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Shopping Problems among High School Students

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Abstract

Background—Although shopping behavior among adolescents is normal, for some the shopping becomes problematic. An assessment of adolescent shopping behavior along a continuum of severity and its relationship to other behaviors and health issues is incompletely understood.

Methods—A large sample of high school students (n=3999) was examined using a self-report survey with 153 questions concerning demographic characteristics, shopping behaviors, other health behaviors including substance use, and functioning variables such as grades and violent behavior.

Results—The overall prevalence of problem shopping was 3.5% (95%CI: 2.93–4.07). Regular smoking, marijuana and other drug use, sadness and hopelessness, and antisocial behaviors (e.g., fighting, carrying weapons) were associated with problem shopping behavior in both boys and girls. Heavy alcohol use was significantly associated with problem shopping only in girls.

Conclusion—Problem shopping appears fairly common among high school students and is associated with symptoms of depression and a range of potentially addictive and antisocial behaviors. Significant distress and diminished behavioral control suggest that excessive shopping may often have significant associated morbidity. Additional research is needed to develop specific prevention and treatment strategies for adolescents who report problems with shopping.

Keywords

shopping; adolescents; addiction; impulse control disorders; epidemiology

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1. Introduction

Shopping is a common activity, and research demonstrates that individuals in the United States spend approximately six hours each week shopping (1). Some individuals, however, have problems controlling the time and money they spend shopping. The majority of adults with problem shopping report that their behavior began during adolescence (2). Adolescence is a period during which many people often acquire their first credit cards and have disposable income (3). In fact, adolescents between the ages of 12 and 17 years of age spent \$112.5 billion in 2003 alone (4). Approximately 40% of teenagers have savings or checking accounts in their own names, and one-third of high school seniors have a credit card of their own or one co-signed by a parent (3). Although shopping may be fairly common among adolescents, it is unclear how many adolescents experience problems with shopping. Problem shopping has been relatively understudied across the lifespan and particularly in adolescents.

In the present study, we assessed a large sample of public high school students regarding shopping behaviors. Although previous research suggests that compulsive shopping and other addictive behaviors may be linked (5), no study has systematically examined the relationship of problem shopping to a range of behaviors and health functioning. For purposes of this study, we chose to examine problem shopping behavior using questions adopted from the Minnesota Impulsive Disorders Inventory (MIDI) (6) that were meant to capture core and related features of an impulse control disorder as related to shopping.

Previously we investigated impulse control disorders in adult and adolescent psychiatric inpatients (7–8). We found that compulsive shopping was frequently reported in both the adult and adolescent groups, co-occurred with a broad range of psychiatric disorders (both internalizing and externalizing), and was acknowledged particularly frequently by females. Given the incomplete data on the co-occurrence of problem shopping and other variables among young people, particularly in community samples, the purpose of this study was to: 1) examine the prevalence and sociodemographic correlates of different severity levels of problem shopping in adolescents; 2) investigate health correlates in high school students who report problem shopping; and 3) examine the shopping behavior in both boys and girls to determine gender differences in students whose shopping is indicative of problem shopping. We hypothesized that shopping problems would be reported frequently, particularly amongst girls, and that problematic shopping would be associated with internalizing (relating to depression) and externalizing (relating to substance use and aggression) behaviors and poor functioning (e.g., poor school performance). Examining the range of shopping behavior severity in adolescents may have clinical and health implications in itself; however, it is also important to understand associations between shopping and health variables because if such associations exist, identifying and treating problem shopping behavior may significantly improve the prognosis of other problematic health behaviors.

2. Method

2.1. Study Procedures

The study procedure has been previously described in detail (9). In summary, the study team mailed invitation letters to all public four-year and non-vocational or special education high schools in the state of Connecticut. These letters were followed by phone calls to all principals of schools receiving a letter to assess the school's interest in participating in the survey. In order to encourage participation, all schools were offered a report following data collection that outlined various health behaviors in that school. Schools that expressed an

interest were contacted to begin the process of obtaining permission from school boards and/or school system superintendents, if this was needed.

Targeted contacts were made to schools that were in geographically underrepresented areas to ensure that the sample was representative of the state. The final survey therefore contains schools from each geographical region of the state of Connecticut, and it contains schools from each of the three tiers of the state's district reference groups (DRGs; groupings of schools based on the socioeconomic status of the families in the school district). Sampling from each of the three tiers of the DRGs was intended to create a more socioeconomically representative sample. Although this was not a random sample of public high school students in Connecticut, the sample obtained in this study is similar in demographics to Connecticut residents, aged 14–18, enumerated in the 2000 census.

Once permission was obtained from the necessary parties in each school, letters were sent through the school to parents informing them about the study and outlining the procedure by which they could deny permission for their child to participate in the survey if they wished. Parents were instructed to call the main office of their child's high school if they wished to deny permission for their child's participation. From these phone calls, a list of students who were not eligible to participate was compiled for reference on the survey administration day. If no message was received from a parent, parental permission was assumed. These procedures were approved by all participating schools and by the Institutional Review Board of the Yale University School of Medicine.

In most cases, the entire student body was targeted for administration of the survey. Some schools conducted an assembly where surveys were administered, while others had students complete the survey in every health or English class throughout the day. In each case, the school was visited on a single day by research staff who explained the study, distributed the surveys, answered questions, and collected the surveys.

Students were told that participation was voluntary and that they could refuse to complete the survey if they wished, and were also reminded to keep surveys anonymous by not writing their name or other identifying information anywhere on the survey. Students were given a pen for participating. If a student was not eligible to participate because a parent had denied permission, or if he/she personally declined to participate, this student was allowed to work on schoolwork while the other students completed the survey. The refusal rate was under 1%.

2.2. Measures

The survey consisted of 153 questions concerning demographic characteristics, shopping behavior, other health behaviors including substance use, and functioning variables such as grades and violent behavior.

Shopping behavior was assessed by asking the following questions: [1] "Have you ever tried to cut back on buying things?" [2] "Has a family member ever expressed concern about the amount of time you spend shopping?" [3] "Have you ever missed school, work or other important social activities because you were shopping?" [4] "Do you think you have a problem with excessive shopping?" [5] "Have you ever experienced an irresistible urge or uncontrollable need to buy things?" and [6] "Have you ever experienced a growing tension or anxiety that can only be relieved by shopping?" Three of the questions were based on the Minnesota Impulse Disorders Interview (6), a valid and reliable screen for adolescent problem shopping: Trying to cut back on shopping, an irresistible urge to shop, and a growing tension or anxiety that is only relieved by shopping. Students who endorsed all

three of these questions were placed in the problem shopping group, while all other respondents were placed in the non-problem shopping group.

Demographics included gender, race, Hispanic ethnicity, grade, and family structure (live with one parent, two parents, or some other configuration). Health and functioning variables included grade average (A's and B's, C's, D's and F's); extracurricular activities (including employment); tobacco use (categorized as "never", "once or twice", "occasionally but not regularly", "regularly in the past", or "regularly now"); lifetime marijuana use defined as any use in the past 30 days; alcohol frequency categorized as none, light (1–5 days), moderate (6–19 days), or heavy (20 days or more); lifetime use of other drugs (categorized as "any" or "none"); current caffeine use (none, 1–2 drinks per day, 3 or more drinks per day); a two week period of feeling sad or hopeless and losing interest in usual activities (screening for depression symptomatology) in the past 12 months; past 12-month history of getting into a fight that resulted in injuries requiring medical attention; and past 12-months report of carrying a weapon of any kind to school.

2.3. Data Analysis

Data were double-entered from the paper surveys into an electronic database. Random spot checks of completed surveys and data cleaning procedures were performed to ensure that data were accurate and not out of range.

Distribution characteristics of all variables were examined. Only participants with complete data on the dependent variable were included in analyses. Baseline demographic data were evaluated for differences between those with complete data and those without complete data using t-tests for parametric data and Mann-Whitney U tests for nonparametric data. Participants were divided into two groups: non-problem shopping and problem shopping. Differences between the two groups were examined using Pearson chi-square. Gender analyses allowed for comparisons between boys with and without problem shopping behavior as well as between girls with and without problem shopping.

3. Results

The sample consisted of 3999 high school students (age range 14–18 years). The overall prevalence of problem shopping was 3.5% (95%CI: 2.93–4.07) (Table 1). Rates of problem shopping in boys and girls were 2.5% and 3.9%, respectively. Of those who reported shopping, approximately 20% reported at least one problem associated with the behavior (e.g., family concern, irresistible urges to shop, trying to cut back). For each possible shopping-related problem, a greater percentage of girls endorsed a positive response (Table 1).

When we compare problem shoppers to non-problem shoppers using the three items which did not define the problem shopping group, results demonstrated that individuals with shopping problems were also more likely to endorse the three measures not used to define problem shopping status: "family expressed concern about behavior" (79.3% vs 20.8%; chi-square=163.534; $P<.0001$); "missed activities to shop" (54.7% vs 17.1%; chi-square=78.112; $p<.0001$); and "do you think you have a problem with shopping" (55.8% vs 5.6%; chi-square=310.48; $p<.0001$).

When those with problem shopping were compared to high school students who shopped without problems, several findings emerged (Table 2). Those students with problem shopping were significantly more likely to be in 12th grade ($p=.005$), and this finding was most pronounced when comparing girls with and without problem shopping ($p=.003$). Boys

with problem shopping were significantly more likely to be non-white ($p=.031$) and from a single parent home ($p=.034$) than boys without problem shopping.

Students with problem shopping were significantly more likely to report smoking tobacco occasionally or regularly ($p<.0001$), report a lifetime use of marijuana ($p<.0001$), and report lifetime drug use ($p<.0001$) (Table 3 and 4). After adjusting for gender, race, and grade in high school, those with problem shopping were 2–3 times more likely (odds ratios ranging from 2.01 to 3.23) to occasionally or regularly smoke, use marijuana, drink alcohol heavily, drink more caffeine, and use other drugs than students without problem shopping (Table 4). Problem shoppers were more likely to feel sad or hopeless ($p<.0001$), have a history of serious fights ($p<.0001$), and carry a weapon ($p=.017$). When adjusted for race, gender and grade in high school, those with problem shopping were approximately 3–6 times more likely (odds ratios of 2.62 to 5.69) to feel sad or hopeless, carry a weapon or have serious fights than those without problem shopping (Table 4). These same findings were noted when boys and girls were analyzed separately with the additional findings that girls with problem shopping were significantly more likely than girls without problem shopping to be frequent users of alcohol ($p=.005$) and have a history of serious fights ($p=.004$) (Table 3).

4. Discussion

To our knowledge, this study is the first to examine the prevalence of problem shopping among adolescents and its associations with a broad range of other problem behaviors in a large community sample of high school students. The multiple strengths of the survey, including the high response rate, large community sample, and detailed questions regarding shopping behavior in the context of core and related features of an impulse control disorder, allow for the systematic investigation of shopping with respect to a broad range of adolescent health and functioning measures. The finding that approximately 3.5% of high school students had problem shopping is consistent with findings from surveys of college students (1.9%) (10) and from large population based surveys of adults (5.8%) (11) and further supports findings that problem shopping may frequently start in adolescence.

Problem shopping was associated with multiple measures of adverse functioning including occasional and regular smoking, any drug use, endorsement of sadness and hopelessness, and other antisocial behaviors such as fighting and carrying weapons. These findings may provide insight into possible etiologies of problem shopping in adolescents.

Students with problem shopping reported symptoms of shopping which appear consistent with addictive behaviors - urges to shop, attempts to cut back, missed opportunities due to behavior, and a calming effect of the shopping. These findings may suggest that perhaps shopping in some adolescents is part of a larger constellation of addictive behaviors which include smoking, alcohol and drugs. Shopping may co-occur with substance abuse, such as alcohol, drugs or nicotine, for multiple reasons. Although not examined in this study, biological (e.g., genetic) factors, such as those contributing to impulsivity or related constructs, may contribute to participation in multiple addictive behaviors (12). Shopping and substance abuse may also be related to common social or environmental factors. For example, students may try to cope with stress by shopping, using drugs and alcohol, or smoking. Low self-esteem may also be associated with the development of problem shopping in addition to other addictive behaviors (2,13,14). Shopping may allow the creation of a fantasy persona of personal success and social acceptance that could be used to temporarily cope with low self-esteem (15). Shopping may also substitute for lack of perceived or real emotional support on the part of the adolescent (16,17). The extent to which the relationship between shopping and other addictive behaviors is mediated by specific environmental, genetic or other biological factors warrants further examination.

Screening for problem shopping as part of other addictive behaviors may prove useful in both the prevention and possible treatment of a variety of addictive behaviors in this age group.

Cultural and environmental factors may also contribute to problem shopping. It is estimated that the average teenager in the United States spends 21 hours per week watching television (18). Television viewing may increase the desire to buy (17). In part, television, and advertising in particular, may convey a message that products can solve all personal problems (14). Further research (e.g., longitudinal) is needed to better understand the nature of this observed association between problem shopping and exposure to advertising and to identify directionality and mediating and moderating factors.

The data yield several important conclusions. First, problem shopping among high school students is fairly common and associated with a broad range of behavioral problems. Second, students who exhibit problem shopping report a range of addictive and socially unacceptable behaviors. There has been relatively little research exploring shopping correlates with broad indices of psychopathology. The current findings indicate that problem shopping is associated with significant behavioral problems particularly in the area of substance use and abuse. The findings suggest that shopping for many adolescents may be considered within a spectrum of addictive and disinhibited behaviors. Regardless of the underlying mechanism for the association, these results raise concern that shopping in some adolescents may be reflective of a broader psychopathology of addiction. This has implications for primary care or school settings, where screening and brief interventions around shopping and drug use could be implemented.

This study, however, has several important limitations. First, the cross-sectional nature of the data precludes our ability to establish temporal patterns between shopping and other problem behaviors. It is therefore possible to suggest several competing, though not necessarily mutually exclusive, explanations, all of which are consistent with the data. Second, familial shopping behavior data were not obtained and therefore it is unclear to what extent family spending behavior contributed to the shopping behavior in the adolescent. Third, although 3.5% of students appear to have problems with shopping, the study did not conduct individual clinical interviews with these students. Finally, the study did not examine where students preferred to shop (i.e., in stores, online, etc). Given that online shopping may be more widely available to this age group and that the accessibility may foster problematic behaviors, future studies may want to explore possible relationships between problematic shopping behavior and the internet.

This study highlights the need for future research. In particular, research focusing on a possible biological basis for the associations between shopping, substance abuse, and other problematic behaviors is needed. Additionally, given the clinical and public health concerns of these associations, future research should address both primary and secondary interventions.

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Table 1

Characteristics of Shopping Behavior by Gender

Characteristic	N	%	n	%	n	%	X2	p
Ever tried to cut back?	469	18.29	117	14.4	352	20.1	12.25	0.0005
Family expressed concern?	579	22.81	129	16.06	450	25.94	30.38	<0.0001
Missed activities to shop?	467	18.4	74	9.22	393	22.65	65.99	<0.0001
Do you think you have a problem?	187	7.37	49	6.08	138	7.98	2.89	0.0887
Experienced irresistible urge to shop?	575	22.7	82	10.21	493	28.5	104.5	<0.0001
Experienced growing tension only relieved by shopping?	368	14.54	66	8.21	302	17.49	38.01	<0.0001
Endorsed three core impulse control items	87	3.46	20	2.51	67	3.9	3.15	0.0758
Total number of items endorsed								
0	1328	51.57	565	68.9	763	43.48	165.45	<0.0001
1	533	20.7	137	16.71	396	22.56		
2	335	13.01	48	5.85	287	16.35		
3	187	7.26	31	3.78	156	8.89		
4	112	4.35	17	2.07	95	5.41		
5	47	1.83	9	1.1	38	2.17		
6	33	1.28	13	1.59	20	1.14		

Demographics of Those Who Report Problem Shopping, by Gender

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Table 3
Health and Functioning Measures and Association with Problem Shopping, by Gender

Variable	Total					Boys					Girls				
	N	%	% with problem shopping	X2	p	N	%	% with problem shopping	X2	p	N	%	% with problem shopping	X2	p
Grade average	1487	60.64	3.36	1.44	0.4867	406	51.98	1.97	4.65	0.0974	1081	64.69	3.89	0.03	0.9855
C's	738	30.1	3.25			268	34.31	2.24			470	28.13	3.83		
D's and F's	227	9.26	4.85			107	13.7	5.61			120	7.18	4.17		
Extra-curricular activities	1971	78.28	3.3	0.67	0.412	631	79.07	2.22	1.02	0.3121	1340	77.91	3.81	0.13	0.719
Yes	547	21.72	4.02			167	20.93	3.59			380	22.09	4.21		
No	1467	59.76	1.84	25.68	<0.0001	463	59.9	1.08	6.73	0.0345	1004	59.69	2.19	19.85	<0.0001
Smoking, lifetime	672	27.37	5.36			205	26.52	2.93			467	27.76	6.42		
Occasionally	316	12.87	6.01			105	13.58	4.76			211	12.54	6.64		
Regularly	961	40.46	5.62	22.73	<0.0001	325	43.28	4.62	12.06	0.0005	636	39.16	6.13	13.26	0.0003
Marijuana, lifetime	1414	59.54	1.98			426	56.72	0.7			988	60.84	2.53		
Yes	2159	89.51	3.71	3.04	0.0812	663	87.58	2.41	0.03	0.8649	1496	90.39	4.28	3.42	0.0643
Sip of alcohol, lifetime	253	10.49	1.58			94	12.42	2.13			159	9.61	1.26		
No	475	29.12	2.74	7.65	0.0538	145	29.9	2.07	3.05	0.3834	330	28.8	3.03	13.03	0.0046
Current alcohol frequency	475	29.12	2.74			131	27.01	2.29			344	30.02	2.91		
Light	487	29.86	4.93			136	28.04	0			351	30.63	6.84		
Moderate	194	11.89	6.19			73	16.05	1.37			121	10.56	9.09		
Heavy	202	9.63	8.42	19.07	<0.0001	85	12.59	9.41	25.78	<0.0001	117	8.23	7.69	5.29	0.0214
Other drug use, lifetime	1895	90.37	2.69			590	87.41	1.02			1305	91.77	3.45		
No	384	15.56	2.6	2.86	0.2396	124	15.92	3.23	2.01	0.3662	260	15.39	2.31	3.1	0.212
Caffeine use	1380	55.92	3.26			394	50.58	1.78			986	58.38	3.85		
1-2 drinks per day	704	28.53	4.4			261	33.5	3.45			443	26.23	4.97		
2+ drinks per day	565	23.34	6.9	26.87	<0.0001	136	18.04	7.35	17.56	<0.0001	429	25.73	6.76	12.62	0.0004
Sad or hopeless 2+weeks	1856	76.66	2.37			618	81.96	1.29			1238	74.27	2.91		
Yes	182	7.36	11.54	39.72	<0.0001	102	13.14	12.75	56.34	<0.0001	80	4.71	10	8.4	0.0038
Serious fights	2292	92.64	2.75			674	86.86	0.74			1618	95.29	3.58		
No	431	17.37	5.34	5.75	0.0165	292	37.24	5.14	14.49	0.0001	139	8.19	5.76	1.41	0.235
Carry a weapon															

Variable	Total				Boys				Girls						
	N	%	% with problem shopping	X2	p	N	%	% with problem shopping	X2	p	N	%	% with problem shopping	X2	p
No	2050	82.63	3.02			492	62.76	0.81			1558	91.81	3.72		

Table 4

Adjusted Odds of Reporting Problem Shopping

Variable	Category	OR	95% CI	p
Grade average	C's	1.02	0.61,1.72	0.9319
(Ref: A's and B's)	D's and F's	1.39	0.65,2.96	0.3923
Extra-curricular activities	Yes	0.85	0.51,1.40	0.5195
Smoking, lifetime	Occasionally	2.84	1.67, 4.81	0.0001
(Ref: Never)	Regularly	3.13	1.66,5.90	0.0004
Marijuana, lifetime	Yes	2.67	1.64, 4.34	<0.0001
Sip of alcohol, lifetime	Yes	1.89	0.68, 5.28	0.2239
Current alcohol frequency	Light	0.88	0.39, 1.97	0.7485
(Ref: Never regular)	Moderate	1.53	0.75, 3.13	0.2481
	Heavy	2.01	0.86, 4.71	0.1079
Other drug use, lifetime	Yes	3.23	1.77, 5.90	0.0001
Caffeine use	1–2 drinks per day	1.88	0.83, 4.22	0.1283
(Ref: None)	2+ drinks per day	2.57	1.11, 5.95	0.0276
Sad or hopeless 2+weeks	Yes	2.94	1.85, 4.65	<0.0001
Serious fights	Yes	5.69	3.22, 10.04	<0.0001
Carry a weapon	Yes	2.62	1.49, 4.61	0.0009

Odds ratios adjusted for grade, race and gender