



**University of Utrecht, the Netherlands
Master Youth studies**

Thesis

**Adolescents who try to quit smoking:
The influence of fear of gaining weight on smoking cessation and the
mediating role of motivation.**

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Abstract

The aim of this study was to investigate the influence of fear of gaining weight on success on smoking cessation for adolescent boys and girls and to test the mediating role of motivation to quit smoking. Participants (N=257), who all stated to be motivated to quit smoking, were between 12 and 18 years (M=16.7, SD=1.13). They were recruited for a Nicotine Replacement Therapy program, conducted in High Schools throughout the Netherlands. This consisted of a six or nine week nicotine or placebo patch condition and three measurement points afterwards, where participants were asked if they smoked in the last month. Quitting smoking was found to be a hard task for adolescents. Only 14.8, 7.5 and 9.1% of the participants succeeded in their attempt at the three measurement points, resulting in a low statistical power. Results of this study indicate that the fear of gaining weight does not have an effect on the success rate of smoking cessation and no differences were found between boys and girls. Therefore, motivation could not be a mediator. It is unclear if this result is caused by a lack of statistical power or if this relationship does not exist in the population. However, the present findings indicate that a higher motivation to quit smoking was related to more success in smoking cessation after six and twelve months. Future research should expand the sample size to learn more about this relationship.

Samenvatting

Het doel van deze studie was om de invloed van de angst om aan te komen op succesvol stoppen met roken te onderzoeken voor adolescentie jongens en meisjes, en de mediërende rol van motivatie te testen. Participanten (N=257), die allen aangaven gemotiveerd te zijn om te stoppen met roken, waren tussen de 12 en 18 jaar (M=16.7, SD=1.13). Zij werden geworven via een Nicotine Vervanging Therapie programma op middelbare scholen in Nederland. Deze bestond uit een zes of negen weken durende nicotine of placebo pleister conditie en drie metingen, waar zij werden gevraagd of zij hadden gerookt in de laatste maand. Succesvol stoppen met roken blijkt moeilijk te zijn voor adolescenten. Slechts 14.8, 7.5 en 9.1% van de participanten slaagde hierin, wat resulteerde in een lage statistische power. Resultaten gaven aan dat de angst om aan te komen geen effect heeft op succes in stoppen met roken en dat hierin geen verschil werd gevonden tussen jongens en meisjes. Hierdoor kon motivatie geen mediator zijn. Het is onduidelijk of dit resultaat verklaard werd door de lage statistische power of dat deze relatie niet bestaat in de populatie. Echter, een hogere motivatie was gerelateerd aan meer succes in stoppen met roken op T2 en T3. Toekomstig onderzoek zal de steekproefgrootte moeten uitbreiden om meer te leren over deze relatie.

Introduction

Despite the unfavorable health consequences of smoking and all the effort that is put into anti-smoking programs in most Western countries, 25% of the adults continue to smoke (Stivoro, 2012a). For adolescents, this number is somewhat lower with 11% of the Dutch adolescents between ten and nineteen years smoking on a daily basis, but this number increases rapidly with age (Stivoro, 2012b). Many of these adolescent smokers report that they want to quit smoking (Grimshaw et al., 2003) and frequently try to quit (Pallonen, Murray, Schmid, Pirie, & Luepker, 1990) but around 95% to 99% of these attempts end in relapse (Sussman, 2002). This relapse rate is significantly higher for adolescents than for adults (La Vecchia et al, 1991 in Grimshaw et al., 2003). Also, smoking in the teenage years is a predictor of adult smoking, as almost no non-smoking adolescents start smoking in adulthood (Chassin, Presson, Rose, & Sherman, 1996). Denscombe (2001) found that the sooner a person gives up smoking, the lower the risk of lung cancer.

Thus, learning more about predictors of smoking and smoking cessation among adolescents can help prevent smoking related diseases and possible deaths in the future. Unfortunately, there is not much certainty about the most effective cessation strategy for adolescents (Denscombe, 2001). Therefore, the present research will look into one of the possible explanations of what makes smoking cessation so difficult for adolescents; the fear that smoking cessation will make them gain weight.

Fear of gaining weight

One of the possible explanations for the experienced difficulties with smoking cessation is that many people perceive that smoking controls body weight and that smoking cessation leads to weight gain (Meyers et al., 1997). This indeed seems to be the case, as Lycett, Munafò, Johnstone, Murphy and Aveyard (2010) found that people who successfully stopped smoking had gained almost four times as much and significant more weight after eight years than people who were still smoking. As most people don't want to gain weight, this can make cessation efforts more difficult.

Although weight is an area of concern throughout the life span for most people, this is particularly relevant during adolescent and young adult years (Stanford & McCabe, 2002). As this research consists of adolescents only, it is expected that the relationship between fear of gaining weight and smoking cessation will be found. In this research this fear is measured with two constructs, namely weight concerns and smoking to control body weight.

Weight concerns

Researchers found that people with a negative body image already have the intention to start smoking again if they would add weight during cessation (Dobmeyer, Peterson, Runyan, Hunter, & Blackman, 2005) and that body image dissatisfaction may hinder cessation attempts (King, Matacin, White, & Marcus, 2005; Klesges, Meyers, Klesges, & LaVasque, 1989). On the other hand, the literature review of French and Jeffery (1995) found no support for the hypothesis that cessation is more difficult for people with weight concerns than for people without these concerns. Collectively, the studies provide conflicting results regarding the assumed negative relationship between the presence of weight concerns and successful smoking cessation.

Although both considering your own body as too fat or as too thin, can be seen as having weight concerns, it is hypothesized that adolescents who actually want to gain weight will not perceive the possible weight gain as a barrier for smoking cessation. For this reason, in this research weight concerns are operationalized as being concerned with weight gain only.

Smoking to control body weight

Adolescent girls with weight concerns have a higher risk for cigarette use because they see smoking as an effective strategy to control their weight (Stice & Shaw, 2003; French, Perry, Leon, & Fulkerson, 1994). A previous study indicated that about 50% of the women admitted that they smoke to control their weight (Garner, 1997 in King et al., 2005). Other researchers reported that this was the case for 39% of white girls and 12% of the white boys that participated in their research (Camp, Klesges & Relyea, 1993).

According to these studies it can be assumed that the fear of weight gain can be a reason to smoke, but they cannot tell us much about how this influences cessation. However, it is hypothesized that people who are smoking to control their body weight will find it extra difficult to stop smoking, as they are already really conscious about the effects that smoking and especially smoking cessation can have on their weight.

Gender

Meyers et al. (1997) found that participants who were weight concerned were more likely to be female. Jeffery, Hennrikys, Lando, Murray, & Liu (2000) found that, only in woman, weight concerns were associated with a reduced likelihood of smoking cessation. Also, women with a negative body image appear to be at particularly high risk for smoking relapse (Dobmeyer et al., 2005). However, motivation to quit smoking was also found to be significantly lower in men with

weight concerns, although success in smoking cessation was not measured in this particular study (Clark et al., 2004).

Motivation

Motivation can be seen as the 'driving force' behind behavior (Madsen, 1974 in Kleinginna & Kleinginna, 1981). It can therefore be hypothesized that people who have confidence in their behavior and who are motivated to change this will be more likely to succeed. Motivation to quit smoking was found to be significantly lower in those with weight concerns (Clark et al., 2004). So, it could be argued that low motivation is the reason that people with weight concerns have a lower success rate when it comes to smoking cessation. Results are not unambiguously about these relationships though (Borelli, Spring, Niaura, Hitsman, & Papandonatos, 2002). As many smoking cessation treatments focus on building motivation first (Borelli et al., 2001), this is an important factor to explore.

Current study

In the present study it is hypothesized that the more problems adolescents have with the possibility of gaining weight, the harder they will find it to stop smoking and the less they will succeed in doing so. Therefore, the first hypothesis is; *Adolescents with fear of gaining weight are less successful smoking cessation than adolescents without fear of gaining weight.* This was hypothesized for both the presence of weight concerns, as for adolescents who smoke to control their body weight.

Difficulties regarding smoking cessation among adolescents with fear of gaining weight is expected to be found in both sexes. However, it is hypothesized that this effect will be stronger for girls than for boys, leading to the second hypothesis: *The effect of fear of gaining weight on smoking cessation is stronger for girls than for boys.* Again, this was expected for both operationalization's of fear of gaining weight, as women with a negative body image appear to be at particularly high risk for smoking relapse (Dobmeyer et al., 2005) and girls were more likely to report that they use cigarettes as a strategy to control their weight (Camp et al., 1993).

It is expected that smoking to control body weight and the presence of weight concerns are two operationalization's of the construct of fear of gaining weight, and that this is because of the lower motivation in adolescents with weight concerns. It is therefore hypothesized that motivation is a mediator for the relationship between weight concerns and success on smoking cessation, leading

to the last hypothesis; *Motivation is a mediator for the relationship between fear of gaining weight and smoking cessation.* The expected relationships can be seen in figure 1.

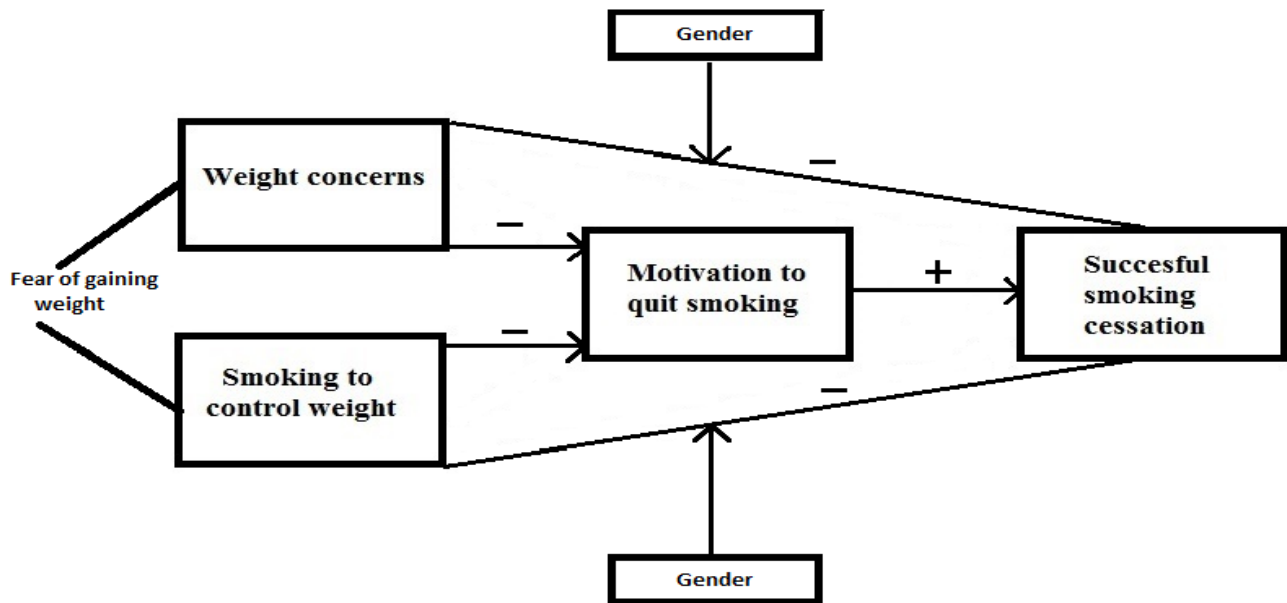


Figure 1

The relationship between weight concerns and smoking to control weight and successful smoking cessation, the moderating role of gender and the mediating role of motivation.

Learning more about possible hampering factors for smoking cessation in adolescents can give us information for treatment programs. As the sooner a person gives up smoking, the lower the risk of lung cancer is (Denscombe, 2001), successful treatment programs can prevent smoking related diseases and possible deaths in the future.

Methods

Procedure and Sample

For this research, data was used from a research that was comparing the effects of Nicotine Replacement Therapy (NRT) in comparison with a placebo patch condition. In this research, students who stated that they were motivated to quit smoking were randomly assigned to one of the conditions.

Participants were students from one of the 33 participating schools from the central region of the Netherlands. Online questionnaires were filled out at baseline (T0), at the end of treatment (T1, 6 or 9 weeks after baseline) and six (T2) and twelve months after treatment (T3).

A total of 585 adolescents showed interest in participation. Participants were only invited if they 1) were aged from 12 till 18, 2) they were not subject to major physical health problems, 3) they were smoking a minimum of 1 cigarette a day, 4) their parents were aware of their smoking behavior and gave their consent for participation and 5) they were motivated to quit smoking. It was found that 147 adolescents could not meet these criteria and 76 participants did not finish the questionnaire. This left 362 participants that were invited for the information meeting, from which 265 showed up. Lastly, 8 participants were excluded from the research because of inconsistent answers or quit participation. At the end, 257 adolescent smokers between 12 and 18 year ($M=16.7$, $SD=1.13$) participated in this study, from which 52.9% ($N=136$) were girls.

Measures

Smoking cessation success T1, T2 and T3

The dependent measure was success in smoking cessation at the end of treatment (T1; $N=164$, missing values= 93), six months after treatment (T2; $N=232$, missing values= 25) and twelve months after treatment (T3; $N=223$, missing values= 34), which was operationalized as not having smoked in the past month for all measurement points. Thus, the variables for smoking cessation were dichotomous, with participants who succeeded in not smoking in the past month (score= 1) and with participants who did not succeed (score= 0). In the performed intent to treat analyzes all missing values were labeled as being unsuccessful in smoking cessation (score 1).

Weight concerns T0

All participants were asked what they thought about their own body. Answers were given on a 5 point Likert scale, ranging from 'way too thin' to 'way too fat'. Dummy variables were then generated for the presence of weight concerns. Participants who stated that their body was too fat or way too fat were considered as having weight concerns (Score= 1), while participants who thought their body was too thin or just right were being labeled as not having weight concerns (Score=0).

Smoking to control body weight T0

Examples of items about smoking to control body weight were: "Smoking helps me to prevent gaining weight." and "I smoke to prevent that I will get hungry." Participants rated five items on a

4-point Likert scale, ranging from *never* to *always* and one item ranging from *I don't agree at all* to *I totally agree*. Individual scores were averaged to produce a single index, which is ordinal. Cronbach's Alpha (α) was found to be .83, indicating a high correlation and therefore a high reliability of the construct of smoking to control body weight.

Motivation at T0, T1, T2 and T3

Participants were asked how motivated they were to quit smoking. This was measured on a 5-point Likert scale ranging from *not at all motivated* to *strongly motivated*. The average score on the answers of participants at T0, T1, T2 and T3 was used as an indicator of the motivation to quit smoking.

Strategy of analysis

All statistical tests were carried out using the Statistical Package for Social Sciences version 19 for Windows software (SPSS version 19.0). In all cases, P values $\leq .05$ were used to denote statistical significance.

Preparing statistical analysis

The data were cleaned to check for outliers and strange answering patterns. Next, scales were formed and reliability analyses were performed. Descriptive statistics were obtained to get relevant data about the participants that are not assessed in one of the research questions. Next, Cronbach's Alpha was calculated for the items regarding smoking to control body weight. Prior to conducting the analyzes, the assumptions of linearity and independence of errors were checked. To make sure the missing values did not form a problem, pairwise deletion was used.

Analyzes

In total, six binary logistic regressions were performed to identify variables predictive of successful smoking cessation. The current data were collected in order to study the effects of Nicotine Replacement Therapy (NRT), whereby a nicotine patch condition was compared with a placebo patch condition. As this was not taken into account in this research, all the analyzes were controlled for these conditions. This was entered as a control variable in the first step of the regression in all analyzes. Next, a correlation matrix was made to check for other significant control variables. Results were only controlled for the self-efficacy that the participants had in their attempt to quit smoking (at T0 for weight concerns). The self-efficacy question was measured on a Likert scale, ranging from 1 (I am totally not confident that I can quit smoking) till 5 (I am really confident that I

can quit smoking). This score was entered as a control variable in the analyses that was performed to assess the relationship between weight concerns and success on smoking cessation on T1.

Success on smoking cessation was entered as the dependent variables in all analyzes, varying at T1, T2 and T3. So, three logistic regressions were performed to assess the influence of weight concerns on smoking cessation, where the generated dummy variable was entered as the independent variable. Then, the same three logistic regressions were performed for smoking to control body weight, where the average score on this scale was entered as the independent measure. The moderating role of gender was tested with an interaction effect that was added in the last step of all regression analyzes.

Because of the risk of selective attrition, all analyses were done a twice; both regularly and using Intent to Treat-analyzes.

Results

Descriptive Statistics

The students were all smoking between two and six cigarettes a day at T0, with an average of 3.88 cigarettes. The average age to start smoking on a daily basis was 13.74 year, ranging from 9 to 16 years. A total of 64.4% (N= 166) students admitted that they had tried to quit smoking before and 46.7% (N= 120) reported that they tried to reduce the number of cigarettes that they smoked.

In total, 79.8% (N=205) of the students had a healthy weight; their body mass index (BMI) ranged between 18 and 25. Further, 11.7% (N= 30) were overweight and 8.6% (N=22) were underweight. The average BMI was 21.5 (SD= 2.81), ranging from 15 to 33. At T1, 14.8% (N=38) of the students did not smoke in the last month. This percentage was 7.5% (N=19) at T2 and 9.1% (N=23) of the students did not smoke for at least a month at T3. Next to that, 37.1% (N=88) of the students thought that they gained weight after quitting smoking while 55.7% (N=132) said that they stayed at the same weight. The remaining 7.2% (N=17) thought that they had lost some weight. A small percentage of the students (8.8% (N= 18)) who started smoking again admitted that this was at least partly because of their fear of gaining weight.

Correlations

Correlations are reported in table 1. As illustrated, the age that participants started smoking on a regular basis (a minimum of one cigarette a day) was correlated with having more weight concerns ($r=-.17$, $p=.006$). This indicates that adolescents with weight concerns started smoking regularly at a younger age than adolescents with no weight concerns. Also, adolescents with weight concerns scored higher on self-efficacy. In other words; they were more convinced that they would be able to succeed in quitting smoking, ($r=.13$, $p=.032$).

As was expected, having weight concerns was related to smoking to control body weight. Adolescents with weight concerns admitted to be smoking to control body weight more than their peers without weight concerns ($r=.16$, $p=.012$). Adolescents who admitted that they smoked to control their body weight were smoking more cigarettes on average than their peers who did not smoke to control their body weight ($r=.13$, $p=.033$). It was also found that they started to smoke on a regular basis at an earlier age than the participants who did not smoke to control their body weight ($r=-.15$, $p=.016$). See Table 1.

The average motivation of the participants was linked to their success in smoking cessation on T2 ($r=-.17$, $p=.008$) and T3 ($r=-.24$, $p=.000$), indicating that participants with a higher average motivation were more likely to succeed in their quitting attempts, six or twelve months after the program. No relation was found between average motivation and success on smoking cessation at T1 ($r=.09$, $p=.230$).

Weight concerns and smoking cessation

It was hypothesized that if adolescents did not want to gain weight, they would be less likely to quit smoking. This hypothesis was tested with a logistic regression analysis. In the third step, the hypothesis that the above-mentioned effect is stronger for girls than for boys was tested. Results are shown in Table 2, indicating that there are no significant effects of weight concerns on smoking cessation at T1, T2 and T3. This suggests that having weight concerns does not influence the chance that adolescents succeed quitting smoking. Also, gender is not a moderator, indicating no difference in the effect of weight concerns between boys and girls.

In addition, Intent to Treat-analyses were performed, finding similar results with no significant effects for weight concerns and gender on smoking cessation.

Smoking to control body weight and smoking cessation

It was hypothesized that people who smoke to control their weight would be less successful in smoking cessation and this was expected to be even stronger for girls. A logistic regression was used to test both hypotheses. Results are shown in Table 3. It shows no significant effects of smoking to control bodyweight on smoking cessation on T1, T2 and T3. There was no significant interaction with gender, indicating no difference between girls and boys.

Also, the Intent to Treat-analyses showed similar results with no significant effects for smoking to control weight and gender on smoking cessation.

Motivation

It was hypothesized that motivation was a mediator for the relationship between weight concerns and smoking to control weight on one hand and smoking cessation on the other hand. As this effect was not found, according to the principles of Baron & Kenny (1986), motivation cannot be a mediator.

Discussion

The present study examined the relationship between fear of gaining weight on the one hand, operationalized as having weight concerns and smoking to control body weight, and smoking cessation on the other. Furthermore, the mediating role of motivation in this relationship was hypothesized as well as the moderating role of gender. The fear of gaining weight was found to have no effect on smoking cessation and no moderation effect was found for gender. Therefore, motivation could not be a mediator. A higher level of motivation was related to higher levels of success in smoking cessation, six and twelve months after treatment.

Smoking cessation

Quitting smoking is a difficult task for adolescents. Even-though all of the participants in this study indicated that they were motivated to quit, only a small percentage succeeded in abstaining from smoking for a month. The number of adolescents who successfully quitted smoking were not higher than 38 out of 257, resulting in quit rates varying from 7.5 to 14.8%, at the different measurement points. It is unclear if the failure to find a relationship between the fear of gaining weight and

smoking cessation was caused by the absence of this relationship in the population or if the statistical power of the present study was too low (see limitations).

The hypothesized differences in the relationship between fear of gaining weight and smoking cessation for boys and girls were found by Riedel, Robinson, Klesges, & McLain-Allen (2002), with 11% of the boys and 32% of the girls indicating that weight concerns were a reason for them to not stop smoking. Again, it is not clear why this relationship was not found in the current study and if this is due to the low statistical power. For the second research question, the power was even lower as the number of successful quitters were split in half between the genders.

In this research, the relationship between fear of gaining weight and motivation was not found for either weight concerns or smoking to control body weight. This finding is contradicting with other researches, where the fear of gaining weight was found to lower motivation for smoking cessation (Clark et al., 2004, Riedel et al., 2002). The fact that fear of weight gain was not related to motivation in this sample could (partly) explain the fact that the relationship between fear of gaining weight and smoking cessation was not found. That is, if motivation is, as was expected, a mediator for the relationship between fear of gaining weight and smoking cessation.

These results were found in the present study with a relatively large sample of 257 adolescents and therefore a high statistical power. So there is no reason to believe that this relationship was existing in the present dataset. A possible explanation for the absence of this relationship is the fact that motivation to quit smoking was an inclusion criteria for this research, as all participants needed to be motivated for smoking cessation. This means that adolescents with fear of gaining weight were possibly underreported in this sample, as they were not motivated enough to join the treatment program. The adolescents who did have fear of gaining weight and did register for the program could therefore have been more motivated for smoking cessation than the average adolescent with fear of gaining weight. This may have made the relationship between fear of gaining weight and motivation harder to detect.

Motivation

Taking the role of motivation seriously when dealing with smoking cessation programs was a primary recommendation by a National Cancer Institute Expert Advisory Panel (Glynn, Boyd, & Gruman, 1990 in McCaul et al., 2006). This study also found the importance of this relationship. Even-though all adolescents participated in the Nicotine Replacement Treatment Program because they were motivated to quit smoking, only a small percentage succeeded in their smoking cessation attempt. This is in line with the research of Balch (1998), stating that only few intervention

programs were found to have uniform successful results. A significantly higher number of participants succeeded in their quitting attempt directly after intervention (at T1, 14.8%), compared to six months after (T2, 7.5%). So apparently, smoking cessation was found to be relatively easier when participants were being active in the intervention program (i.e. using nicotine or placebo patches). This was in line with the findings of multiple researches, stating that most of the people who succeeded in a smoking cessation program, quickly relapse afterwards (Shiffman, 1982). So, as it was harder to persevere their smoking cessation after the intervention stopped, high motivation seemed to play a more important factor afterwards, when adolescents were faced with the challenge to succeed in smoking cessation by themselves. This can explain the fact that the relationship between motivation and smoking cessation was only found at six and twelve months after treatment.

Strengths and Limitations

The current study used a relatively large, heterogeneous sample, making the results generalizable for Dutch adolescents in general. The longitudinal design of this study makes it possible to make statements about causality. Also, the low drop-out rate makes the risk of selective (intend to treat?) attrition effects small. To rule out this possibility, intent to treat analyzes were also performed. Further, all data were collected via online self-report, minimizing interviewer biases as much as possible (Selm & Jankowski, 2006).

However, some limitations of the current study should be noted as well. First, the small percentage of successful quitters (T1, 14.8%, T2, 7.5% and T3, 9.1%) resulted in a low statistical power for the primary analyses, making it harder to detect differences between fear of gaining weight and smoking cessation. Further, all data were collected via self-reports; there were no biochemical assessments used. It could be argued that participants could falsely have stated that their quitting attempt was successful, due to demand effects, to conform to the perceived social norm of 'not smoking' (Patrick et al., 1994) or to underestimate the amount smoked (Haley & Hoffman, 1985). This effect is supposed to be especially strong in a sample of adolescents, who are found to be more likely to deny smoking than the general population (Patrick et al., 1994). It should be noted, however, that biochemical assessment is not 100% reliable either and has some practical drawbacks, like increased refusals due to more required contact with participants (Patrick et al., 1994).

Implications

At the highest point, directly after treatment, only 14.8% of the adolescents who participated in the study succeeded in quitting smoking while all participants stated that they were motivated to quit. From this viewpoint it can be concluded that quitting smoking is a very difficult task to complete for adolescents. The present study was set up to answer the question if fear of gaining weight was a hampering factor in the process of smoking cessation. This study did not find the previously described relationship, but because of the small power it could not be concluded that this relationship does not exist. So, to be able to draw some more clear conclusions about the relationship between weight concerns and smoking cessation, the sample in future research should be a lot bigger.

The failure to find a relationship between fear of gaining weight and motivation could not be explained by a small statistical power. This failure is in contrast with previous researches. So future research could be set up to learn more about this relationship and why it is not always found.

An other important implication from this study is that smoking cessation programs aiming at adolescents should focus on motivation, as this seems to be an important factor in the smoking cessation process. Especially when the smoking cessation programs have finished, motivation seems to be a determining factor in the success rate of smoking cessation. Smoking cessation programs should therefore try to enhance the motivation of their participants and with that increase their chance of a successful smoking cessation.

This study was one of the first to investigate the relationship between fear of gaining weight and success on smoking cessation in an adolescent sample and offered recommendations for future work. Although no clear conclusions can be drawn about this relationship yet, it does give insights about the role of motivation in cessation attempts. This study therefore contributes to the increased understanding of smoking cessation in adolescents.

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Table 1
Correlations Between Variables

| | Amount of cigarettes a day | Age started regular smoking | Self-efficacy | Weight concerns | Smoking to control body weight | Motivation to quit smoking | Success smoking cessation T1 | Success smoking cessation T2 | Success smoking cessation T3 |
|--------------------------------|----------------------------|-----------------------------|---------------|-----------------|--------------------------------|----------------------------|------------------------------|------------------------------|------------------------------|
| Amount of cigarettes a day | - | | | | | | | | |
| Age started regular smoking | -.26** | - | | | | | | | |
| Self-efficacy | -.91 | .02 | - | | | | | | |
| Weight concerns | .51 | -.17** | .13* | - | | | | | |
| Smoking to control body weight | .13* | -.15* | .01 | .16* | - | | | | |
| Motivation to quit smoking | -.12 | .04 | .14 | .03 | .01 | - | | | |
| Success smoking cessation T1 | -.07 | .07 | .16* | .03 | .00 | .10 | - | | |
| Success smoking cessation T2 | -.01 | .09 | .02 | -.11 | -.03 | .17* | .43** | - | |
| Success smoking cessation T3 | .67 | .05 | .05 | .04 | .03 | .24** | .29** | .29** | - |

Table 2

The Relationship between Weight Concerns and Smoking Cessation on T1, T2 and T3, Moderated by Gender

| | T1 (N=164) | | T2 (N=232) | | T1 (N=223) | |
|---------------------------|------------|------------|------------|------------|------------|------------|
| | OR | 95% CL | OR | 95% CL | OR | 95% CL |
| Condition | .42 | .16 - 1.08 | 2.07 | .74 – 5.80 | 2.07 | .79 – 5.40 |
| Self-efficacy | 1.70 | .31 – 2.90 | - | - | - | - |
| Weight concerns | 1.01 | .50 – 2.05 | 2.22 | .71 – 6.93 | .51 | .11 – 2.37 |
| Gender on Weight concerns | 1.04 | .57 – 1.91 | .40 | .05 – 2.96 | 1.33 | .49 – 3.62 |

Table 3

The Relationship between Compensatory Smoking and Smoking Cessation on T1, T2 and T3, Moderated by Gender

| | T1 (N=164) | | T2 (N=232) | | T1 (N=223) | |
|--|------------|------------|------------|------------|------------|------------|
| | OR | 95% CL | OR | 95% CL | OR | 95% CL |
| Condition | .42 | .16 - 1.06 | 2.07 | .74 – 5.80 | 2.07 | .74 – 5.80 |
| Smoking to control body weight | 1.01 | .50 – 2.05 | .77 | .29 – 2.07 | 1.18 | .56 – 2.48 |
| Gender on Smoking to control body weight | 1.04 | .57 – 1.91 | .65 | .28 – 1.54 | .90 | .45 – 1.81 |