ABSTRACT

Background: Brief procedures that reduce smoking behaviour may be useful in reaching the many people that do not seek help for smoking addiction.

Objectives: The current study aimed to determine if one component of Acceptance and Commitment Therapy (ACT), cognitive defusion, could be useful in reducing smoking behaviour in a sample of students.

Methods: The study employed a between-subjects three-arm design. For one week, participants were asked to reduce their cigarette consumption. To aid them in their reduction, participants were randomly allocated to one of three conditions: the first received a defusion procedure, the second received an experiential avoidance procedure and a control condition received no procedure. For a second week, the instruction to reduce cigarette consumption was lifted. During both weeks participants were required to monitor their smoking behaviour via a tally diary system.

Results: The defusion condition smoked significantly less than the control condition during week one and significantly less than the control and experiential avoidance conditions during week two.

Conclusion: Results are discussed in terms of the potential utility of defusion in this domain, and the limitations of this preliminary research that would need to be addressed in future investigations.

Key words: Acceptance and Commitment Therapy; Defusion; Experiential Avoidance; Smoking Behaviour.

COGNITIVE DEFUSION VERSUS EXPERIENTIAL AVOIDANCE in the REDUCTION of SMOKING BEHAVIOUR: an EXPERIMENTAL and PRELIMINARY INVESTIGATION

Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) suggests that experiential avoidance (EA), which can be defined as the deliberate effort to avoid unwanted private events such as thoughts, feelings, urges, cravings and sensations, underpins many psychological problems (Ruiz, 2010). ACT therefore trains its clients in psychological flexibility, which as the opposite of EA, is the willingness to experience unwanted private events while continuing to move in a chosen and valued life direction (Luoma, Drake, Kohlenberg, & Hayes, 2011). In recent years, a number of investigations of ACT in the management of smoking behaviour have been conducted.

Gifford et al. (2004) conducted the first of these studies when they compared ACT with Nicotine Replacement Therapy (NRT). Hernandez-Lopez, Luciano, Bricker, Roales-Nieto and Montesinos (2009) later extended this study with the inclusion of a Cognitive Behavior Therapy (CBT) comparison. Results from both studies indicated that those participants assigned to the ACT conditions experienced significantly better long-term smoking outcomes than those in the NRT and CBT conditions. Recently, as the emphasis on improving access to psychological therapies has grown, research has been conducted to investigate whether ACT would still perform well when delivered in unconventional formats. Empirical studies with ACT-based smoking interventions have now shown positive results through the medium of telephone (Bricker, Mann, Marek, Liu, & Peterson, 2010; Bricker, Bush, Zbikowski, Mercer, & Heffner, 2014), the internet (Bricker, Wyszynski, Comstock, & Heffner, 2013) and a smartphone App (Bricker, Mull, et al., 2014).

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These large-scale smoking cessation investigations have been impactful, however, brief intervention research with a slightly different focus could add to the literature in three ways. Firstly, the aforementioned research involved treatment studies in which clients were exposed to the full ACT model. Hayes, Luoma, Bond, Masuda and Lillis (2006) suggest that experimental studies investigating the individual components of ACT are also crucial to its development and efficacy, as they allow a microscopic view of the elements of the therapy that work, and those that are redundant. So far, the evidence for ACT components is encouraging. For example, Levin, Hildebrandt, Lillis and Hayes (2012) conducted a meta-analysis of ACT components and found significant positive effect sizes for acceptance, defusion, mindfulness and values. Secondly, the aforementioned research includes smoking cessation as a primary outcome measure, whereas simply cutting down on cigarette consumption can be a stepping-stone to cessation (Hughes, 2000; West, McEwen, Bolling, & Owen, 2001). Finally, given that many people do not seek formal treatment for smoking addiction (Husten, 2010; Krist et al., 2010), an easily disseminated and brief written procedure that reduces smoking behaviour may be of practical worth.

The current study addressed these points by investigating whether one component of the ACT model, delivered in brief format, could reduce smoking behaviour. Cognitive defusion (or just defusion) teaches clients to develop a different relationship with their thoughts, by asking them to take a step back and look at their thoughts only in terms of how helpful they are, rather than how '*true*' they are. For example, the thought '*it will relax me if I smoke*' may influence subsequent smoking behaviour because there is some element of '*truth*' to it (i.e. smoking can decrease the stress caused by withdrawal). However, when able to step away from this thought, it

becomes possible to evaluate it in terms of whether acting on it will move the client closer or further away from their aim of smoking less.

In the current study defusion was compared to an EA procedure, which was chosen to be a comparison for three reasons. Firstly, EA seems to be a natural way in which people try to manage cravings to smoke in the real world (Gifford, 2002). Secondly, much previous defusion research utilizes an EA control condition (Masuda, Feinstein, Wendell, & Sheehan, 2010; Hooper & McHugh, 2013; Hooper, Sandoz, Ashton, Clarke, & McHugh, 2012; Larsson, Hooper, Osborne, Bennett, & McHugh, 2016). Although some of these control conditions may differ in terms of whether they are labeled 'distraction', 'suppression' or 'avoidance', each of them falls under the umbrella of EA because they involve an unwillingness to contact internal experiences. The third reason that EA was chosen as a comparison is that previous research has suggested that EA-based procedures may actually be helpful in reducing smoking behaviour in the short-term. Erskine, Georgiou and Kvavilashvili (2010) found that participants given a suppression instruction were successful in reducing their smoking behaviour in the first week of the experiment. However, it is important to note that a behavioural rebound effect occurred in the second week where an inflation in smoking behaviour was recorded.

Various comparisons of ACT components and EA procedures in the management of smoking behaviour can now be found in the literature [see Serfaty, Gale, Beadman, Froeliger and Kamboj (2017) for a recent systematic review of mindfulness, acceptance and defusion laboratory-based smoking studies]. However, one investigation in particular, in combination with the aforementioned Erskine et al. (2010) study, helped to inform the current research design. Beadman et al. (2015) gave participants either a defusion procedure, a cognitive re-appraisal procedure or an

EA procedure (thought suppression). Results revealed that defusion and cognitive re-appraisal enabled participants to show more restraint in a craving-induced exercise, and were also able to reduce smoking behaviour in the seven-day period following the exercise, when compared to EA.

The current experiment aimed to build on past research by investigating if a defusion procedure (as with Beadman et al., 2015) would bypass the behavioural rebound effect (as reported by Erskine et al., 2010). There is reason to believe that this could be the case; Hooper et al. (2012), in a study in which chocolate consumption was the targeted behaviour, found that participants who underwent a defusion procedure ate less chocolate in a subsequent taste test than those in an EA and control condition, thus suggesting that those participants did not experience behavioural rebound.

In order to investigate this in the current study, participants who had an intention to quit smoking, were randomly assigned to a defusion condition, an EA condition or a control condition, after which they were instructed to reduce their cigarette consumption for one week. In the following week, the instruction to reduce consumption was lifted but participants continued measuring their smoking behaviour. Given that the research described thus far suggests that defusion and EA may be useful in reducing short-term smoking behaviour, it is predicted that those receiving the defusion and EA procedures will smoke significantly less cigarettes in week one than the control condition. In week two, it is predicted that whilst those in the EA condition will record an inflation in cigarette consumption when compared to the control condition, those in the defusion condition will smoke significantly less cigarettes than those in the EA and control conditions.

METHOD

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Participants and design

54 undergraduate students, recruited from the campus of a University in Northern Cyprus, voluntarily participated in the study. The study involved a between subjects experimental design where participants were randomly assigned to one of three conditions; defusion, EA and control. 2 participants from the defusion condition and 3 participants from the EA condition failed to complete the study. This left 16 participants in the defusion condition (M age= 23.43, $SD = 6.07$; 7 female and 9 male), 15 participants in the EA condition (M age= 21.53, $SD = 1.64$; 4 female and 11 male) and 18 participants in the control condition (M age= 24.5, $SD = 6.91$; 5 female and 13 male).

Participants were recruited via poster advertising and word of mouth over a yearlong period, and the interventions were conducted in parallel. Altogether 6 research assistants (RA) managed the study where each collected data on 9 participants. In order to maintain treatment integrity all RA's delivered all three conditions i.e. they each randomly allocated participants to condition. To clarify the randomization process: when a participant contacted the principal investigator, the PI then allocated the participant to one of the RA's (at random but not in a systematic way). Following this, the RA, according to a Microsoft Excel file that executed the =rand() command, randomly allocated the participant to one of the three conditions.

The dependent variable was self-reported cigarette consumption across two one-week periods. That is, participants were required to make a note of each cigarette they smoked as they smoked it, to add up the tally marks at the end of each day and record this number in a pen and paper tally diary. When this diary was returned, a daily average was computed based on the figures collected across the weeklong period. All participants were informed that the study was not a treatment study with

the aim of smoking cessation, but was instead an experimental study that had the aim of *reducing* smoking behaviour. As with previous research (Hernandez-Lopez et al., 2009; Litvin, Kovacs, Hayes, & Brandon, 2012) there were certain criteria that the participants had to meet in order to take part in the study. Participants had to a) have been smoking for at least 2 years, b) smoke at least 10 cigarettes a day, c) have the intention to quit smoking in the near future and d) be a student at the University. There were no exclusionary criteria in terms of mental health problems, and appropriate ethical approval was gained prior to data collection.

Measures

As with Erskine et al. (2010) all participants were asked a number of control questions before the experiment began in order to account for any potential confounding variables. These questions included; how many years they had been smoking, the amount of times they had attempted to quit smoking since their first cigarette, the amount of cigarettes that they smoked on an average day and their motivation to quit smoking on a scale of 1 to 10, where 1 represented '*not motivated*' and 10 represented '*very motivated*'. The results of these questions can be seen in Table 1 of the results section.

As with previous research in this area (Deacon, Fawzy, Lickel, & Wolitzky-Taylor, 2011; Healy et al., 2009; Masuda, Hayes, Sackett, & Twohig, 2004), the participants in the defusion and EA conditions were also required to complete a number of rating scales investigating the relationship they had with their respective procedures. Before beginning week one participants were asked how confident they were that their procedure would help them in their reduction attempt, where 1 represented '*not confident*' and 7 represented '*very confident*'. Then, after completing

week one and week two, the participants were asked two further adherence questions. Firstly, how useful they found their procedures, where 1 represented *'not useful'* and 7 represented *'very useful'*. And secondly, how much they used their procedures, where 1 represented *'not at all'* and 7 represented *'very much'*.

A scripted procedure was used for all participants in the defusion and EA conditions (see Appendix 1 and 2). The procedure was read aloud by the experimenter and a printed copy was also provided for participants to read. Participants were given an opportunity to ask questions after receiving the procedure to ensure they understood the information. The delivery time of the procedures was between 10 and 15 minutes. In addition to the procedures, 'cue cards', which included the two main concepts, were given to the participants to carry with them (as with Hooper et al., 2012). These are represented below:

Defusion cue card:

1. Notice your cravings to smoke and take a step back from those thoughts.

2. It will help you to think '*right now, I'm having the thought that I want a cigarette, but I can notice that thought, and not act on it*'.

EA cue card:

1. Notice your craving to smoke and don't think about those thoughts.

2. It will help you to think about something else or move onto another activity.

Procedure

Participants first completed the consent forms and control questions. They were then instructed to *'refrain from smoking for 7 days'* until they returned to the lab for further instructions. Participants in the defusion and EA conditions received their respective procedures to aid them in their reduction attempts. They also received the

cue cards and were encouraged to keep them close throughout the week. Participants in the control condition received no procedure. It was made clear that whilst participants should try their best to refrain from smoking that any time they did smoke they should record this truthfully in their tally diaries. Before leaving the lab the participants in the defusion and EA conditions completed an adherence measure designed to determine how confident they were that their procedure would help them.

After completing the initial seven-day period, participants in the defusion and EA conditions returned to the lab to complete the second set of adherence questions where they indicated how much they used and how useful they found their procedures. All participants were then given the following instruction: '*The intervention has now finished, however, please continue to complete the tally diary for the next 7 days'*.

Upon completion of week two, participants in the defusion and EA conditions returned to the lab to hand in their tally diaries and to complete the third set of intervention adherence questions that again measured how much they used and how useful they found their procedure to be. Participants in the control condition did not have to complete these questions and simply handed in their tally diaries. Importantly, those in the control condition were then offered the defusion procedure to aid them in reducing their smoking behaviour, however no further data was collected from this point.

RESULTS

Baseline Comparisons

Table 1 presents the means and standard deviations for the three conditions (defusion, EA and control) across the baseline comparisons. A multivariate analysis of variance (MANOVA) was conducted on the data to check that there were no

baseline differences between the conditions that may be related to the number of cigarettes smoked per day in week one and week two. The between subject variable Condition consisted of three levels (defusion, EA and control). There were 4 baseline variables (the average amount of cigarettes smoked per day at pre-intervention, number of years smoking, number of previous quit attempts and level of motivation to quit).

Using Pillai's trace, there was no significant main effect of condition on any of the baseline variables [$V = 0.26$, $F(8,98) = 1.82$, $p = 0.08$, $\eta^2 = .13$]. However, separate univariate ANOVAs revealed a significant main effect of Condition on the level of motivation to quit [$F(2, 51) = 3.62$, $p = 0.03$, $\eta2 = .12$] but none of the other variables. Pairwise comparisons for the main effect of Condition on the level of motivation to quit corrected using Bonferroni adjustments showed a significant difference between the defusion and the control condition ($p = 0.03$) but not between any of the other comparisons. This seems to indicate that the participants allocated to the defusion condition were significantly more motivated to quit than the participants allocated to control (6.22 vs. 4.28) at pre-intervention, such that this variable should be controlled for in any subsequent analysis.

Insert Table 1

Adherence Comparisons

No significant differences were found between the defusion and EA conditions in terms of participant's confidence in the procedures [4.38 vs. 4.47, $t(29) = 0.25$, $p = 0.80$], their usefulness during week one [4.31 vs. 3.47, $t(29) = 1.74$, $p = 0.09$] and week two [4.00 vs. 3.80, $t(29) = 0.40$, $p = 0.59$] or how much participants

used the procedure during week one [3.88 vs. 3.87, $t(29) = 0.02$, $p = 0.99$] and week two [4.25 vs. 3.67, $t(29) = 1.07$, $p = 0.42$].

Intention-to-Treat Analysis

The study had a small sample size (18 per condition) and 5 participants dropped out of the study (3 participants in the EA condition and 2 participants in the defusion condition). These dropouts could have potentially biased the data, as it is possible that participants dropped out due to dissatisfaction with their intervention. To increase confidence in the findings an intention-to-treat analysis was performed which included all randomized participants. To adjust for missing data from the 5 participants that dropped out of the study after randomization the '*last observation carried forward*' technique was employed. The average number of cigarettes smoked per day at pre-intervention was carried forward for the average number of cigarettes smoked per day in week one and week two.

A multivariate analysis of covariance (MANCOVA) was conducted on the data where the between subject variable Condition consisted of three levels (defusion, EA and control). There were two dependent variables (the average amount of cigarettes smoked per day in week one and week two). The covariates were the average number of cigarettes smoked per day self-reported at pre-intervention and the level of motivation to quit (see Table 2 for the means and standard deviations). The results reported below are from the adjusted model controlling for both of these covariates.

Insert Table 2

There were no statistically significant interaction effects between Condition and average number of cigarettes smoked per day at pre-intervention [$F(6, 88) = 0.90$, $p = 0.50$, $V = 0.12$] and Condition and level of motivation to quit [$F(6, 88) = 0.71$, $p = 0.65$, $V = 0.09$] on the combined dependent variables. The covariate, average number of cigarettes smoked per day pre-intervention, was significantly related to the number of cigarettes smoked per day in week one [$F(1,49) = 10.97$, $p = 0.002$, $\eta2 = .18$] and week two [$F(1,49) = 8.99$, $p = 0.004$, $\eta2 = .16$]. However, the covariate, level of motivation to quit was not significantly related [week one: $F(1, 49) = 0.02$, $p = 0.89$; week two: $F(1, 49) = 0.02$, $p = 0.89$]. The main effect of Condition (using Pillai's trace) on the average number of cigarettes smoked per day in week one and week two was approaching statistical significance [$V = 0.21$, $F(4, 98) = 2.40$, $p = 0.055$, $\eta2 = .09$] after controlling for the average number of cigarettes smoked per day pre-intervention and the level of motivation to quit. Separate univariate ANCOVAs on the outcome variables revealed a significant main effect of Condition on the number of cigarettes smoked per day in week one [$F(2, 49) = 3.73$, $p = 0.03$, $\eta2 = .13$] and on the number of cigarettes smoked per day in week two, [$F(2, 49) = 5.31$, $p = 0.008$, $\eta2 = .19$].

Pairwise comparisons for the main effect of Condition on the average number of cigarettes smoked per day in week one corrected using Bonferroni adjustments showed a significant difference between the defusion and the control condition ($p = 0.046$, $d = 0.75$) but not between the defusion and the EA condition ($p = 0.08$, $d = 0.39$) or the EA and the control condition ($p = 1.00$, $d = 0.15$). Pairwise comparisons for the main effect of Condition on the average number of cigarettes smoked per day in week two corrected using Bonferroni adjustments showed a significant difference between the defusion and the control condition ($p = 0.01$, $d = 0.82$) and the defusion

and the EA condition (p = 0.02, d = 0.55) but no difference between the EA and the control condition (p = 1.00, d = 0.13).

DISCUSSION

The participants in the defusion condition smoked significantly less than those in the control condition in week one. This result is noteworthy and lends tentative support for the utility of brief defusion interventions in the management of short-term smoking behaviour. As expected, no difference emerged between the defusion and EA conditions in week one. This finding is in line with previous research that has found acceptance and avoidance to be equally effective in the short-term (Hooper et al., 2012; Litvin et al., 2012). Importantly, in the current study, by the end of week two those in the defusion condition smoked significantly less than those in the EA and control conditions, suggesting that the defusion strategy bypassed a potential rebound effect and had longer reaching impact than the other conditions, a finding not unlike that of previous research (Hooper et al., 2012). No differences were found between the EA and the control condition at week one or week two, suggesting that an EA instruction is no worse than no instruction in helping people to reduce their smoking behaviour. However, it is possible that similarities in smoking behaviour throughout the experiment between the EA and control conditions occurred because those assigned to the control condition reverted to the most natural way of managing cravings; experiential avoidance.

Altogether the results of this study add to the growing literature about the utility of ACT and its components in the management of smoking behaviour. However, as a preliminary study a number of lessons were learned, which could improve future investigations, that are worth exploring. First, participants in the

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current study recorded each cigarette smoked in a paper tally diary and summed the amount at the end of each day. Although self-report format has been recommended in smoking research where there is little face-to-face contact (Society for Research on Nicotine and Tobacco Subcommittee on Biochemical Verification, 2002) and has been used extensively in previous research of this kind (Bricker et al., 2010; Bricker et al., 2013; Bricker, Bush, et al., 2014; Erskine et al., 2010), this method of data collection has been found to be problematic (Stone, Shiffman, Schwartz, Broderick, & Hufford, 2002), meaning that a more objective measure of smoking behaviour is needed, for example, by recording carbon monoxide levels. However, it is important to note that although demand characteristics may have played some part in this study, self-report in this domain is associated with low demand characteristics (Benowitz et al., 2002) and demand characteristics could not account for the differences recorded between the EA and defusion conditions.

Second, the current study does not allow us to measure the longevity of the intervention. It is likely that the effects of a brief single component intervention would not last as long as the effects of a full protocol. In order to determine this, future research should include appropriate follow-up measures. Third, participants in the current study did not complete a manipulation check to ensure that they understood the intervention given to them. Although the researcher was on hand to answer questions about the intervention when it was administered, future research may wish to include a measure that assesses the participants understanding of the intervention. An interesting way to do this would be via the inclusion of a believability measure. Defusion research often judges the success of a defusion intervention based on participants recording lower believability ratings at post-intervention, as participants who rate their thoughts as less believable have a lower

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attachment to them, or are thought to be less 'fused' with them. Therefore, to maintain external validity with research in this domain, and as a manipulation check, future investigations may benefit from the inclusion of such a measure.

Fourth, participants completed a number of intervention adherence measures to determine the extent to which they used their intervention over the course of the two-week period. The adherence scores recorded by the participants from both active conditions, although not entirely distant from adherence measure scores published in previous brief intervention research (Arch & Craske, 2006; Hooper et al., 2012), were not remarkable. Future research may therefore benefit from better measures of treatment adherence. For example, participants could complete daily treatment adherence questionnaires rather than one at the end of the week, and a qualitative interview could be used to better determine the relationship that participants had with their intervention.

Fifth, if this research were to be conducted again then it would be important to measure the number of *recent* quit attempts rather than the total number of quit attempts, as this data would more accurately reflect the intensity of the struggle that the participant was experiencing at the time of the experiment. Relatedly, it would be important to make certain that the participants were not taking part in any other smoking cessation treatments at the time of the research. Additionally, instead of simply asking participants to estimate how many cigarettes they smoke per day as a measure of baseline nicotine dependence, we would use a standardized scale to assess this, such as the Heaviness of Smoking Index (Heatherton, Kozlowski, Frecker, Rickert, & Robinson, 1989).

Sixth, there are two ways in which the intervention process could be improved in the future. Firstly, participants in the current study listened to scripted interventions read by the researcher and then were allowed to ask questions about the intervention should they have had any. Conducting the intervention in this way leaves room for experimenter bias i.e. differences in the way that the research assistants delivered the intervention may have impacted outcome. A good way to overcome this is via the use of pre-recorded audio files; that way all participants receive exactly the same intervention experience. Secondly, although the authors on this article have many years of history with ACT and were therefore in a good position to assess fidelity of the scripted instructions, a better practice would be to have experts in the field independently rate how well the instruction encapsulates the targeted process.

Finally, there are two issues with the sample in the current experiment that could be improved in the future. First, the sample size for a three-arm study is small; future research should include a full power analysis prior to data collection. And second, it could be argued that the use of a student population reduces the generalizability of the results. Having said that, limiting recruitment to students could be considered a strength of this research, given that the prevalence of smoking among students is high (Lantz, 2003) and that students tend to avoid seeking formal treatment for smoking addiction (Wechsler, Kelley, Seibring, Kuo, & Rigotti, 2001).

The experiment described in this article is preliminary and there are a number of ways in which future research of this kind could be improved. Nevertheless, the results are noteworthy. A 10-15 minute defusion intervention allowed participants to bypass a behavioural rebound effect. The results suggest that further investigation of brief defusion interventions may be worthwhile in the domain of smoking cessation. They also suggest that defusion is a valuable component of the ACT model that has

likely contributed to the successful treatment outcomes in previous ACT for smoking cessation research.

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Table 1. Descriptive statistics for age and smoking behaviour at baseline for all randomized participants.

	Defusion (n = 16) Mean (SD)	EA (n = 15) Mean (SD)	Control (n= 18) Mean (SD)
Age	23.44 (6.08)	21.53 (1.64)	24.50 (6.91)
Years smoking	6.75 (5.83)	6.43 (2.14)	7.94 (7.49)
Motivation to quit	6.31 (1.89)	5.47 (2.77)	4.28 (2.11)
Quit attempts	3.31 (4.56)	2.73 (3.43)	3.55 (5.17)

Table 2. Mean number of daily self-reported cigarettes smoked at baseline, week one (attempting to quit) and week two (instruction to quit was lifted) for each treatment condition. Standard deviation (SD) in brackets.

	Defusion (n = 18) Mean (SD)	EA (n = 18) Mean (SD)	Control (n= 18) Mean (SD)
Baseline*	25.00 (9.32)	19.80 (8.40)	19.22 (4.01)
Week 1*	12.89 (7.79)	16.61 (10.51)	17.59 (3.99)
Week 2*	12.05 (9.23)	17.20 (8.64)	17.83 (3.61)

*Average number of cigarettes smoked per day.

Appendix 1 – Experiential Avoidance

Dealing with cravings is an important aspect of quitting smoking. Often what people notice about their cravings is a feeling of wanting to smoke. This feeling can sometimes be so strong that people act on it and pick up a cigarette. What people don't often notice are the thoughts and feelings that seem to come with cravings. These may be thoughts like, "Today was upsetting so I deserve to smoke," "I need to smoke right away to be okay," "I shouldn't have to quit smoking," or "I might as well smoke now because eventually I'll just fail anyway." These thoughts may result in feelings like disappointment. And more times than not, the craving may lead to smoking.

One popular and effective way of handling these cravings is to suppress and avoid all thoughts and feelings associated with the craving. In other words, when cravings arise throughout the day, or when your mind tells you that you really need a cigarette, suppress the urge and suppress the thought. When you stop yourself from thinking about smoking, or the feeling of craving cigarettes then you are less likely to act on it. In particular, keep an eye out for thoughts like 'it would feel real good', or that 'it wouldn't hurt to have one cigarette' suppressing these thoughts will help you to reduce the amount of cigarettes you smoke. Many people find it helpful to distract themselves as way to suppress cravings e.g. by having a conversation with one's friend, by watching TV, by eating a chewing gum etc. By doing this it is possible to suppress the urge to smoke and control ones cravings. Remember that often cravings come and go, meaning that if you can distract yourself with another activity for a short amount of time your craving will disappear.

Appendix 2 - Defusion

Dealing with cravings is an important aspect of quitting smoking. Often what people notice about their cravings is a feeling of wanting to smoke. This feeling can sometimes be so strong that people act on it and pick up a cigarette. What people don't often notice are the thoughts and feelings that seem to come with cravings. These may be thoughts like, "Today was upsetting so I deserve to smoke," "I need to smoke right away to be okay," "I shouldn't have to quit smoking," or "I might as well smoke now because eventually I'll just fail anyway." These thoughts may result in feelings like disappointment. And more times than not, the craving may lead to smoking.

One popular and effective way of handling these cravings is to take a step back from your thoughts and notice the experience of thinking. Many believe that our thoughts cause our actions. So that because you crave smoking you will often smoke. However this is a mis-representation. In fact, when cravings arise it may be helpful to simply notice them, to feel what the strong urges feel like, but to understand that you are in control of your hands! Despite having the craving you do not have to act on it. Next time you get a smoking craving, it may be helpful to change your thought from 'I'm craving a cigarette' to 'right now, I'm having the thought that I'm craving a cigarette'. At this point it is important to understand that you can choose to act or not act on this craving. In particular, keep an eye out for thoughts like 'it would feel real good', or that 'it wouldn't hurt to have one cigarette'. Your mind may try a number of ways to make you act on the craving; you can step away from these too.