: some contradictions of gendered sexuality. *Sociol Rev* 40: 645-674.
16. Amaro H, Raj A (2000) On the Margin: Power and Women's HIV Risk Reduction Strategies. *Sex Roles* 42: 723-749.

17. Harvey SM, Bird ST (2004) What Makes Women Feel Powerful? An Exploratory Study of Relationship Power and Sexual Decision-Making with African Americans at Risk for HIV/STDs. *Women Health* 39: 1-18.
18. Soet JE, Dudley WN, Dilorio C (1999) The effects of ethnicity and perceived power on women's sexual behavior. *Psychol Women Q* 23: 707-723.
19. Hobfoll SE (1998) Ecology, Community, and AIDS Prevention. *Am J Community Psychol* 26: 133-144.
20. Impett EA, Peplau LA (2003) Sexual compliance: Gender, motivational, and relationship perspectives. *J Sex Res* 40: 87-100.
21. Baumeister RF, Heatherton TF (1996) Self-regulation failure: An Overview. *Psychol Inquiry* 7: 1-15.
22. Carver CS (2005) Impulse and constraint: Perspectives from personality psychology, convergence with theory in other areas, and potential for integration. *Pers Soc Psychol Rev* 9: 312-333.
23. Strack F, Deutsch R (2004) Reflective and impulsive determinants of social behavior. *Pers Soc Psychol* 8: 220-247.
24. Hofmann W, Friese M, Strack F (2009) Impulse and self-control from a dual-systems perspective. *Perspect Psychol Sci* 4: 162-176.
25. Baumeister RF (2002) Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *J Consumer Research* 28: 670-676.
26. Baumeister RF, Vohs KD, Tice DM (2007) The strength model of self-control. *Curr Dir Psychol Sci* 16: 351-355.
27. Muraven M, Baumeister RF (2000) Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychol Bull* 126: 247-259.
28. Baumeister RF, Tierney J (2011) *Willpower: Rediscovering the greatest human strength*. New York, NY: The Penguin Press.
29. Baumeister RF, Bratslavsky M, Muraven M, Tice DM (1998) Ego depletion: Is the active self a limited resource? *J Pers Soc Psychol* 74: 1252-1265.
30. Muraven M, Slessareva E (2003) Mechanism of self-control failure: Motivation and limited resources. *Pers Soc Psychol Bull* 29: 894-906.
31. Tice DM, Baumeister RF, Shmueli D, Muraven, M (2007) Restoring the self: Positive affect helps improve self-regulation following ego depletion. *J Exp Soc Psychol* 43: 378-384.
32. Muraven M, Shmueli D, Burkley E (2006) Conserving self-control strength. *J Pers Soc Psychol* 91: 524-537.
33. Fischbach A, Dhar R (2005) Goals as excuses or guides: The liberating effect of perceived goal progress on choice. *J Consumer Research*, 32: 370-377.
34. Hofmann W, Kotabe H (2012) A general model of preventive and interventive self-control. *Soc Pers Psychol Compass* 6: 707-722.
35. Ajzen I, Madden TJ (1986) Prediction of goal-directed behaviour: Attitudes, intentions, and perceived behavioural control. *J of Exp Soc Psychol* 22: 453-474.
36. Tabachnick BG, Fidell LS (2001) *Using multivariate statistics* (4th ed.). Needham Heights MA: Pearson Education.
37. Aiken LS, West SG (1991) *Multiple regression: Testing and interpreting interactions*. Newbury Park CA: Sage.
38. Hu L, Bentler PM (1999) Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct Equ Modeling* 6: 1-55.
39. Robinson MD, Schmeichel BJ, Inglicht M (2010) A Cognitive control perspective of self-control strength and its depletion. *Soc Pers Psychol Compass* 4/3: 189-200.
40. Alberts HJ, Martijn AC, Vries NK (2011) Fighting self-control failure: Overcoming ego depletion by increasing self-awareness. *J Exp Soc Psychol* 47: 68-62.
41. Job V, Dweck CS, Walton GM (2010) Ego Depletion-Is It All in Your Head? Implicit Theories About Willpower Affect Self-Regulation. *Psychol Sci* 28: 2010.
42. Aarts H, Dijksterhuis A (2003) The silence of the library: Environment, situational norm, and social behavior. *J Pers Soc Psychol* 84: 18-28.
43. Fisher RJ (1993) Social desirability bias and the validity of indirect questioning. *J Consum Res* 20: 303-315.