

# Challenges Faced by Students with MCS (Multiple Chemical Sensitivities) In a Traditional School Environment

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Kenneth Brotman

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Those who suffer from MCS (Multiple Chemical Sensitivities) face a number of unique challenges in the traditional school setting. “Eighty-nine clinicians and researchers with extensive experience” in MCS, reached consensus on a definition of MCS as “[1] a chronic condition [2] with symptoms that recur reproducibly, [3] in response to low levels of exposure [4] to multiple unrelated chemicals and [5] improve or resolve when incitants are removed” [6] “Symptoms involve multiple organ systems” (Signatories to the 1999 Consensus on Multiple Chemical Sensitivities, 1999). Researchers who conducted a study of the American population found that 11.2% of respondents experienced chemical hypersensitivity with 66.7% of those describing their symptoms as severe or moderately severe. MCS was reported by all races, ethnicities, ages and educational levels (Caress & Steinemann, 2004). Some people have MCS since birth, while others develop it later. The age of onset of hypersensitivity In one study was found to be: before 20 years of age, 32.4%; 21-35 years of age, 35.2%; 36-50 years of age, 14.8%; and after 50 years of age, 9.7% (Caress & Steinemann, 2003).

A wide range of seemingly unrelated substances can cause reactions from mild to life threatening. Typical substances mentioned include: Perfumes and fragrances; air fresheners; fresh paint; pesticides; hair spray; Lysol; Chlorine; printed materials such as books, magazines, newspapers and phone directories; felt tip markers; formaldehyde; auto exhaust – gasoline and diesel; dry cleaning residual solution; fabric softener; shampoo and conditioner; laundry soap; hand soap; hand moisturizer; natural gas, tobacco smoke; chimney smoke; natural gas; nail polish and remover; phenol; new vinyl plastic; rubber; fresh asphalt and moth balls. Many MCS sufferers also have traditional allergies and can be very sensitive to mold, pollen, pet dander, dust mites and certain foods. Some people have a dramatic reaction to EMF (Electro-magnetic Fields) (Gibson, 2007).

There are approximately 75.78 million Americans enrolled in school. (U.S. Census Bureau, 2005) If 11.2% of the population has MCS and 66.7% of those have severe or moderately severe MCS, then 5.66 million students might be experiencing difficulties due to MCS. This figure needs to be further adjusted for the age of the onset of MCS within the population.

Furthermore, there are approximately 6.2 million teachers in America. (U.S. Census Bureau, 2004) Using the same 11.2% of population and 66.7% figures as in the previous paragraph then 463,000 teachers might be experiencing difficulties due to MCS. This figure too needs to be further adjusted for the age of the onset of MCS within the population.

## **Types of challenges faced by MCS sufferers in a traditional school setting as stated by survey respondents**

As shown in Appendix A, 88% of survey respondents reported experiencing mind fog due to reactions with chemicals during class, while trying to take an exam or while trying to study; 69% reported anxiety due to feelings of isolation due to having the MCS condition; 63% reported having trouble getting a good night’s sleep due to reactions; 44% reported reactions to carrying printed materials; and 38% reported reactions in classrooms to printed materials.

In a follow up questionnaire, respondents commented on specific school related situations described below.

In physical education classes the chronic fatigue that is so common in MCS sufferers was a factor. They are usually too weak to perform as well as their bodies would were it not for their condition. Many feel that their bodies are letting them down. Light headedness can cause dizziness and poor balance, a dangerous situation in some gymnastic activities such as rope climbing or balance beams, therefore it is recommended that students be allowed to refuse participation without penalty. Physical Education or competition sports often leave MCS sufferers frustrated because they know they should perform much better physically. MCS sufferers usually don't even know the name of their condition or why it is sabotaging their efforts. They can't quite grasp what to do about it or how to explain it to their classmates and teachers. Furthermore, the stress caused by competing in sports or even just wanting to do well, is not handled well by MCS sufferers for physiological reasons. They find their bodies just get much sicker instead of ramping up for the demands of the sport (Pall, 2007).

Just carrying or using printed materials is problematic for MCS sufferers. MCS sufferers are unable to be around printed materials without reacting to the volatile organic chemicals in the ink. Just having a book or other printed item near them – even in the same room - for reading in class, doing homework, or in the case of teachers, for the preparation of lessons, will be difficult. Respondents stated that libraries are usually impossible for MCS sufferers. The amount of printed materials in the building will be a major problem. Any carpet or dust in the building will typically also cause reactions. Furthermore, the more crowded the library is, the worse it gets for MCS sufferers due to the perfume and other substances on other people and their clothing (Gibson, 2007)

Even a nurse's station is hazardous. For a MCS sufferer to get relief they often need to find a "safe room" or go outdoors. A "safe room" is usually well dusted, with filtered air and with all materials that can cause reactions removed permanently from the room. A MCS sufferer will most certainly find themselves visiting the nurse's station for assistance (in schools that have a nurse's station). Unfortunately, school nurses are rarely aware of MCS or how to help a MCS sufferer. The nurse's station is not likely to be a safe room so the MCS sufferer will probably react to things in the nurse's station also. MCS sufferers usually do not know what they have. They might think its just allergies or a cold. Because they will already be reacting to things when they go there, they might not understand that the nurse's station might be causing additional reactions (Gibson, 2007; Lipson, 2001).

A bus ride to school or on a field trip can make them sick. MCS sufferers are especially reactive to diesel fumes. Survey respondents stated that enough of the exhaust fumes would get inside the bus to cause reactions. Also, due to close proximity of others, perfumes and other substances on the other riders and their clothing make it difficult for MCS sufferers to use a bus (Gibson, 2007)

Giving an oral presentation is often embarrassing, frustrating and can actually make them sicker, respondents stated. MCS Sufferers often find that they are exhausted; their minds fogged up, their voices wheezing and hoarse. Often they have just been reacting to something or may be reacting to

something when called to give their presentation. Furthermore, the extra stress of being in front of others just intensifies their condition (Lipson, 2001; Pall, 2007).

MCS sufferers have difficulty with deadlines because they frequently must stop and recover from a reaction to some substance. They never know when they will have a significant reaction to something. They are only able to do so much in a day due to fatigue. They need to be able to set their own progress rate and turn in work as they are able. This is true even if they are in a controlled environment. They will often need a special accommodation of additional time to complete an assignment. Projects requiring students to use a library, clip articles from printed materials or just read printed materials may not be achievable (Gibson, 2007; Lipson, 2001; Pall, 2007).

MCS sufferers may have a reaction to something in the test facility or may have had a reaction to something just prior to arriving for a test. Due to fatigue, too many tests in one day will be too much for them. Too long a test will be too much for them. Special accommodation of additional test taking attempts, rescheduling of tests and special rooms to take tests may be needed. Tests that use printed materials may not be useable (Gibson, 2007).

## **Consequences of suffering with MCS in a traditional school setting**

As indicated in Appendix B, 81% of survey respondents stated that their MCS condition is either often, severely or completely affects their overall academic performance adversely; 81% reported they had to leave a classroom due to reactions due to their MCS condition; and 63% reported that they had to drop out of school due to their MCS condition.

## **Conclusion**

MCS occurs in about 11.2% of the population with 66.7% of those describing their symptoms as severe or moderately severe. All one hundred percent of MCS sufferers who participated in the survey reported having problems in a traditional school setting due to their MCS condition (See Appendix A). Sixty-three percent of students and teachers responding stated that they had to drop out of school due to their condition (See Appendix B). Since this is the first research to study this topic and the sample size of the survey was relatively small, additional research should be conducted to confirm the thesis. The prevalence of MCS among students and teachers is significant and their condition greatly affects their ability to perform in a traditional school setting.

## Appendix A

### Problems experienced

The survey asked the following question. The number of positive responses is shown to the right of each choice offered. Sixteen answered this question, but three answered as teachers instead of students:

#### **Types of problems you have experienced as a student or teacher with MCS:**

a. No problems	0	0 %
b. Reactions to carrying printed materials including textbooks	7	44 %
c. Reactions in classrooms to printed materials including textbooks	6	38 %
d. Reactions to chemicals while trying to take an exam	14	88 %
e. Trouble getting a good night's sleep due to reactions with chemicals the night prior to a school day	10	63 %
f. Mind fog due to reactions with chemicals during classes or while trying to study	14	88 %
g. Anxiety due to feelings of isolation due to having the MCS condition	11	69 %
h. Other problems experienced as a student with MCS. Please describe them.	12	75 %

## Appendix B

### Consequences of suffering with MCS in a traditional school setting

The survey asked the following question. The number of positive responses is shown to the right of each choice offered. Sixteen responded but three were as teachers:

**How greatly was your overall performance as a student adversely affected due to having MCS:**

- |   |   |
|---|---|
| a. Not at all   | 0 |
| b. Slightly or in ways that occasionally adversely affected my overall academic performance | 3 |
| c. Moderately or in ways that often adversely affected my overall academic performance      | 3 |
| d. Severely or in ways that greatly affected my overall academic performance                | 1 |
| e. Completely or in ways that made it completely impossible to continue in school           | 9 |

The survey asked the following question.

**Did you ever have to leave a classroom due to a reaction you had to chemical sensitivities?**

Yes: 13 No: 2 Did not answer: 1

The survey asked the following question:

**Did you ever drop out of school due to difficulties you were experiencing related to your MCS condition?**

Yes: 10 No: 4 Did not answer: 2

Appendix B – continued

The survey asked the following question to those ten that answer they had dropped out of school due to MCS. Some dropped out more than once, hence multiple answers.

**If you did have to drop out of school due to MCS, at what grade level?**

a. Kindergarten	1
b. Grades 1-6	1
c. Grades 7-9	1
d. Grades 10-12	3
e. College levels or other adult learning	9

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