On the Negative Effects of E-Commerce:  
A Sociocognitive Exploration of Unregulated On-line Buying

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Abstract

There is mounting anecdotal and survey evidence of unregulated buying on the Internet, including impulsive and compulsive buying that in extreme cases may constitute a behavioral addiction. Learning theory models of unregulated buying were critically reviewed and reconceptualized in terms of the self-regulatory mechanism from Bandura’s (1986) social cognitive theory. A new explanation of unregulated buying was proposed in which depression weakens effective self-regulation. Features that may have encouraged or discouraged unregulated buying were identified at popular electronic commerce sites. Many features may have disrupted accurate self-observation and fostered advantageous social comparisons with other excessive shoppers. The potential for unregulated consumption to disrupt orderly electronic marketplaces was discussed.

Introduction

E-commerce introduces a new relationship between electronic media and the consumer by mediating complete retail transactions. The psychology of retailing has traditionally been the purview of consumer psychologists, who call our attention to aberrant forms of consumer retail behavior that are collectively referred to here as “unregulated buying.” These include impulse buying (Rook & Fisher, 1995) that is unplanned and spontaneous, compulsive buying (Faber & O’Guinn, 1992) that preoccupies
shoppers to the point of disrupting their lives, and buying addictions (Krych, 1989) that are a form of behavioral addiction.

Now that half of all Internet users have bought a product on-line (Pew Research, 2000) unregulated buying is a concern for communication researchers as well. The issue becomes urgent now that women shoppers outnumber men on line (Sandoval, 2000), since the great majority of unregulated buyers are female (Black, 1996).

Off-line, compulsive buyers account for between 1 and 8 percent of the population (Faber & O'Guinn, 1992), ninety percent of all consumers make impulse buys (Cobb & Hoyer, 1986), and two-fifths describe themselves as impulse buyers (Rook & Fisher, 1995). Evidence that these behaviors are migrating to e-commerce is found in reports of “eBay addicts” (Greenfield, 1999; Hedegaard, 1999) and of recreational on-line shopping (Harris Interactive, 1999; Li et al., 2000) and in on-line discussions (e.g. alt.fashion) where buying binges are celebrated. These behaviors defy rational consumer choice processes (Hoch & Loewenstein, 1991), inflating consumer prices and exacerbating abuse of consumer credit and personal bankruptcies (Faber & O’Guinn, 1988) and so have important social effects.

Unregulated buying is alien to prevailing theories of electronic commerce that are market-based, emphasize rational consumer decisions (e.g., Sarkar et al., 1995), and dismiss cultural factors and personal preferences as bothersome constraints (e.g., Steinfield & Whitten, 2000). In search of a fresh theoretical perspective, the present paper synthesizes and interprets research on impulsive, compulsive and addictive buying within a theory of human behavior well known to media effects researchers, Albert Bandura’s (1986) social cognitive theory. The possibility that electronic commerce promotes unregulated buying will be examined through an exploratory content analysis of leading electronic commerce sites.
Learning Theory Models of Unregulated Buying

Impulsive, compulsive and addictive buying lie along a continuum of purchase behavior characterized by deficient self-regulation (Nataraajan & Goff, 1991), a continuum that includes normal impulsive consumer behavior at one extreme and deviant addictive behavior at the other. While there is no agreement about the etiology of unregulated buying (Black, 1996), learning theory models are common to many explanations of the course these disorders take as they progress from impulsive to repetitive and harmful compulsive behavior. The present paper begins by reviewing learning theory models of impulsive, compulsive and addictive buying.

Pure impulse purchases are responses to novelty or escape that break a normal buying pattern (Stern, 1962). Impulse buying tendency is “a consumer’s tendency to buy spontaneously, unreflectively, immediately, and kinetically” (Rook & Fisher, 1995). In the classical learning theory view, the sensory qualities of the product, the retail environment (Kotler, 1974), the consumer’s train of thought (Hirschman, 1985) or emotional responses evoke the conditioned response of impulse buying (Rook & Fisher, 1995) that temporarily blocks thoughts of negative consequences. In-store browsing increases exposure to the triggering stimuli and either positive affect while shopping or a general tendency to buy on impulse increases receptivity to those stimuli. Positive outcomes reinforce the impulsive behavior, including the benefits of the product, satisfaction of consumer needs, and the replacement of negative affect with feelings of pleasure and excitement (Gardner & Rook, 1988). Thus, pleasing shopping stimuli overwhelm thoughts about negative consequences while triggering positive emotions that evoke the conditioned response of impulse buying.

As the motivation shifts from the desire to purchase a specific product to desire for the buying process, acute episodes of impulse buying may give way to chronic compulsive buying, defined as “chronic, repetitive purchasing that becomes a primary response to
negative events or feelings [that]... becomes very
difficult to stop and ultimately results in harmful
consequences” (O’Guinn & Faber, 1989, p.155).
Learning theory mechanisms (i.e., “…eventually this
behavior produces sufficient positive reinforcement to
become a primary response to negative feelings,”
O’Guinn & Faber, 1989, p. 156) have been proposed for
the progression of compulsive buying and learning
theory works (e.g., Donegan et al., 1983; Marlatt et al.,
1988) are prominently cited in the literature, although
they are by no means the only explanations that have
been proposed (see below). In learning theory terms,
compulsive buying stems from continuing neglect of
long-term consequences as consumers begin to
self-treat anxiety and depression (Rook & Hoch, 1985;
Marks, 1990) with more buying binges, resulting in
further negative feelings and mounting life problems.
These negative consequences outweigh temporary
shopping euphoria for normal consumers, but
compulsive buyers increasingly rely on shopping to
relieve negative feelings and those feelings of emotional
relief condition the buying behavior further.

There is no clear distinction between compulsive and
addictive buying. The two terms are sometimes used
interchangeably (e.g., by Faber et al., 1987; Hirschman,
1992) and both denote uncontrollable buying behavior
leading to major life problems (Faber & O’Guinn, 1989;
Marlatt et al., 1988). Indeed, compulsive consumption is
sometimes identified as a type of behavioral addiction
(Glatt & Cook, 1987; Marks, 1990). However, buying
addiction might be distinguished from compulsive buying
as the transition from abuse to dependency (described in
Marlatt et al., 1998), marked by diminished response
(tolerance), withdrawal symptoms, and other indicators
commonly associated with chemical addictions. No
physiologically active foreign substances (e.g. opiates or
alcohol) are required, endorphins released in the brain
while performing pleasing behaviors (Krych, 1989)
supply the body’s own “natural drug.” In learning theory
terms, buying turns addictive when accompanied by a
craving for the relief it offers, followed by withdrawal,
new cravings triggered by external stimuli, and
secondary conditioning to internal (e.g. stressful feelings)
and external (e.g. the sight of a shopping mall) cues. Alternative coping mechanisms atrophy while habituation to external cues (e.g. criticism from loved ones) and to stimulus control strategies (e.g. avoiding the shopping mall) promote relapses (Marks, 1990). This feeds a downward spiral of abuse, mounting life problems, a further failure of coping skills, and a deeper craving for the “endorphin high” of shopping, ultimately ending in a major life crisis.

However, orthodox learning theory does not account for the human ability to regulate behavior through the exercise of self-control. Yet, the lack of self-control defines unregulated buying on both a conceptual (e.g., Marlatt et al., 1988; Rook, 1987; O’Guinn & Faber, 1989; McElroy et al., 1995) and operational (Valence et al., 1988; Faber & O’Guinn, 1992; Weun et al., 1998) level and distinguishes compulsive from noncompulsive buyers (Natarajan & Goff, 1991). Classical learning theory also fails to explain how impulse control strategies and “willpower” curb these behaviors and indeed regards self-control as illusory (Catania, 1975). In the orthodox view, behavioral addictions end only with major life crises (Marks, 1990) and the only effective therapies are complete abstinence or habituation to cues that trigger them -- both highly improbable for behaviors as essential and ubiquitous as retail buying. Learning theory thus cannot explain how normal consumers escape the downward spiral into addiction nor how some addicts cure themselves (Bandura, 1999). Stated differently, given the constant bombardment of seductive product images and never-ending battles to control credit card debt, shouldn’t everyone turn into a compulsive shopper?

**A Sociocognitive Theory of Unregulated Buying**

Social cognitive theory (Bandura, 1986) extends classical learning theory by recognizing that humans are aware of their own behavior and its consequences and are capable of exercising forethought when planning future behavior. The
sociocognitive view of addiction (Bandura, 1999) explains that behavioral addictions may be avoided or abandoned once started through self-regulation. The self-regulatory mechanism (Bandura, 1991) includes the subfunctions of self-observation, judgmental process, and self-reaction.

Self-observation is the monitoring of one’s own actions to provide diagnostic information about the impact of behavior and the attainment of goals. To self-monitor effectively, individuals must attend to their behavior (with respect to the quality, rate, originality, sociability, morality and deviancy of their performance), analyze regular patterns in behavior in relation to the situations in which it is performed, be accurate in their self-observations, and conduct them in temporal proximity to the performance of the behavior (see Table 1a, left column). Internal emotional states, such as irresistible shopping urges, and arousing external stimuli, such as seductive retail displays, may disrupt or defer accurate self-observation.

The judgmental process evaluates behavior against personal standards of excellence or in reference to group norms, social comparisons with associates, prior behavior, or collective comparisons (i.e., individual contributions to group accomplishments). However, evaluations of performance are only relevant when the activity is valued and within the individual’s locus of control (Table 1b, left column). Judgment may be distorted by faulty moral justifications (as in exacting revenge on a spouse with an expensive shopping spree), euphemistic labeling (“shopping spree,” rather than “shopping binge”), advantageous comparison (comparing oneself to worse “shopaholics”), misattribution of blame (attributing excessive buying to uncontrollable urges), and self-deception (e.g. hiding unwanted purchases).

The self-reactive function provides tangible behavioral incentives, such as self-rewards for good behavior, or self-evaluative incentives, such as self-respect or self-satisfaction (Table 1c, left hand column). The self-reactive process is engaged when behavior is observed and judged to deviate from personal or social standards for conduct. Since depressed people have a
negative cognitive bias that causes them to slight their own successes and blame themselves for failure (Bandura, 1991), the downward spiral of despair and unregulated buying may reflect ineffective self-reactive control. Depressed shoppers are perhaps unable to gain encouragement from their occasional successes in their struggle for self-control and, blaming themselves, plunge deeper into despair.

Understanding Unregulated Buying Behavior

Thus, unregulated buying may be understood as the product of deficient self-regulation, which may be weakened through any of its three subfunctions. Many of the unique symptoms and correlates associated with unregulated buying (in the right hand columns of Table 1) can be re-interpreted as factors that undermine self-regulatory functions.

For example, the diagnostic criteria for compulsive buying are a maladaptive preoccupation with buying or shopping that is associated with irresistible shopping urges, buying items that are not needed or affordable, shopping for longer than intended and accompanied by marked distress or interference with social, occupational or financial functioning (McElroy et al., 1995). In social cognitive terms, these symptoms describe a state in which self-observation is disrupted by a pre-occupation with buying or by feelings of distress or uncontrollable urges. Extended shopping expeditions provide extended contact with retail stimuli that overwhelm self-observation. Judgmental comparisons with normal standards of conduct (i.e., norms for behavior on the job or at home, one's own objective shopping needs and budget, or reasonable time allocations for the shopping function) have been suspended or else replaced by dysfunctional norms related to buying. Normal self-reactive influences (e.g., guilt or rational economic decision-making) have been replaced by maladaptive ones (e.g., seeking relief from depression through shopping, Krych, 1989). Case studies of compulsive buyers (Krueger, 1988) recount internal battles with self-control and (in case 3) willful disruption of accurate self-observation by blocking thoughts about credit card balances.
The personality traits associated with compulsive buying may also be understood in social cognitive terms. Across multiple studies, compulsive buyers scored higher than normal buyers on obsessive-compulsiveness, fantasy and envy, but lower on self-esteem (Faber & O’Guinn, 1992). Compulsive buyers are not truly obsessive compulsives in that they enjoy the behavior (while obsessive compulsives feel compelled to carry out unpleasurable tasks (APA, 1994). So, their compulsivity perhaps reflects a general weakness for behavioral addictions, including the work, exercise and sex addictions also reported by compulsive buyers (Faber & O’Guinn, 1989), that bespeaks a general lack of effective self-regulation across behavioral domains. This is confirmed by research that found compulsive buying is inversely related to conscientiousness (a cardinal personality trait indicating general organization and efficiency (Mowen & Spears, 1999). Product-related fantasies may overwhelm accurate self-observation, while fantasies of imagined wealth (as reported in Faber & O’Guinn, 1989, p. 153) may negate the self-reactive fear of indebtedness. The envy scale (Belk, 1985) contains items (e.g. “I am bothered when I see people who buy anything they want,” and “when Hollywood stars or prominent politicians have things stolen from them I really feel sorry for them”) that imply advantageous comparisons are being made with other unregulated buyers.

The inverse relationship between self-esteem and compulsive buying is so consistent that low self-esteem has been suggested as a determining factor in the etiology of the disorder and as a trigger to buying binges (Faber, 1992). However, self-esteem may only be a factor for “internal” compulsive buyers who seek to relieve internal anxiety states, but not for “external” compulsive buyers who are influenced by external circumstances (DeSarbo & Edwards, 1996). Moreover, the measure of self esteem (Rosenberg, 1965) used in many compulsive buying studies (e.g., d’Astous, 1990, Sherhorn et al., 1990) has a substantial negative correlation with depression (Rosenberg et al., 1995). The inverse relationship between self esteem and compulsive buying may thus be a third variable effect
reflecting the interaction among depression, self-slighting and faulty self-regulation mentioned earlier (Bandura, 1991). The possibility that depression contributes to poor judgment about spending has also been discussed in the compulsive buying literature (Black et al., 2001). A direct relationship between depression and compulsive buying has not been established empirically, but its effects may have been masked by other variables such as anxiety and coping ability (DeSarbo & Edwards, 1996). Alternatively, anxiety may itself directly disrupt self-regulation and also impact self-esteem. In other words, depression or anxiety may be prior causes that contribute to both faulty self-regulation and low self-esteem.

Generally, self-observation may be disrupted by both external distractions and internal states. For example, the sensory qualities of retail displays that provoke impulse buying (Hoch & Loewenstein, 1991) and also the overall complexity of those stimuli (Hausman, 2000) may overwhelm self-observation. The extended browsing engaged in by compulsive buyers (Christenson et al., 1994) prolongs exposure to those sensory stimuli. The feelings of shopping enjoyment, excitement and empowerment experienced by impulsive buyers (Rook & Gardner, 1993) and the uncontrollable shopping urges (Christenson et al., 1994), chronic anxiety (Black, 1996), intense moods (Faber & Christenson, 1996), object attachment and emotional lift (Faber & O’Guinn, 1989) reported by compulsive buyers while shopping are emotional states that can make shoppers inattentive to their own performance. Credit cards are widely abused by compulsive buyers (Faber & O’Guinn, 1992), disrupting the temporal proximity of excessive buying behavior and the perception of its financial consequences. Accurate self-observation of excessive buying may also be impaired by hiding or giving away purchases as compulsive buyers often do (Black, 1996).

The judgmental process is disrupted when personal standards that regulate normal buying behavior are ignored or replaced with ones that stimulate buying. The build-up of a tolerance for addictive purchases (Marks, 1990) arguably betrays a failure to make comparisons with one’s own prior consumption levels. Impulsive
buyers are unlikely to have regularly scheduled shopping days or to write out shopping lists (Rook & Hoch, 1985), perhaps to avoid comparisons with their own objective shopping needs. Distorted moral justifications may be developed, such as gaining revenge on a former spouse by running up a balance on the former spouse’s credit card bill (Elliot et al., 1996). Comparisons of one’s behavior to unrealistic or self-defeating standards such as an idealized self-concept (Burroughs, 1996) or sex-role stereotypes (Ditmar & Drury, 2000) also defeat rational self-judgment and promote unregulated buying. Rationalizing an impulse purchase on the grounds that it is an unbeatable bargain or that it meets a personal need (Rook & Hoch, 1985) are further examples of faulty personal comparisons.

The unique patterns of social interaction that surround unregulated buying might be understood as impairing valid social comparisons rather than as efforts to bolster self-esteem or to correct one’s self-image. Many unregulated buyers shop alone (Schlosser et al., 1994; Lejoyeux et al., 1999), at night, by phone (Rook & Hoch, 1985), or through home shopping channels (Lee et al., 2000), thereby avoiding discovery by family or friends who might provide reminders of normative standards for buying. Conversely, enablers (Krych, 1989) may provide tacit social approval for excessive buying by helping the buying addict cover up their life problems. Many prefer the company of sale clerks (McElroy et al., 1994), a group that perhaps upholds rather lax norms for excessive buying. Consumption behavior modeled in product advertisements may also play a role (Faber, 1992), providing an advantageous comparison with other prolific, if fictional, consumers. The knowledge that others in one’s social circle possess a certain product stimulates impulsive buying (Hoch & Loewenstein, 1991), perhaps another form of advantageous comparison with other unregulated shoppers.

The judgmental function may also be distorted by the relative valuation of activities and the misattribution of performance to external causes. As compulsive shoppers become preoccupied with buying, work and family interaction become devalued and less subject to
personal scrutiny. The perception that shopping urges are irresistible (Christenson et al., 1994) and that products sometimes seem to take on a life of their own (Rook & Hoch, 1985) shift the locus of control away from the individual.

The general tendency to disregard the consequences of unregulated buying (Hoch & Lowenstein, 1991) may be viewed as the avoidance of evaluative self-reactions. Disruption of the self-reactive function may explain one of the most remarkable phenomenon associated with problem buying: Hiding, returning, giving away, or selling unwanted purchases, as compulsive buyers often do (Black, 1996). These are ways of avoiding the self-observation that unregulated buying has produced a horde of products and also the judgment that those products are unnecessary and unaffordable when compared to one's true needs or budget. But these actions also neutralize the self-reactive incentives of guilt and debt that would normally regulate buying. Guilt is assuaged by hiding the offending purchases from view or by substituting feelings of generosity for guilt pangs when the unwanted products are given away. Product returns and yard sales mitigate the financial disincentives to continued unregulated buying. The delivery of the product may occasion pangs of guilt over an unwanted and unaffordable purchase, which may be why compulsive buyers often tolerate considerable delays between buying urges and taking possession of the product (Christenson et al., 1994).

**Controlling Unregulated Buying**

Attempts to curb excessive buying are sometimes considered to be further symptoms of both compulsive (Black, 1996) and addictive buying (Krych, 1989). However, within the socio-cognitive framework the success of these efforts is precisely what distinguishes unregulated buyers from normal consumers and also the means of curing problem buying. Self-regulation is bolstered by strengthening, or reasserting, the subfunctions of self-observation, judgment, and self-reaction (the middle columns of Table 1a-c).
For example, the self-observation subfunction is activated by addiction therapies that call attention to problematic behavior by keeping diaries or taking self-diagnostic tests (Young, 1998). Bundling of costs, such as considering one’s total credit card bill instead of a single purchase, also restores accurate self-observation. Other strategies reassert control over factors that disrupt self-observation by reducing desire (e.g., avoiding the shopping mall), postponing the purchase decision, distracting oneself when buying urges occur (Hoch & Loewenstein, 1991), controlling emotions, or selectively processing marketing stimuli (Dholakia, 2000). The regularity of excessive buying behavior may be heightened by learning to recognize the triggers of addictive behavior (Young, 1998) while the temporal proximity of self-observation and buying may be increased by leaving the credit card at home and using cash instead (Glatt & Cook, 1987).

The judgmental subfunction is targeted by interventions that identify discrepancies with personal or normative standards of conduct (Miller, 1998), force recognition of budgetary constraints (Rook & Fisher, 1995), or formulate explicit rules for conduct (such as a personal savings program, Dholakia, 2000). Other approaches make appeals to moral precepts or higher authority (Hoch & Loewenstein, 1991). Internet addiction therapists teach their patients to recognize faulty self-justifications (Greenfield, 1999; Young, 1998), a way of neutralizing faulty judgmental standards. Identifying sources of social support for good behavior (Young, 1998) may provide helpful social comparisons with normal buyers. Encouraging affirmations of personal responsibility (Young, 1998) moves the locus of control back to the person, away from externalized urges. Linking individual behavior to a collective goal (e.g., sending the children to college) or devaluing the shopping activity could also be effective (Bandura, 1986), although these strategies are not evident in the literature of unregulated buying.

Many therapeutic approaches provide incentives to change behavior, invoking the self-reactive subfunction. These include setting goals for behavior change, providing reminders of negative consequences, and
identifying incentives that motivate abstinence (Young, 1998). Other therapies (Miller, 1998) transfer control from one set of contingencies to another (e.g., from the joy of shopping to the guilt of credit card debt) or re-interpret the consequences of behavior (e.g., viewing credit card debt as a family problem instead of a personal financial problem). Pre-commitment to constraints on buying behavior include leaving the credit card at home (Glatt & Cook, 1987), avoiding the shopping mall, promising oneself or others to restrain spending (Hoch & Lowenstein, 1991), imposing time limits on shopping (Rook & Fisher, 1995), shopping without purchasing, and destroying one’s credit cards (McElroy et al., 1994). Self-rewards for resistance to temptation, concentrated attention to long-term economic or life consequences, and willing indulgence in guilty feelings are approaches suggested by economists (Hoch & Loewenstein, 1991) and therapists (Greenfield, 1999; Young, 1998) alike.

**Does E-Commerce Promote Unregulated Buying?**

Following the previous socio-cognitive interpretation, self-regulation plays a decisive role in the progression of unregulated buying from “normal” impulsive buying to problematic buying compulsions and shopping addictions. While personality and biophysical factors may predispose unregulated buying behavior, each individual potentially has the ability to moderate and even reverse the descent into self-destructive behavior, with or without professional help. However, external stimuli in the retail environment may overwhelm self-control; indeed, real world shopping environments are carefully crafted to do just that (Kotler, 1974). Electronic commerce may thus facilitate unregulated buying by undermining the mechanisms of self-regulation, in effect negating the strategies of self-control proposed by therapists and social scientists and followed by normal, self-regulated consumers. The features of e-commerce sites may thus defeat self-regulation by engaging its subfunctions in ways that mitigate against buying restraint. For example, features that emphasize attractive product stimuli (e.g. enlarged photos of the product, color samples, audio clips of
CDs) may make shoppers less attentive to their purchasing behavior by generating a sense of excitement about the product that banishes reasoned self-observation of the damage to one's credit card balance. On-site chatrooms and e-mail exchanges with sales consultants could create a virtual social environment in which judgments of behavior are framed by social comparisons with other unregulated shoppers. Point programs and free gifts may supply tangible rewards that offset the guilt that unregulated on-line shoppers feel about excessive purchases. While individuals ultimately regulate their own behavior, the blandishments of e-commerce sites oppose efforts to maintain self-control.

However, e-commerce should reinforce self-control according to prevailing theories of electronic markets (e.g., Sarkar et al., 1995; Schmitz, 2000; Steinfield & Whitten, 2000; Wigand & Benjamin, 1995), not undermine it. On-line consumers are assumed to exhibit rational economic choice behavior that minimizes search and transaction costs while seeking the best economic alternative. In this view, on-line comparison shopping supplants imagery and hype with objective reviews and price comparisons, while search engines, product locators and shopbots are seemingly the antithesis of the aimless shopping binge. Specifically, on-line shopping lacks the excitement of “experiential goods” that can be evaluated only through trial (Klein, 1998), eliminates the social experience of shopping (Sarkar et al., 1995; Swaminathan et al., 2000), and imposes delays in gratification (Steinfield & Whitten, 2000). In socio-cognitive terms, these shortcomings address the self-observation, judgmental process, and self-reaction subfunctions of self-regulation, respectively, suggesting that on-line shopping sites are unlikely to stimulate unregulated buying.

Nonetheless, there are many indications that unregulated buying is present on the Web. On-line shoppers are more impulsive than non-shoppers, seek more variety, are less risk averse, and less brand- and price- conscious (Donthu & Garcia, 1999), characteristics consistent with urge-driven impulsive purchasing behavior. Donthu and Garcia argued that Internet shoppers were not recreational shoppers generally. However, another survey found no significant
difference in recreational shopping orientation between non-buyers, occasional and frequent on-line buyers and all three groups scored above the midpoint of a recreational shopping scale (Li et al., 2000). Market surveys in the United States (Harris Interactive, 1999) and Great Britain (BMRB International, 1999) identified sizable impulsive buying segments that accounted for disproportionate shares of on-line purchases. Survey estimates of the proportions of on-line impulse shoppers range from one fourth (Angus Reid Group, 2000) to over four-fifths (@dtech, 1999) of all e-commerce consumers. So, the Internet appears to be drawing ample numbers of impulse buyers who might regress to compulsive or addicted ones.

There is no direct empirical evidence of compulsive or addictive buying on the Internet. However, compulsive buying is more prevalent among “Internet addicts” than the general population of Internet users (Greenfield, 1999; Black et al., 1999) and it is therefore plausible that those “addicts” continue their unregulated buying on-line. If it is true that Internet usage causes depression (Kraut et al., 1998), then that may undermine self-regulation and foster unregulated buying among heavy Internet users.

Anecdotal cases of compulsive on-line buyers have been reported and on-line therapists state that numerous cases of addiction to on-line auctions exist (Myer, 1999). In the case of “Laurie” (Greenfield, 1999) a novice Internet user was hooked on the thrill of on-line bargains, started buying unnecessary goods because they were on sale, and experienced remorse, severe credit card indebtedness and trips to the therapist and credit counselor. “eBay addicts” are drawn by the excitement of the auction to make purchases that they later regret or cannot afford (Morrison, 1999). Their self-confessions indicate obsession, craving, tolerance, concealment and family disruption (Hedegaard, 1999), telltale signs of compulsive buying. One self-confessed auction addict spent 40 hours a week buying and selling goods and lost her job after her workplace transactions were monitored (Myer, 1999), a case that would seem to conform to the diagnostic criteria for compulsive buying outlined by McElroy et al. (1995).
Unregulated buyers also reveal themselves in on-line discussions at the alt.fashion newsgroup. In exchanges on the topics of “Are you a shopaholic?,” “Fighting the urge” and “Embarrassed and sad” contributors betrayed defining characteristics of compulsive buyers: strong shopping urges, leading to unneeded and unused purchases, followed by failed attempts at self-control, credit problems, and feelings of remorse and self-loathing. The discussion thread “If you were slightly depressed” identified products that would modify a depressed mood, a possible indication of an inclination to “self-medicate” depression with purchases. “Whatcha stock-piling” and “how soon after purchasing do you wear it” provided evidence of unneeded purchases. Frequent “swap” requests revealed a new way to dispose of unwanted products – trading with other compulsive buyers on-line. E-commerce sites reportedly abetted shopping urges with immediate gratification and with coupons for beauty products. On-line purchases were proudly announced to the community in messages headed “What came in the *mail* today,” seemingly an invitation to make advantageous comparisons with other unregulated buyers. Alt.fashion contributors discussed cravings (in the “What have you been craving lately?” discussion thread) and “take the edge off” those cravings with free promotional products (in the “Fighting the urge” thread), possible indications of addictive behavior.

If unregulated buying does flourish on the Internet, does the content of e-commerce sites encourage it? In light of the previous discussion, the question becomes how e-commerce sites might defeat consumer self-regulation in ways that counteract rational consumer behavior in the electronic marketplace. If one’s purpose was commerce instead of therapy, could the self-control strategies discussed previously be disrupted to encourage unregulated buying? We now consider the possibility that some e-commerce sites do exactly that.

**Research Methods**

An ethnographic content analysis of selected e-commerce sites was conducted to identify factors that could strengthen or
undermine consumer self-regulation. The approach was "ethnographic" in that it was inductive, rather than deductive, exploratory rather than definitive, and qualitative rather than quantitative. The purpose of the analysis was to identify indicators of self-regulation mechanisms in the material (or "cultural artifacts") that Web on-line merchants have produced. This was an intentional departure from the usual approach to content analysis in which content categories are pre-defined and their instances enumerated within a randomly sampled corpus of content. The goal was to identify novel strategies for influencing self-regulation in this new medium. Entering the analysis with pre-conceived notions about those strategies would have answered the question *a priori*. This is the type of exploratory question for which inductive, qualitative research is recommended (Berger & Luckman, 1966). As indicated previously, the row headings correspond to the subprocesses of the three subfunctions of self-regulation. Table 1a examines the subprocesses of the self-observation subfunction, while Table 1b contains subprocesses of the judgmental function and Table 1c subprocesses of the self-reactive function. The upper entries in each cell of the matrix, above the dashed lines, are relevant elements from the literatures of impulsive, compulsive and addictive buying that are given to help clarify the constructive definition of self-regulation as applied to the context of unregulated buying. The listings in the upper divisions of the cells in the middle column are aspects of therapeutic and self-control strategies that promote self-regulation. The listings in the upper divisions of the cells in the right hand column are symptoms of unregulated buying that defeat self-control. The italicized entries in the bottom divisions of the cells in the matrix are examples of specific e-commerce features that represent the corresponding subprocesses at the left of each row of the matrix.

The analysis was completed by visiting the leading e-commerce sites specializing in the product categories frequently associated with impulsive (Bellenger et al., 1978) and compulsive buying (Christenson et al., 1994) -- apparel, health and beauty products, books and recordings -- in the spring of 2000 (HarrisInteractive, 2000). These were jcpenney.com, quixtar.com, amazon.com and ColumbiaHouse.com, respectively. The leading auction site (eBay.com) and three sites frequently mentioned at alt.fashion (eve.com, beauty.com and beautyjungle.com) were also included.
Alt.fashion was itself identified by entering the search terms “shopaholic,” “shopping addict” and “shopping addiction” into the dejanews search engine. Visits started at the main home page for each site and followed all internal links found there to the end, including displays of sample products, but stopping short of finally completing the transaction at the check out page. Features that suggested the constructive definitions of self-regulatory mechanisms or symptoms of unregulated buying identified in the literature were noted.

The author classified features found at the sites visited into a matrix that served as the field notes for the analysis. The row headings in the matrix were subprocesses (e.g., attentiveness to performance, regularity) of self-regulation of behavior (after Bandura, 1986, p. 337), organized within the three subfunctions of self-observation, judgmental process and self-reaction. Web site features that suggested the constructive definitions of self-regulatory mechanisms and their subprocesses were listed in the corresponding rows of the matrix. Symptoms of unregulated buying identified in the literature were noted as factors defeating self-regulation while therapeutic and self-control measures were listed as factors promoting self-regulation in each row. The classification of factors promoting or defeating self regulation was undertaken to integrate the literature of unregulated buying with the social cognitive framework of self-regulation in order to identify the meaning of the various subprocesses within the shopping context. Thus, the analytic-induction strategy (Stainback & Stainback, 1988) was followed by relating the features of e-commerce sites to the theoretical construct of self-regulation.

**Results**

Features of e-commerce sites were classified into relevant cells of Table 1 according to whether they appeared to strengthen or weaken consumer self-regulation. Unique features were identified with the name of the site, while those that appeared on multiple sites were labeled “various” in the interest of brevity.
Some features entailed multiple functions. As mentioned previously, when unregulated consumers hide or dispose of their purchases they may be avoiding accurate self-observation, uncomfortable judgmental comparisons or self-reactive guilt. So, related on-line retailing features, such as lenient return policies, were classified in multiple cells of the matrix.

Features that potentially undermined consumer self-regulation were found at all of the sites visited and across all of the self-regulatory subfunctions listed. Undermining attentiveness to performance was the most common strategy for defeating consumer self-regulation. Nineteen different examples of these features were found. Seven features promoted advantageous social comparisons and six contributed to faulty self-reactions that could encourage unregulated buying. EBay and the sites identified by alt.fashion discussants had the most unique approaches to defeating self-regulation. Features that potentially strengthened consumer self-regulation were few (13) compared to those that weakened it (50). To avoid repetition, specific instances are examined in the discussion that follows.

**Discussion**

On-line shopping environments may compensate for their relative lack of sensory and social shopping stimuli and immediate gratification opportunities with Internet technology. The three subfunctions of self-regulation, self-observation, judgmental process, and self-reaction (Bandura, 1991) will again be used to analyze the features of Web sites that may especially affect impulsive and compulsive buyers.

**Encouraging Self-Control Through E-Commerce**

Some features of e-commerce sites may actually strengthen consumer self-regulation. All sites prominently displayed prices alongside pictures of their products; that should have made buyers attentive to the impact of their shopping on their budgets and invited self-monitoring in close temporal proximity to the purchase decision. Shopping cart features totaled all
purchases at the checkout counter, thereby “bundling” information about individual purchases so that consumers could analyze accurately the impact of their purchases on their total indebtedness. Some sites (e.g. eBay, beautyjungle and Amazon) offered summaries of past purchase histories, which may have bolstered the accuracy of self-observation, helped consumers analyze long-term financial consequences and provided comparisons to prior behavior. On-site search engines and product indexes facilitated goal-directed shopping for specific products, encouraging judgmental comparisons to actual shopping needs. Detailed product reviews, especially the ones at Amazon that provided criticism as well as praise, might have called attention to unwise purchases and offered self-reactive incentives to avoid them. “Wish lists” may have provided a means of deferring buying urges.

Disrupting Self-Observation Through E-Commerce

Features likely to disrupt self-regulation were far more common than those that encouraged it. Sensory cues supplied by multimedia displays may trigger emotions that overwhelm reflective self-monitoring just as in-store shopping displays do. Indeed, the ability to sample sound tracks at ColumbiaHouse.com perhaps exceeded that of real world music stores, where listening booths long ago gave way to racks of shrink-wrapped recordings. Product reviews may have compensated for the lack of product trials (see Klein, 1998). The e-commerce sites visited here featured seductive product descriptions (e.g. eve.com) that emphasized scents and fantasy imagery. Enlargeable pictures of the products and color samples that looked like thick smears of lipstick provided further sensory stimulation. However, even simple product lists with thumbnail pictures may have excited the shopper, and galleries that embraced dozens of enticing products at a glance were perhaps even more arousing, especially when prices were not visible (at Quixtar). Quixtar had an interactive Virtual Look feature through which visitors constructed facsimiles of their own face to which they “applied” cosmetic products on sale. At beautyjungle.com image-mapped pictures of a “look” linked visitors to products as they moused over the part of the look (i.e.,
the model’s lips) they might like to have for their own. Thus, the senses of smell, touch and hearing were engaged, as well as vision.

Other tactics may have triggered feelings of excitement that overwhelmed reflective self-observation, such as self-gifts for shoppers, sweepstakes and notices of auction closings. At Quixtar, visitors were greeted with an image that portrayed a fantasy of pure shopping fun: a young woman was being pushed along atop a shopping cart filled with watermelons by her boyfriend, her limbs askew and laughing, in the seeming throes of pure shopping bliss.

What e-commerce sites lacked in the quality of their sensory cues, they perhaps made up for with quantity and intrusiveness. E-mail alerts of new products and promotions may have provoked shopping urges in environments (e.g., the study or the workplace) and at times (e.g., late at night) where they were not normally encountered. Amazon made spontaneous product recommendations to their visitors. Various e-commerce sites enlisted the assistance of their customers to send recommendations (complete with product images) to friends and family. The eBay-a-Go-Go feature perhaps injected product cues into environments where computers were not present, through pagers and cell phones.

Shipping and credit policies also may disrupt self-observation. Delayed delivery and “ship when available” policies deferred accurate self-monitoring to a later time. And, with credit cards the only acceptable form of payment, consumers were encouraged to defer accurate self-observation of their on-line shopping behavior and its consequences—at least until the credit card bill arrived at end of the month.

**Disrupting Judgmental Process Through E-Commerce**

On-line social environments undermined the judgmental process in ways that real world stores cannot always duplicate. By providing on-site chatrooms, purchase circles and discussion forums where unregulated buyers
may congregate, on-line retailers facilitated advantageous comparisons with others who may have had equal, if not worse, problems with unregulated buying. Indications of hot-selling items (on eBay) and recommendations predicated on what other people who had bought a particular product had also purchased (at Amazon) also offered social comparisons with other prolific buyers. The so-called “viral marketing” approach that enlisted friends and family to send marketing messages through e-mail perhaps added the appearance of social approval for buying. On-line advisers were available (e.g. at eve.com and beautyjungle.com) to provide the social interaction (and further advantageous comparisons) that off-line compulsive buyers turn to in-store sales staff for.

Although compulsive buyers may enjoy interactions with sales staff, many avoid the company of family and friends, preferring to shop alone. Perhaps the inherent anonymity of e-commerce removes the risk of making uncomfortable comparisons with social norms for rational shopping behavior that might be elicited during chance encounters with neighbors or family members in a real-world retail environment.

Personal and societal standards were also invoked online. The charity auctions at eBay made an appeal to individual moral standards to justify auction participation. Comparisons to unrealistic self-images and sex-role stereotypes prompted by “It Girls” (beauty.com) and glamour pictures (eve.com) may have defeated sound judgment by overwhelming realistic standards for buying behavior. Point programs created personal goals (i.e., the points required to obtain desired premiums) that contended with personal standards for budgetary constraint. Reminders to make repeat purchases (at beautyjungle) invited comparisons to prior unregulated shopping behavior that may have assured the consumer that present excessive purchases were normal, at least compared to the excesses of the past.

**Disrupting Self-Reactive Influence Through E-Commerce**
Theoretically, the ability to take possession of a product immediately provides a self-reactive incentive to continue shopping that derives from enjoyment of the product's benefits and from the relief it offers from the negative feelings that initiated the shopping urge. This incentive is generally not present in on-line retailing, where (except in the case of software purchases that can be downloaded immediately) product delivery is usually deferred by a matter of days. However, the acquisition of the product, rather than its actual possession, may motivate both impulsive (Brockman, 1997) and compulsive (Hassay & Smith, 1996) buying, so immediate gratification perhaps derives from the sales transaction rather than actual product delivery. So, on-line stores that are operated around the clock actually provide superior instant gratification by fulfilling shopping urges while they are in progress (usually about 1 hour) and where they first occur (in the home, Christenson et al., 1994), compared to real-world retailing that requires a trip to the store.

Self-reactive influence may also be weakened by delaying the consequences of behavior. Paying cash is a very effective way of keeping track of the damage that unregulated buying does to one's finances, but e-commerce sites only accepted credit cards. Swapping unwanted products (e.g. at alt.fashion) or auctioning them on-line (e.g., at eBay.com) were two novel means of concealing the consequences of unregulated buying from oneself and from others. Lenient or convenient return policies (e.g. refunding shipping costs at beautyjungle, making returns to the local J.C. Penney outlet) were others. Product delivery may stimulate pangs of guilt, a self-reactive influence that could moderate buying. Thus, delayed delivery and the practice of shipping items as they became available conceivably reduced the motivation to control unregulated buying.

The self-reactive function may also be defeated by replacing the negative feelings that follow unregulated buying with substitute incentives. The excitement of winning an auction at eBay or the pride of boasting of one's purchases to an on-line chat room, for example, may offset negative self-evaluations. The tangible
rewards of point programs and self-gifts may have overwhelmed moderating influences. In this sense, a pernicious feature was the “continue shopping” button regularly found on shopping cart pages. That presented the opportunity to immediately self-treat remorse over excessive purchases with further shopping pleasure.

**Electronic Marketplace or Ludic Electronic Mall?**

If subsequent consumer research were to verify that the features identified here prompt unregulated buying, that might help us understand why on-line consumer behavior does not always fit the prevailing "electronic marketplace" view of efficient information seeking and rational decision-making. For example, others have pointed out that there is a puzzling dearth of comparison shopping on-line (Johnson et al., 2000) -- the true mark of the rational buyer. One possibility is that unregulated buying and rational buying may coexist. There might be some groups of consumer who are predominantly unregulated (cf. BMRB International, 1999; Harris Interactive, 1999) while others are predominantly rational comparison shoppers, that would be consistent with the view that unregulated buying is an aberrant personality disorder. Alternatively, most on-line buyers may be rational at some times but irrational and unregulated at others, with both the self-regulatory abilities of the consumer and the tactics of e-tailers determining which mode of buying is enacted. The latter explanation is more consistent with the socio-cognitive theory of self-regulation.

To truly understand the relative importance of rational and irrational factors in electronic commerce it may be necessary to re-examine the features that have been advanced as evidence that rational electronic markets exist on-line. Seeming indications of efficient electronic markets can be re-interpreted as signs of unregulated on-line buying. Compulsive buyers engage in product research and comparison shopping, too (Lejoyeux et al., 1999), but their search behavior may be a “ludic” form of play or an attempt to resolve physiologically arousing stimulus ambiguity (Holbrook & Hirschman, 1982), rather than a rational effort to minimize search and transaction costs. For men at least, comparison shopping may be
part of the impulse buying process (Ditmar et al., 1995). Lohse and Spiller (2000) predicted retail e-commerce sales from navigation features that were thought to reduce the time to complete transactions and hence improve consumer efficiency. However, the most powerful feature was one that might well excite unregulated buyers: a list with pictures of the products and buttons to “open” detailed product descriptions. The pictures increase download times, reducing the efficiency of the search, and the product descriptions are likely to contain imagery or marketing appeals that efficient consumers should disdain but unregulated consumers would probably enjoy. On-line consumers value convenience (Li et al., 2000), but is that to improve economic efficiency or to remove time constraints that inhibit impulse shopping (cf. Beatty & Ferrell, 1998)? Others shop for bargains and “freebies,” but does that improve economic efficiency or generate excitement that disrupts self-regulation and provokes impulse buys?

Limitations

The present research was exploratory in nature. The effects of e-commerce on unregulated buying behavior cannot be established on the basis of content analysis. Generalizability is limited by the small numbers of sites examined and the purposive nature of their selection. E-commerce sites are in a constant state of flux. The J.C. Penney site, for example, has since undergone an extensive re-vamping, beautyjungle.com has expanded to become a “fashion mall” and eve.com has disappeared. Thus, the results apply only to the particular sites and times at which the visits were made.

Marketing Implications

We can hope that merchandisers will refrain from creating helpless on-line shopping addicts on ethical grounds, but self-interest should also motivate them. Unregulated buyers make frequent returns, a profit-draining pitfall. They may also comprise significant proportions of “phantom shoppers” who abandon their purchases at the check-out counter after tying up Web servers with their on-line shopping fantasies. To reduce the negative commercial impact of unregulated buyers,
more self-regulatory features could be built into e-commerce sites (see below) or on-line stores could block visits from consumers whose frequent returns and aimless shopping make them unprofitable customers.

The present analysis also suggests further ways to undermine consumer self-regulation. From the merchant’s perspective this means increased “cross-selling” of items that the visitor did not come to buy. “Clickable” price tags that separate price information from product images and redesigned shopping carts with tempting product pictures and more discreet tallies would add to the joy of shopping sprees -- and undermine accurate self-monitoring. On-site discussion groups patterned after alt.fashion, in which to anticipate and celebrate purchases, would also heighten the excitement of shopping -- and promote advantageous comparisons to other excessive shoppers that undermine sound judgment. Or, search engines could be designed to respond to visitor moods as well as product categories, yielding product suggestions calculated to chase away the blues -- and promote the addictive habit of self-medicating negative affect with enjoyable purchases.

Social Implications

Unregulated on-line buying could become a significant social problem as e-commerce spreads. The compulsive buying tendencies of adolescent consumers (Roberts, 1998), coupled with their affinity for the Internet, cause special concern. Beyond inefficiency in markets, there will be social costs from reduced productivity, personal bankruptcies, disrupted families and ruined lives. Chasing the problem with credit and psychiatric counseling will be expensive both in terms of tax dollars and human lives. By way of prevention, existing fair trade practices prohibiting deceptive promotions and pricing should be extended to e-commerce. But will these be sufficient and would stricter rules for e-commerce pass muster with the First Amendment?

Fortunately, many people recover from addictions on their own and many more can learn the self-control required to avoid them, with a little help. Software
developed within the Internet community could help on-line consumers maintain self-regulation. It could extend “bundling” by automatically totaling purchases across sites and sessions and provide a running on-screen meter of expenditures and time spent shopping, to promote self-observation. Automatic filtering of sites, types of products, or product stimuli (e.g., jpg files with product images) that foster excessive purchases would reduce exposure to shopping stimuli. To bolster the judgmental subfunction, shoppers could be prompted to make a shopping list before entering e-commerce sites and receive on-screen warnings when they surpassed referential norms or family budgets. Self-reactions could be prompted by forcing shoppers to re-allocate budgets, relate unplanned purchases to initial shopping objectives or respond to remonstrative e-mails from significant others before completing a purchase. Compliance could be motivated by offers of slight increments in the budget category in question.

Conclusion

The social cognitive theory of self-regulation thus provides a heuristic new perspective of both unregulated buying and consumer electronic commerce. It views impulsive, compulsive and addictive buying as failures of self-regulatory mechanisms that are within the individual’s ability to restore. Mediated communication may undermine any or all of the three self-regulatory subfunctions of self-monitoring, judgmental process or self-reactive influence to encourage unregulated buying. In their efforts to recreate real-world shopping experiences on the Web, on-line retailers have created features that attack all aspects of self-regulation, sometimes in novel ways not found in conventional retail environments. While their impact on consumers is not yet known, e-commerce sites have the potential to stimulate unregulated buying in ways that could have negative personal and social consequences.

Acknowledgments

A longer version of this paper was presented at the 35th
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Source: http://www.ascusc.org/
Journal of Computer-Mediated Communication April 2001