Published in final edited form as:

Schizophr Res. 2010 September ; 122(1-3): 268–269. doi:10.1016/j.schres.2009.11.014.

Reasons For Smoking Among Individuals With Schizophrenia

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As compared to smokers in the general population, smokers with schizophrenia have increased smoking rates (deLeon & Diaz, 2005), increased nicotine dependence (Williams et al. 2005), and reduced success in smoking cessation (Williams & Hughes, 2003). While Shiffman (1993) states that studying motives for smoking is important because smoking patterns are heterogeneous, studies examining motives to smoke in schizophrenia have been limited by assessment measures with poor psychometric properties. The primary objective of this study was to examine differences between motives to smoke among smokers with and without schizophrenia as measured by the WISDM-68 scale (Piper et al., 2006).

As part of a secondary data analysis of three existing datasets, we sought to examine motives for smoking in eighty individuals with schizophrenia (SCZ) or schizoaffective disorder (SA) as compared to 463 control smokers (CON) without any mental illness. All participants with SCZ/SA were enrolled in mental health treatment and stable on antipsychotic medications. All diagnoses were confirmed with the Structured Clinical Interview for DSM-IV (SCID; Spitzer, 1985). Smokers with and without SCZ/SA were well matched on number of cigarettes per day (CPD) and age, though smokers with SCZ/SA scored significantly higher than control smokers on the Fagerstrom Test for Nicotine Dependence (FTND) (6.83 vs. 6.27; $t(541)=2.81$, $p=0.005$).

Multivariate analysis of covariance (MANCOVAs) adjusting for sociodemographic factors, CPD and FTND total score revealed that smokers with SCZ/SA scored significantly higher on 4 of 13 WISDM-68 subscales. These data indicate that like smokers in the general population, smokers with SCZ/SA report multidimensional drives for smoking. As compared to controls, smokers with schizophrenia may be more likely to smoke for a stimulation effect (Positive Reinforcement ($F(1,95)=5.00$, $p=.001$)). This finding is consistent with studies of substance abuse in schizophrenia which often show higher use of stimulants (amphetamines, cocaine, caffeine, and nicotine) compared to other psychiatric patients or to those without any mental illness (Schneier & Siris, 1987). Additionally, individuals with schizophrenia may be more likely to smoke in order to ameliorate a variety of negative internal or aversive states, including negative affect, and nicotine withdrawal (Negative Reinforcement subscales ($F(1,95)=5.23$, $p=.023$)) as compared to control smokers.

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Smokers with schizophrenia were also more likely than control smokers to feel strongly attached to their cigarettes and to find cigarettes as an outlet and stress reliever (Affiliative Attachment ($F(1,95) = 4.70, p = .001$)). This strong connection to cigarettes may contribute to their report of smoking despite environmental limitations, negative consequences, and/or the lack of other options or reinforcers (Behavioral Choice Melioration ($F(1,95) = 4.63, p = .003$)).

In contrast to other scales, control smokers reporting being more likely to smoke without awareness or intention than did those with schizophrenia (Automaticity ($F(1,95) = 4.88, p = 0.03$)). Individuals with schizophrenia may be much more deliberate in smoking their cigarettes. In addition, smoking may be so important to individuals with SCZ/SA, that it is never done automatically, but always with awareness.

These data indicate that like smokers in the general population, smokers with SCZ/SA report multidimensional drives for smoking although they may be more sensitive to positive effects, have greater emotional attachment to cigarettes, and smoke despite negative consequences. Our research validates previous findings that demonstrate individuals with schizophrenia to smoke because they are addicted (40%), to help them relax (20%), for enjoyment (15%), to pass the time (12%), and for use as a crutch (e.g., to help with coping) (8%) (Forchuk., 2002).

Because individuals with schizophrenia have a higher incidence of smoking it is imperative to understand motives for smoking across multiple dimensions. Our findings indicate that individuals with schizophrenia or schizoaffective disorder may smoke for different reasons than those without serious mental illness. Such data could be of great significance for future research and may help guide future tobacco dependence cessation treatments in this group.

Acknowledgments

This work was supported in part by the National Institute on Drug Abuse (NIDA) grants (K23-DA140090-01 to JMW; K23 DA 018203-02 to MLS). The authors (JMW and MLS) are also supported in part by a grant from the New Jersey Department of Health and Senior Services, through funds from New Jersey Comprehensive Tobacco Control Program

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Table 1WISDM-68 Subscale Scores (SCZ/SA vs. CON Smokers)^{***}

Measure ^{\$\$}	Schizophrenia (<i>n</i> =80)	Control (<i>n</i> =463)	Significance
	Mean	Mean	
Affiliative Attachment	4.70	3.05	<.001
Automaticity	4.43	4.88	0.029
Behavioral Choice – Melioration	4.63	3.24	0.003
Cognitive Enhancement	3.94	3.20	0.599
Loss of Control	5.34	5.26	0.494
Craving	5.65	5.04	0.790
Cue-Exposure -Associative Processes	5.19	4.61	0.732
Negative Reinforcement	5.23	4.13	0.023
Positive Reinforcement	5.00	3.64	<.001
Social – Environmental Goads	5.03	3.86	0.514
Taste and Sensory Properties	4.86	4.22	0.083
Tolerance	5.82	5.34	0.636
Weight Control	3.36	2.82	0.721
Total WISDM	63.23	53.33	0.078

^{***} GLM Multivariate Analysis- Wilks' Lambda ($F=3.084$; $p<0.001$)

^{\$\$} Adjusted for Age, Race/ethnicity, Gender, Employment, Education, Cigarettes per day, FTND summary score.