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**The Pregnant Smoker Stigma Scale - Self Stigma (P3S-SS):
Development and Validation in Pregnant Smoking Women in France**

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The Pregnant Smoker Stigma Scale - Self Stigma (P3S-SS): Development and Validation in Pregnant Smoking Women in France

Pregnancy smoking self-stigma may be associated with mental health and cessation. This study aims to validate the Pregnant Smoker Stigma Scale - Self-Stigma (P3S-SS) assessing perceived and internalized stigma. Between May 2021 and May 2022, French pregnant smokers recruited online ($n=143$) took the P3S-SS and other scales assessing depressive symptoms (EPDS), social inclusion (SIS), dissimulation, dependence (CDS-5), cessation self-efficacy (SEQ), and intention. The two versions of the scale include four dimensions: derogatory cognitions (“People think / I feel I am selfish”), negative emotions and behaviors (“People make me feel / smoking makes me feel guilty”), personal distress (“People / I feel sorry for me / myself”), and information provision (“People tell me / I think about the risks of smoking”). Confirmatory factor analyses and multiple regressions have been computed. Model fit was good for perceived stigma and internalized stigma ($\chi^2/df = 3.06$, RMSEA = .124, AGFI = .982, SRMR = .068, CFI = .986, NNFI = .985 ; $\chi^2/df = 3.31$, RMSEA = .14, AGFI = .977, SRMR = .087, CFI = .981, NNFI = .979). Controlling for dependence, cessation intention was positively predicted by perceived and internalized personal distress and negatively predicted by perceived negative emotions and behaviors (Adj $R^2 = .143$, $F(8,115)=3.567$, $p=.001$). Controlling for dependence, dissimulation was positively predicted by internalized negative cognitions and perceived personal distress and negatively predicted by internalized personal distress (Adj $R^2 = .19$, $F(9,98)=3.785$, $p=.000$). The P3S-SS opens up exciting avenues for further research. Stigma does not motivate women to stop smoking but increases distress and dissimulation.

Keywords. Pregnancy Smoking; Smoking Stigma; Self-Stigma

Introduction

Tobacco is responsible for serious health damage, causing 8 million deaths per year worldwide (WHO, 2022). In pregnant women, tobacco use is associated with miscarriage, stillbirths, growth retardation, and preterm births (Mund et al., 2013). An estimated 24% of French people are daily smokers. In many surrounding countries, such as Germany (18.8%), Spain (19.8%), and Belgium (15.4%), the daily smoking rate is lower (OECD Health Statistics, 2021). Smoking during pregnancy is higher in France (19.7%) than in European countries (8.1%) such as Poland (6%), Portugal (9.2%), and Belgium (14.7%) (Lange et al., 2018).

After being in vogue for years, smoking has now been "denormalized." According to various scholars, smoking now represents a stigmatized identity (Evans-Polce et al., 2015; Chapman et al., 2008). Goffman (1963) defines a stigma as an "attribute that is deeply discrediting." Cognitions form the core of the stigma ("Homosexuals are depraved") and are followed by emotional ("I am disgusted by them") and behavioral responses ("I do not want to interact with them"). Various studies have shown that smokers are negatively perceived by society. They are portrayed as selfish, foolish, and inconsiderate individuals and may be shunned as potential lovers, coworkers, or roommates (Chapman et al., 2008). Most nonsmoking French people would not date a smoker (53%) or hire a smoker as a babysitter (79%) (Peretti-Watel et al., 2014). Pregnant smokers are portrayed even more negatively than other smokers (Wigginton et al., 2013). In France, they are often labelled as irresponsible, selfish, careless, stupid, and so forth (Loyal et al., 2021).

Notably, stigma not only occurs in the general population (public stigma) but also affects the stigmatized individuals (self-stigma). According to Bos et al. (2013) "Self-stigma reflects the social and psychological impact of possessing a stigma. It includes both the apprehension of being exposed to stigmatization [perceived stigma] and the potential internalization of the negative beliefs and feelings associated with the stigmatized condition [internalized stigma]". In other words, perceived stigma describes the experience (or anticipation) of stigma on the part of the stigmatized person ("Because I am hearing impaired, people look down on me"). Internalized

stigma describes the application of stigma to oneself, resulting in psychological distress ("Because I am disabled, I am useless"). Pregnant smokers perceive these strong negative social attitudes, and most report feelings of guilt and shame and unpleasant social experiences, such as receiving harsh criticism from family members and medical professionals (Flemming et al., 2013).

Self-stigma is a known cause of poor mental health in various life settings (e.g., HIV/AIDS, mental illness) (Stangl et al., 2019). However, stigma could be a blessing in disguise, applied to smoking, it could be temporarily hurtful but help people to quit. Indeed, smoking self-stigma has often been associated with the desire to quit smoking. However, it can also generate harmful consequences that may impede smoking cessation, such as depressive symptoms, social isolation, and lower self-efficacy (Evans-Polce et al., 2015). In some recent experimental studies, situations that stigmatize smoking have been associated with the inability to delay cigarette use (Cortland et al., 2019), higher physiological reactivity, cognitive fatigue, and self-exempting beliefs (Helweg-Larsen et al., 2019). Moreover, smoking self-stigma is associated with concealment of smoking status from health care providers (Curry et al., 2013), a common behavior among pregnant smokers (22.9%) (Dietz et al., 2011).

In summary, improving our understanding of how self-stigma might directly or indirectly affect mental health and smoking cessation in pregnant smokers is critical. Psychometrically sound instruments are needed for this purpose. Several scales have been used previously. Stuber et al. (2008) used 4 items (e.g., "Most people think less of a person who smokes") derived from a widely used mental illness stigma scale. Kim et al. (2018) used 9 items (e.g., "I feel like I am sometimes treated like an outcast because I smoke") derived from a lung cancer stigma scale. Brown-Johnson et al. (2015) used the Internalized Stigma of Mental Illness (ISMI) to develop the Internalized Stigma of Smoking Inventory (ISSI). This scale includes 8 items that assess internalized stigma (e.g., "I am embarrassed or ashamed that I am a smoker"), perceived stigma (e.g., "People ignore me or take me less seriously just because I am a smoker"), and discrimination (e.g., "People discriminate against me because I am a smoker"). However, all these scales are adaptations of mental illness

or lung cancer stigma scales and therefore do not include cognitions or behaviors specific to smoking in pregnancy (selfishness, parental incompetence, guilt, etc.) (Loyal et al., 2021). Moreover, only the ISSI has been adequately validated.

The aim of this study is to develop and validate a scale to assess self-stigma in pregnant smokers. We will adapt a scale that assesses public stigma toward pregnant smokers (Loyal et al., 2022) for use in pregnant smokers themselves. The scale will be named the “Pregnant Smoker Stigma Scale - Self Stigma (P3S- SS)” and will be produced in two complementary versions that capture both perceived and internalized stigma. In addition to the usual analyses of model fit, internal consistency, and temporal reliability, we formulated five hypotheses: H1) perceived and internalized stigma will be significantly associated; H2) highly dependent women will exhibit higher self-stigma; H3) women experiencing higher self-stigma will be more likely to intend to quit; H4) women experiencing higher self-stigma will exhibit more depressive symptoms and less social integration and self-efficacy; and H5) women experiencing higher self-stigma will be more likely to conceal their smoking behavior.

Material and Method

Procedure

All procedures were performed in accordance with the 1964 Declaration of Helsinki and its subsequent amendments. This study was approved by an institutional review board (IRB00003888, IORG0003254, and FWA00005831). Participants were recruited between May 2021 and May 2022 using two complementary strategies. First, a local maternity hospital (Bordeaux) distributed a leaflet describing the study and providing a QR code and a link to the questionnaire to all women. Second, an invitation to participate was posted on Facebook community groups of major French cities (Bordeaux, Lyon, Marseille, Nantes, Nice, Paris, Toulouse, etc.) at regular intervals. Participants had to be at least 18 years old, expecting a child, and living in France. All participants received written information and signed an informed consent form. They were offered the opportunity to

participate in a lucky draw to win a gift voucher (20€). They completed the two versions of the P3S-SS and various other self-administered questionnaires (see below). All participants were invited to participate again two weeks after their initial participation. If they agreed, they were asked to provide their email address, and they completed the P3S-SS a second time. Participants were informed that they could receive support to stop smoking (<https://www.tabac-info-service.fr>).

Participants

Participants were 142 pregnant smoking women. The full description of the sample is presented in Table 1. They were on average 29 years old, and most were expecting their first child (63.3%). Seventeen participants took the P3S-SS again nearly two weeks after the first occasion ($M=12.24$ days, $SD=4.15$).

INSERT TABLE 1

Measures

The Pregnant Smoker Stigma Scale - Public Stigma (P3S-PS) is a French scale assessing public stigma (Loyal et al., 2022). The full development and validation procedure is described in the original publication. The P3S-PS contains 26 items and four dimensions: derogatory cognitions (DC, 12 items, e.g., “A pregnant woman who smokes is selfish”), negative emotions and behaviors (NEB, 8 items, e.g., “I feel disgust”, “I make her feel guilty”), personal distress (PD, 4 items, e.g., “I feel sad for her”), and information provision (IP, 2 items, e.g., “I explain the risks of smoking to her”). The scale is accompanied by a Likert scale ranging from 1 (“*Strongly Disagree*”) to 6 (“*Strongly Agree*”). The P3S-PS items have been adapted for use in pregnant smokers themselves. For example, the original item “If I know a pregnant woman who smokes, I make her feel guilty” was used to generate a perceived stigma item (“When they know I'm smoking while pregnant, people make me feel guilty”) and an internalized stigma item (“When I think about the fact that I smoke during my pregnancy, it makes me feel guilty”). The item adaptation was performed by members of the research team (three health psychologists and two

psychiatrists). This new scale assessing self-stigma has been named the “Pregnant Smoker Stigma Scale - Self-Stigma” (P3S-SS). The perceived stigma version contains 26 items (Supplementary Material A). Perceived stigma includes derogative cognitions (DC, 12 items, e.g. , “People think I am selfish”), negative emotions and behaviors (NEB, 8 items, e.g. , “People make me feel guilty”), personal distress (PD, 4 items, e.g. , “People feel sorry for me”), and information provision (IP, 2 items, e.g. , “People tell me about the risks of smoking”). The internalized stigma version contains only 25 items (Supplementary Material B) because one item was not suitable (arguing with oneself). Internalized stigma includes derogative cognitions (DC, 12 items, e.g. , “I feel selfish”), negative emotions and behaviors (NEB, 7 items, e.g. , “It makes me feel guilty”), personal distress (PD, e.g. , 4 items “I feel sorry for myself”), and information provision (IP, 2 items, e.g. , “I think about the risk of smoking”). Both scale versions are accompanied by a Likert scale ranging from 1 (“*Strongly Disagree*”) to 6 (“*Strongly Agree*”).

The Edinburgh Postnatal Depression Scale (EPDS) was administered (Cox et al., 1987). The EPDS has 10 items, each of which has four possible responses. This scale has been widely used and validated during the postnatal and pregnancy periods (Gibson et al., 2009). In our sample, internal consistency was good (.87).

We also used 6 items extracted from the Social Inclusion Scale (SIS) (Wilson et al., 2015) (Supplementary Material C). These items were accompanied by Likert scales ranging from 1 (“*Not at all*”) to 4 (“*Yes, definitely*”). The internal consistency of the 6 items was acceptable (.70).

The Cigarette Dependence Scale (CDS-5) was administered (Etter et al., 2009). This scale enables a time-efficient screening of cigarette dependence and has good consistency in highly and moderately dependent smokers (Etter et al. 2009). The items collect information on the smoker’s perception of their dependence, their cigarette consumption, the timing of their first daily cigarette, perceived cessation difficulty, and irresistible urges to smoke (craving). The internal consistency of the CDS-5 was acceptable in our sample (.79).

The Smoking Self-Efficacy Questionnaire (SEQ) was administered (Etter et al. 2000). This scale has good consistency and temporal reliability. It has been associated with daily cigarette consumption, attempts to quit in the past year, and smoking cessation 16 months after administration. The SEQ contains 12 items that assess whether the smoker feels able to refrain from smoking in situations such as being angry or nervous, meeting with other smokers, and attending a party. The scale is accompanied by a Likert scale ranging from 1 (“*Very unsure*”) to 5 (“*Very sure*”). In our study, one item was excluded (“having a glass of wine, beer, or other alcohol”) because of major health recommendations and stigma. The consistency of the 11 items was very good (.94).

Smoking behavior dissimulation was assessed using 6 items designed especially for this study (see Supplementary Material D). Two items targeted general behaviors: concealing one’s smoking and not smoking in the presence of other people to avoid judgment. Four items targeted dissimulation to one’s family, partner, friends, and healthcare providers. Items were accompanied by a 5-point Likert scale (“*No, never,*” “*Yes, but hardly ever,*” “*Yes, sometimes,*” “*Yes, often,*” “*Yes, all the time*”). The consistency was good (.82).

Finally, smoking cessation intention was assessed with a simple question (“Do you wish to stop smoking?”) accompanied by five response options (“*Not really,*” “*Yes, I am seriously thinking of quitting smoking one day,*” “*Yes, I plan to quit smoking within 6 months,*” “*Yes, I plan to quit smoking within 3 months,*” “*Yes, I plan to quit smoking within 30 days*”).

Statistical Analyses

Analyses were performed using R (2021.09.1, lavaan package) and SPSS (20). Two distinct confirmatory factor analyses (unweighted least squares) were conducted to test the factor structure of the two versions of the P3S-SS. It is usually recommended to have a minimum of 5 participants per item. The following model fit indicators were examined in accordance with current recommendations: $X^2/df < 2-5$, $RMSEA < .06$, $AGFI > .90$, $SRMR < .08$, $CFI > .90$, $NNFI > .95$. We report internal

consistency ($\alpha >.70$) and intraclass correlations (ICC $>.75$) for the 17 participants who retook the scale nearly two weeks after the first occasion (M=12.24 days, SD=4.15). Then, we calculated Spearman correlations between the various scores to test our hypotheses. Multiple regression was used to identify the stigma dimensions that were most predictive of intention to quit smoking (Model 1) and smoking dissimulation (Model 2), controlling for dependence scores. For each model, dependence score was first entered as the only predictor. Subsequently, all stigma scores were entered together to test the incremental value of considering stigma.

Results

Scale Validation

Factor loadings, means, and standard deviations for all dimensions and items are presented as Supplementary Material E, F, and G. Model fit was good for perceived stigma ($\chi^2/df = 3.06$, RMSEA = .124, AGFI = .982, SRMR = .068, CFI = .986, NNFI = .985) and internalized stigma ($\chi^2/df = 3.31$, RMSEA = .14, AGFI = .977, SRMR = .087, CFI = .981, NNFI = .979). Internal consistency was good for the perceived and internalized stigma scores (.95-.94 respectively), DC (.91-.89), and NEB (.89-.89). Internal consistency was acceptable for PD (.73-.78). The internal consistency of perceived and internalized IP (.61-.71) might be regarded as substandard, but these scales contain only two items. Intraclass correlations were good ($>.75$), indicating an adequate temporal reliability after nearly two weeks (Supplementary Material E).

Correlations

As expected, perceived and internalized stigma were significantly associated ($r=.62$), with the correlations between dimensions ranging from .18 to .65 (Supplementary Material E). H1 was validated. Presumably, women who perceive a high level of stigmatization from others tend to internalize such views. Both perceived and internalized IP were only weakly associated with the other dimensions ($r <.30$).

Cigarette dependence scores were weakly correlated with self-stigma scores (up to .30), with the exception of internalized DC and IP (Table 2). Thus, H2 was also validated. Women with higher dependence scores tend to feel and, to a lesser extent, internalize stigma more than women with lower dependence scores.

Intention to stop smoking was correlated with internalized stigma scores and perceived PD (Table 2). Thus, H3 was validated. Notably, intention to stop smoking was quite strongly correlated with internalized IP ($r = .50$). However, this result is unsurprising, as IP items refer to thinking about the risks of smoking and ways to stop smoking.

As expected, depression was associated with self-stigma (up to $r = .35$), with the exception of perceived IP. Social inclusion was correlated with self-stigma scores (up to $r = -.28$), with the exception of both perceived and internalized IP (Table 2). H4 was only partly validated: self-efficacy was uncorrelated with any self-stigma dimensions (Table 2).

Finally, higher self-stigma scores were associated with higher dissimulation scores (up to $r = .41$), once again with the exception of both perceived and internalized IP (Table 2). H5 was validated.

INSERT TABLE 2

Multiple Regressions

Multiple regression results are presented in Table 3. In Model 1a, dependence score was predictive of intention to stop smoking ($\text{Adj } R^2 = .025$, $F(1,122)=7.206$, $p = .045$). In Model 1b, dependence and stigma scores predicted intention to stop smoking ($\text{Adj } R^2 = .143$, $F(8,115)=3.567$, $p=.001$). Model 1b represents a significant improvement (2.5% to 14.3%, $\Delta F=3.408$, $p=.002$). Notably, internalized IP was not included in the model because it was nearly synonymous with the intention to stop smoking. Unsurprisingly, higher dependence predicted a reduced intention to stop smoking ($\beta = -0.224$). Worrying and feeling sad about one's own smoking

(internalized PD) and feeling that other people are also concerned about one's smoking (perceived PD) were associated with greater intention to stop smoking ($\beta = 0.379$ and 0.326). However, feeling that people are disgusted or disdainful and trying to induce guilt (perceived NEB) was associated with a reduced intention to stop smoking ($\beta = -0.402$).

In Model 2a, the dependence score was not predictive of dissimulation behaviors (Adj $R^2 = .004$, $F(1,106)=1.437$, $p = .233$). In Model 2b, dependence and stigma scores predicted 19% of dissimulation behaviors (Adj $R^2 = .19$, $F(9,98)=3.785$, $p=.000$). Feeling that people are worried about one's personal smoking behavior (perceived PD) and feeling bad about oneself (I feel stupid, selfish...) (internalized DC) were associated with more dissimulation ($\beta= 0.242$ and 0.465). However, worrying and feeling sad about one's own smoking behavior (internalized PD) was associated with less dissimulation ($\beta= -0.381$).

INSERT TABLE 3

Discussion

This study was designed to validate the P3S-SS to assess both perceived and internalized stigma in pregnant smokers. The two versions of the P3S-SS show good model fit and consistency. The good temporal reliability of the P3S-SS is important to consider in relation to its usefulness for assessing future intervention efficacy. Indeed, various studies have shown that it is possible to decrease mental health self-stigma (Mittal et al., 2012). Future interventions may counteract hurtful stereotypes and emotions while reasserting the risks of smoking and benefits of cessation.

As hypothesized, perceived and internalized stigma were correlated (.62) but not synonymous. This result is consistent with the idea that public stigma is the source of self-stigma (Bos et al., 2013). It raises the possibility of designing and implementing interventions directed at the general population to counteract stigmatizing attitudes and behaviors. Such interventions, which combine education

and contact with the stigmatized population, have been proven to be efficient in the mental health field (Gronholm et al., 2017).

Self-stigma was associated with cigarette dependence. Highly dependent women might have more difficulty refraining from smoking in social contexts in which they might be stigmatized (Flemming et al., 2013). Thus, self-stigma might be partly “dose dependent.” However, the association is modest ($\leq .30$). It may be argued that the extent of dependence might be less important than the smoking status per se. Indeed, any amount of cigarette smoking has deleterious effects, and many women might know this. Moreover, strangers observing a pregnant smoking woman react regardless of her dependency level, of which they have no knowledge of it.

As expected, women who perceived and internalized stigma tended to feel more depressed and socially excluded. This finding is important because various studies have reported that poor mental health may increase smoking heaviness and dependence (Fluharty et al., 2017). Moreover, social participation and support have been associated with smoking cessation (Giordano et al., 2011). However, self-efficacy in smoking cessation was not associated with stigma. This result might be explained in two ways. First, we used the global score of a scale that assesses both internal (low mood, anger) and external (celebrating, meeting with other smokers) pressures (Etter et al. 2000). Considering two scores might produce different results. Speculatively, internalized self-stigma could lower the individual’s ability to resist internal pressures such as low mood or anger, whereas perceived self-stigma could favor the ability to resist external pressures such as spending an evening with friends. Second, this scale might be less efficient in our sample of pregnant smokers, who do not often contemplate cessation (21.8%).

Feeling sad or worried about one’s smoking behavior (internalized PD) was associated with the intention to stop smoking. The perception that others are worried and sad about one’s smoking behavior (perceived PD) was also associated with the intention to stop smoking. Empathy perceived in others may act as a precursor to motivation and, ultimately, cessation. However, perceived NEB was a negative predictor of intention to stop smoking. The feeling that people are angry, disgusted,

reproachful, or trying to induce guilt seems to hinder motivation. Women facing such negative reactions might try to reassert their endangered sense of autonomy by maintaining their smoking behavior. However, conversely, women who state that they do not plan to quit smoking might experience more stigmatizing reactions from others. In sum, perceived or internalized derogatory cognitions (e.g. “people think I am stupid, selfish, a bad mother”, “I think I am stupid, selfish, a bad mother”) or negative emotions and behaviors (e.g. “People feel disgust, contempt, reproach me or try to make me feel guilty”, “I felt disgust, I feel guilty”) do not motivate pregnant women to stop smoking. Only self-worry and others’ perceived concern increase smoking cessation intention. Importantly, poor pregnant women surrounded by other smokers who often minimize smoking risks might lack such manifestations of worry (Loyal et al., 2022).

Perceived and internalized stigma were associated with dissimulation behaviors, in accordance with the findings of previous qualitative and quantitative studies (Flemming et al., 2013; Curry et al., 2013). This result is crucial because dissimulation might exacerbate social exclusion, lack of access to adequate healthcare, and conflict with family members (Wigginton et al., 2013). In a multivariate analysis, internalized derogative cognitions were predictive of dissimulation behaviors. Stigma leads to dissimulation when it becomes deeply rooted in the individual’s self-definition. Thus, dissimulation might help women protect their fragile self-esteem from additional harm caused by rejection or aggression (Bos et al., 2013; Flemming et al., 2013). Interestingly, perceiving that people are worried or sad about one’s own smoking behavior (perceived PD) was also associated with more dissimulation behaviors. Perceived personal distress seems to act as an encouragement toward cessation but may lead to fear of failing to meet such expectations and disappointing significant others. This issue is presumably an important one to be considered and acted upon in smoking cessation support. Significant others should be encouraged to give the assurance of their unconditional affection and support.

Finally, feeling sad and worried about one’s own smoking behavior (internalized PD) was associated with less dissimulation. This result is surprising.

Feeling and showing sadness and worry might prevent women from experiencing severe disapproval from others in certain circumstances, thus leading to reduced concealment. Moreover, women who report feeling sad and worried because they smoke might also present with characteristics such as high social desirability or conscientiousness, which might be at odds with reports of concealment.

This study provides a novel tool with promising psychometric qualities that opens up exciting avenues for future research. The scale has the advantage of being able to distinguish between perceived and internalized stigma. Further research might test more complex or causal models to understand how perceived and internalized stigma may interact with each other and with distress, social relationships, willingness to stop smoking, dissimulation behavior, and healthcare-seeking. Longitudinal studies of this topic would be the best way to observe intra- and interindividual variability in the degree of perceived and internalized stigma and its impact on various psychological, behavioral, and health outcomes.

However, this study has some limitations. First, online recruitment and participation is a valuable tool when dealing with sensitive issues, but some scholars have raised concern regarding the representativeness of such samples. Furthermore, our sample contains few women who are in their last trimester of pregnancy (15%). This is important because stigma is deeply related to the visibility of the condition (Bos et al., 2013). In addition, some women did not complete the long protocol. However, because they had completed the central stigma questionnaires, we chose to retain their valuable data. Thus, our sample size did not allow us to control for additional variables, such as depression and social isolation scores, in multiple regression models. The information provision dimension seems to be the weakest dimension of the P3S-SS. It has only two items and low internal consistency and was only moderately correlated with the other dimensions. However, it is a presumably well-meaning behavior associated with stigmatizing attitudes in the general

population (Loyal et al., 2022). Further research might examine the usefulness of this dimension and perhaps consider its exclusion. We used a composite score to measure dissimulation behavior. However, dissimulation to healthcare providers might represent a more crucial and specific issue than dissimulation to family members or friends. Regarding dependence, the CDS-5 questions focus on the individual's current smoking behavior. However, it might be important to also consider pre-pregnancy smoking behavior, which may be more informative than current smoking behavior. Importantly, we did not collect data regarding health, pregnancy complications, and relatives' smoking behavior.

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Declaration of interest statement. The authors report that there are no competing interests to declare.

Data Availability. Data available on request.

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Table 1. Sample description (N=142)

Variables	M(SD) [min-max] or %(n)
Age ^b (n=142)	29.07 (5.62) [18-43]
Time before delivery ^a (n=107, 25% ^c)	103.38 (58.33) [3-246]
<i>First trimester</i>	47.7% (n=51)
<i>Second trimester</i>	37.4% (n=40)
<i>Third trimester</i>	15% (n=16)
Couple (n=109, 24% ^c)	
<i>Couple, marriage or civil pact</i>	90.8% (n=99)
<i>Single</i>	9.2% (n=10)
Child number (n=109, 24% ^c)	
<i>No child</i>	63.3% (n=69)
1	21.1% (n=23)
2 or more	15.6% (n=17)
Education (n = 109, 24% ^c)	
<i>No high school diploma</i>	28.5% (n=31)
<i>High school diploma</i>	22.9% (n=25)
≥ 3 years of higher education	48.6% (n=53)
Working position (n=109, 24% ^c)	
<i>Permanent position</i>	61.5% (n=67)
<i>Temporary position</i>	7.3% (n=8)
<i>Unemployed or Housewife</i>	29.4% (n=32)
Employment category (n=103, 28% ^c)	

<i>Low skilled positions</i>	74,8% (n=77)
<i>Medium skilled positions</i>	4.9% (n=5)
<i>Highly skilled positions</i>	10.7% (n=11)
<hr/>	
Smoking since ^b (n=142)	12.48 (5.20) [2-25]
Daily cigarette (n=139, 2% ^c)	7.35 (4.96) [1-25]
0-5	48.2% (n=67)
6-10	36% (n=50)
11-20	15.1% (n=21)
21-29	0.7% (n=1)
Cessation perception (n=142)	
<i>Very easy</i>	0.7% (n=1)
<i>Easy</i>	5.6% (n=8)
<i>Difficult</i>	35.9% (n=51)
<i>Very difficult</i>	47.2% (n=67)
<i>Impossible</i>	10.6% (n=15)
Intention to stop (n=142)	
<i>Don't</i>	21.8% (n=31)
<i>One day</i>	47.2% (n=67)
<i>In the next 6 months</i>	5.6% (n=8)
<i>In the next 3 months</i>	9.9% (n=14)
<i>In the next 30 days</i>	15.5% (n=22)
CDS-5 score (n=138)	15.58 (3.85) [7-24]
<hr/>	
EPDS Score (n=111, 23% ^c)	11.33 (6.31) [1-28]
Probable depression (EPDS ≥ 13)	40.5% (n=45)
Possible depression (EPDS ≥ 10)	58.6% (n=65)

Note. ^a In days ^b In years ^c missing data %

Table 2. Correlations Between Stigma and Other Psychological Measures (n=104-142)

	CDS-5	EPDS	SIS6	SSEQ	CES	DISS
PER – DC	.27**	.20*	-.23*	-.01	.10	.26**
PER – NEB	.28**	.22*	-.23*	-.05	.08	.26**
PER – PD	.18*	.23*	-.21*	.06	.19*	.30**
PER – IP	.27**	.08	.02	-.16	-.04	.02
PER – STI	.30**	.22**	-.23**	-.03	.11	.28**
INT – DC	.16	.31**	-.25**	-.06	.19**	.41**
INT – NEB	.26**	.34**	-.25**	-.02	.25**	.35**
INT – PD	.27**	.35**	-.28**	-.08	.27**	.26**
INT – IP	.08	.20*	-.04	.08	.50**	-.02
INT – STI	.23*	.35**	-.26**	-.04	.28**	.36**

Note. PER (Perceived Stigma) and INT (Internalized Stigma). DC (Derogatory Cognitions), NEB (Negative Emotions and Behaviors), PD (Personal Distress), IP (Information Provision) and STI (Global Stigma Score). CDS-5 dependence. EPDS Depression. SIS Social Inclusion. SSEQ Smoking Self-Efficacy. CES. Intention to stop smoking. DISS. Dissimilation. ** p<.01 and * p<.05. Significant correlations are in **Bold**.

Table 3. Multiple Regressions Models 1 (n=127) and 2 (n=111)

Model 1a Predicting Intention to Stop (Adj. R² .025)*					
	B	SE	Stand B	t	P
CDS5	-0.064	0.031	-0.181	-2.028	.045*
Model 1b Predicting Intention to Stop (Adj. R² .143)**					
	B	SE	Stand B	t	P
CDS-5	-0.079	0.032	-0.224	-2.489	.014*
PER-DC	0.147	0.249	0.116	0.588	.558
PER-NEB	-0.480	0.216	-0.402	-2.218	.028*
PER-PD	0.442	0.149	0.326	2.963	.004**
PER-IP	-0.043	0.101	-0.040	-0.428	.669
INT-DC	-0.194	0.240	-0.134	-0.808	.421
INT-NEB	0.054	0.215	0.048	0.253	.800
INT-PD	0.435	0.204	0.379	2.135	.035*
INT-IP	---	---	---	---	---
Model 2a Predicting Dissimulation (R² .004)					
	B	SE	Stand B	t	P
CDS-5	0,026	0,021	0,116	1,199	0,233
Model 2b Predicting Dissimulation (R² .190)**					
	B	SE	Stand B	t	P
CDS-5	0.014	0.021	0.062	0.650	.517

PER-DC	-0.172	0.163	-0.209	-1.058	.293
PER-NEB	0.200	0.140	0.261	1.432	.155
PER-PD	0.207	0.101	0.242	2.059	.042*
PER-IP	-0.114	0.066	-0.173	-1.738	.085
INT-DC	0.419	0.167	0.465	2.510	.014*
INT-NEB	0.162	0.143	0.226	1.132	.260
INT-PD	-0.273	0.134	-0.381	-2.039	.044*
INT-IP	-0.081	0.083	-0.096	-0.976	.332

Note. PER (Perceived Stigma) and INT (Internalized Stigma). DC (Derogatory Cognitions), NEB (Negative Emotions and Behaviors), PD (Personal Distress), IP (Information Provision) and STI (Global Stigma Score). CDS-5 (dependence).