Parenting Strategies as Influences of Teen Drinking via Self Esteem: An Important Area for Family Policy

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Abstract:

Globally, in developing as well as developed countries, rampant increases in teen drinking are widely recognized as major threats to individual, family, and societal well-being. Parenting strategies influence drinking and related behaviors, leading to their incorporation in national family, health, and substance abuse policy programs. Drinking teens become drinking adults, harming current and future family generations in a vicious ''recycling.'' Longitudinal micro-level analyses from late grade to late high school shows that parenting strategies lead to, or can curb teen drinking, both directly and indirectly, through self-esteem. Parenting often overemphasizes control and underemphasizes positive communications (responsiveness). Particular parenting strategies decrease teen drinking directly or indirectly, by enhancing or detracting child self-esteem, or both. Policies targeting parents via communication and intervention campaigns, to reduce their teens' drinking, offer a fruitful complementary tool to targeting teens directly, and to traditional policy tools. The emphasis of ''extant'' parent-targeted public policy campaigns is misplaced. We must reach parents earlier, in mid-grade-school years. Behavioral control should not be the dominant theme—psychological control must be strongly discouraged, and responsiveness encouraged, fostering long-term self-esteem and family health.

Keywords: teen drinking | family policy | parenting strategies | drinking and self-esteem trajectories | latent growth modeling | mediation

Article:

Teen drinking is on the rise and recognized as a major family and social problem globally. Parenting behaviors drive, and are potential cures of teen drinking, and are increasingly being incorporated as part of national health, alcohol, and family policy in the United States, Canada, and the United Kingdom (Velleman and Templeton 2003). This problem and the role of parenting in driving it are recognized also in Australia and New Zealand and in developing countries such as Brazil (Carvalho et al. 1995; Uchoa et al. 2002), Romania (Lotrean et al. 2009), and the Seychelles (Faeh et al. 2006) and reflecting the ''glocalization'' of youth (Kjeldgaard and Askegaard 2006). The government inquiry leading to Australia's new national health plan has recognized teen drinking as such as serious problem that ''one-tenth of teenagers drink enough alcohol to cause probable harm to their health later'' (The Economist 2010). It is well

known that family policy influences family outcomes such as a wife's working, childbearing and time spent with young children, day care, and its socialization outcomes. It also influences and may provide solutions for work-related and inter-spousal role conflict, family dysfunction, single-parenthood, and related child adjustmental difficulties. Indirectly, it influences behavioral problems in teens that recycle into the next generation of families, and that bear tremendous costs to individuals, family, and society. Teen alcohol consumption has long been regarded as a serious societal problem and a prime area of social marketing (Goldberg 1995) and family policy (Bogenschneider 2006). ''Alcohol policies'' often incorporate family policies aimed at reducing child (and parent) alcohol abuse and the maladaptive behaviors associated with it. Influencing parenting strategies is one area of policy known potentially to reduce these problems and the great social costs that come with them. The problem is macro, yet it exerts itself at the micro level. By examining the problem and its causes at the micro level, we can generate insights for solutions that influence the macro impact on families and individuals and the longer term impact on our society. Our purpose is to review the policies aimed at reducing alcohol use among teens, and empirically examine the forces that drive it, as well as how parenting behaviors can lead to or curb such use.

Teen alcohol use is clustered with such other harmful behaviors as poor grades, drinking and driving, trouble in and outside school, and use of cigarettes, marijuana, and other drugs (Audrain-McGovern et al. 2004; Faeh et al. 2006). These are driven by parenting behaviors, low self-esteem, peer influence, and parents and friends engaging in those behaviors (Jackson et al. 1997; Rose, Bearden, and Teel 1992). Underage drinking is important not just due to its direct individual and societal costs but because it often leads to highly detrimental impacts on the family. These include fetal alcohol syndrome, developmental disabilities, youthful delinquency and violence, drinking and driving, alcoholism, family dysfunction, and child and spouse abuse. Furthermore, its influence carries over to the next generation via these forces and the impact on role modeling, parental attitudes, and availability of alcohol in the home. Reducing underage drinking has become a major policy issue in the United States, in Canada, in the United Kingdom and is an emerging as one in other countries. The authors argue that traditional policy tools such as restricting access by age, limiting accessibility, price increases, increasing parental awareness, and other legal and social service ones, could be enhanced in a cost-effective manner by communication and community intervention programs targeting parents to change their parenting strategies. The authors provide a brief overview of the literature dealing with parenting strategies and underage drinking and substance use, review social marketing's contributions, and then examine public health and human services policy approaches that represent family policy. The authors focus on the United States and Canada and then develop and longitudinally test a framework linking parenting strategies to teen self-esteem and drinking.

Parenting strategies are regarded as an important area in the family literature's view of family policy (Bogenschneider 2006) and by public health (Barber 1996). Parent and peer behaviors contribute to the initiation and growth of teen alcohol use via role modeling and via normative influence. Parenting also affects teen self-esteem, depression, and anxiety (Baumrind 1991; Rose, Bearden, and Teel 2001; Yang and Schaninger 2010), as well as social competence, and thus susceptibility to negative peer influence on alcohol and tobacco use (Simons-Morton 2002). Bogenschneider et al. (1998) linked parenting to susceptibility to negative peer influence and in turn teen smoking and alcohol use. Psychologically controlling and nonresponsive parenting,

with low behavioral control, increases teen drinking. Psychology and public health researchers have focused on the direct effects of parenting (e.g., Baumrind 1991; Jackson et al. 1997), ignoring the psychological processes that lead to drinking. Self-esteem deteriorates naturally in adolescence (Simmons, Carlton-Ford, and Blyth 1987), leading teens to affiliate with deviant peers and engage in drinking and related misbehaviors. Parenting can impede this by influencing self-esteem. The authors argue that responsive and nonpsychologically controlling parenting enhances self-esteem and that self-esteem is the underlying mediating factor tying parenting to alcohol use and growth.

Alcohol and Family Policy in North America

Social marketing strategies to reduce teen drinking (counter marketing) have included reducing negative peer influence, changing normative beliefs and/or motivation to comply, and self-presentation or self-image strategies, via advertising or intervention (Kelly, Slater, and Karan 2002; Rose, Bearden, and Teel 2001), and developing advertising persuasion coping behaviors (Goldberg et al. 2006). Verplanken and Wood (2006) elaborate on a number of ''downstream'' and ''upstream'' interventions to prevent the development of, or reduce, detrimental habits such as drinking. However, those did not include targeting parents to change their behaviors as a way of reducing teen alcohol use. Interdisciplinary researchers have focused on parenting, advocating parent-targeted communication strategies advising parents on which parenting practices to avoid or to use to reduce teen drinking directly, or by influencing peer associations and susceptibility to negative peer influence (Simons-Morton et al. 2005).

Family health policy has emphasized reducing drinking by pregnant mothers, with social services focusing on the most at-risk ''segments.'' Legal and social service interventions are policy tools for alcohol abuse among teens and parental alcohol abuse related to child abuse. The effects of parental drinking on family dysfunction, child and domestic abuse, and role modeling are issues in funded research, in the legal system, and to caseworkers in human health and services agencies. The International Center for Alcohol Policies (2009) provides cross-cultural comparisons of alcohol policies and laws regarding drinking, teen drinking, and related misbehaviors. The legal drinking age is twenty-one in the United States but varies from eighteen to nineteen in Canada. Both permit parents to provide alcohol for in-home consumption under their supervision, prohibit the sale or provision of alcohol to minors, require picture ID for purchase, and conduct undercover ''informants'' buyer ''raids.'' Canada further restricts/controls distribution to state-run liquor stores.

Marquis (2001, 2004) reviews the history of Canadian public policy and alcoholism. He emphasizes the cost efficiencies and social costs/gains of prevention over criminalization and treatment and discusses the evolution of policy perspectives from ''the moral versus the disease view,'' to today's public health and social services approach. Since the 1970s, both Canada and the United States have seen growth of federal funding of government and nonprofit alcoholism service programs and support of academic research into causes of and possible prevention programs to deter alcohol use. The ''treatment and prevention sector'' now dominates federal health policy and social service/human resources. In the 60s and 70s, when baby boomers came of age, legal drinking ages were reduced in Canada and the United States and access and consumption laws were loosened. After recognizing the health and social problems that ensued,

these were increased in the mid-1980s at the time that impaired or intoxicated driving laws and enforcement increased. Rehabilitation and treatment programs expanded and then sociologists convinced the U.S. federal government to recognize that public health and social problems, including those related to family policy, should be removed from ''the medical monopoly'' (Marquis 2004). This led to the epidemiology national public health approach now dominant in substance use/abuse.

In both Canada and the United States, improving the wellbeing of children became a preeminent national policy concern with a primary tool being new intervention initiatives whose ''design and implementation'' has been ''informed by cross-sectional analyses'' (Hoddinott, Lethbridge, and Phipps 2002). Fetal alcohol syndrome and teen drinking emerged as key issues tied to federal health and family policy, with an emphasis on prevention as well as detection and intervention. Considerable resources were provided in both countries for interdisciplinary funded research to tackle these problems. One result was federal health warnings on beverage containers, and more recently, ''voluntary'' warnings in alcohol advertising. Alcoholism came to be viewed as a family co-dependency issue. That indirectly led to the recognition that family dysfunction contributed to alcoholism and that alcohol use by parents influenced that of their children, both through role modeling and through accessibility, and in turn to recognizing peer drinking and negative peer influence as related causes in teens. Thus, public policy campaigns guided by federally funded research in both the United States and Canada (Hoddinott, Lethbridge, and Phipps 2002) began to target not only teens but also parents (to identify whether their teens were drinking and how to communicate with them to curb it). Nonprofits became actively involved, and integrated communication campaigns, with Web sites, were launched against teen alcohol (PSA Central, Ad Council 2009), drug (National Youth Anti-Drug Media Campaign 2009), and tobacco use (Tobacco Free Kids, 2009). Federally funded community and school interventions were tried to reduce teen drinking, smoking, and substance use (Goldberg 1995; Simons-Morton et al. 2005). Related ''macro'' policy approaches include social support services, family and child benefits, and education.

The U.S. Department of Health and Human Services (HHS; 2006) specified family policy-related goals for reducing teen alcohol use, with detailed objectives and rationales. The vital role of reaching parents as influencers of teen drinking was critical, as was the national Ad Council campaign to motivate parents to address underage drinking as part of the interagency initiative launched in 2006. A primary goal was increasing awareness of underage drinking and its negative consequences especially among parents by increasing Public Service Advertisements (PSAs). Family- and school-based prevention programs focused on parental attitudes and community support to prevent and reduce underage drinking. This led to interventions targeting parents to change their attitudes about alcohol use by teens and through community normative pressures. Parental monitoring (behavioral control), in particular, was emphasized.

Publicly funded research on the role of parenting strategies was indeed incorporated in communications campaigns. PSA Central, Ad Council's (2009) integrated communications campaign and Web site, emphasized the impact of teen drinking on the family and parents' role in decreasing teen drinking. One primary mission of the National Institute on Alcohol Abuse and Alcoholism (NIAAA 2005) was to focus on alcohol use by children and teens and initiate PSAs targeting parents via radio ads. It also supported a program incorporating separate parent and

adolescent training, with the former emphasizing monitoring skills (but not other parenting strategies). Another program targeted late grade schoolers and their parents. Funding priorities supported research on teens and parents and developing new approaches and knowledge of factors influencing teen drinking development. Parenting is a major focus of the HHS master plan, creating parent awareness of underage drinking and educating them directly and through school and community programs on how to monitor their children's behavior to prevent/reduce underage drinking. Notably, responsiveness and psychological control were not incorporated.

Family and teen alcohol policy in the United Kingdom mirror that in the United States and Canada, although it is not quite as developed, based on James's (2009) ten-year perspective. The role of alcohol control on the stability of the (United Kingdom) family environment and the psychological and physical health of its members (as a family) is explicitly recognized, as is prevention and intervention to reduce drinking among teens. Every Child Matters (2009a, 2009b) provides links to ''toolkits'' for U.K. community social agencies for family intervention and a ''parenting implementation project resource kit.'' It identifies best practice family intervention plans to prevent or reduce youth alcohol and substance abuse, targeting parents and teens, with family and community intervention. Reducing youth drinking is a top national family priority. Parenting strategies emphasized are involvement and monitoring but not responsiveness or psychological control.

Recent research on teen smoking prevention interventions that are similar to those for teen drinking, suggests that improved parent communications and bonding, and limit setting (parental monitoring), may offer benefits in reducing teen drinking ''at least equal to the impact of doubling (cigarette) prices, and to strict enforcement of tougher new access laws'' (Powell and Chaloupka 2005). As Schinke, Schwinn, and Cole (2006) point out, ''ill-timed and excessive use of alcohol is associated with multiple and irreversible disabilities.'' Most have a markedly negative effect on families, exhibited in many ways linked to teen alcohol abuse, including fetal alcohol syndrome and developmental and physical problems among drinkers' offspring. Their experimental intervention demonstrated that youths whose parents were involved and who had received cognitive and problem-solving training had lower levels of substance, cigarette, and alcohol use, even four years later, if those extended conversations with parents continued. This is analogous to experimentally inducing parental responsiveness (as a buffer against negative peer influences) with behavioral control, although parenting strategies were not measured or taught.

A major purpose of our study is to develop and test hypotheses based on parenting theory, with a longitudinal data set, and to propose further changes and fine tunings in family policy implementation programs related to preventing or reducing the teen alcohol use/abuse. The authors examine whether and how parenting influences or inhibits child self-esteem and drinking development from ages of ten to seventeen. First, though, the authors review the parenting literature and its implications for influencing the development of teen drinking, then develop hypotheses, present our analytical approach and results, and develop social marketing family policy implications.

Conceptual Framework

Parenting Strategies and Their Impact on Alcohol Trajectories

Parenting strategies (see Barber and Harmon 2002) consist of three key unidimensional measures of specific parental childrearing behaviors: responsiveness, psychological control, and behavioral control. *Parental responsiveness* refers to positive interaction, involvement, warmth, and support; *psychological control* is psychologically manipulative behavior, such as verbal or physical abuse, withdrawal of love, and guilt ''tripping,'' intended to induce obedience and conformity; and *behavioral control* involves monitoring one's child's activities, friends, and behaviors, and providing clear rules and consistent discipline (Barber 1996). By identifying the influences of parenting on healthy and unhealthy child development outcomes and on initiation and growth of drinking, the authors can identify or verify the rationale for macro-family policy initiatives that affect future individual and family functionality (including multigenerational carryover).

Parental responsiveness leads to positive self-esteem, greater social competence, fewer behavioral problems, and less substance abuse among children and teens. Psychological control, though, is associated with depression, poor self-image, weak self-esteem, and risky behaviors. It impedes healthy psychological maturation, increases association with antisocial and substance using peers, and leads to risky and addictive consumption behaviors (Barber and Harmon 2002). Bogenschneider et al. (1998) found that behavioral control reduced negative peer influence and substance use for younger children (not teens), viewing it as less important than responsiveness.

Prior research has not explicitly examined the impact of parenting on alcohol trajectories—the initial level and rate of increase—though it has examined the impact of parenting strategies on drinking onset or frequency (e.g., Baumrind 1991). Based on parenting theory, parental responsiveness should reduce the initial level and slope (rate of increase) of drinking during the transition to high school, when children experience considerable stresses due to puberty and changed school environments, associated with lower self-esteem and depression, major causes of substance use (Simmons, Carlton-Ford, and Blyth 1987). Parental responsiveness leads to open two-way communications, helping children deal with the challenges of adolescence and adopt their parents' values and norms. Even if they have tried drinking, they are more likely to discuss it with parents, question peer norms and associate less with peers who drink. Thus, parental responsiveness should be negatively related to initial level and to rate of increase in (slope of) drinking based on parenting theory. Psychological control, however, should produce higher initial level and increases in drinking. Due to its coercive and manipulative nature, it leads to lower self-esteem, less parental influence, and more negative peer influence. These aspects synergistically aggravate the effects of adolescence, thus leading to high initial and increasing levels of drinking. The effect of behavioral control on alcohol use is less clear. Studies finding a negative association between it and drinking or smoking were based on younger children (Bogenschneider et al. 1998) or were confounded by responsiveness (Jackson et al. 1997; Simons-Morton 2002). Parental responsiveness, behavioral control, and less association with misbehaving peers decrease the likelihood of substance use. Early adolescents most at risk are those with misbehaving friends and uninvolved parents. Although debatable, behavioral control should be negatively related to initial level and rate of growth (slope) of drinking.

Hypothesis 1: Parental responsiveness is negatively related to the (a) initial level and (b) slope of drinking.

Hypothesis 2: Psychological control is positively related to the (a) initial level and (b) slope of drinking.

Hypothesis 3: Behavioral control is negatively related to the (a) initial level and (b) slope of drinking.

Self-Esteem Trajectory as Mediator of Parenting's Impact on Alcohol Trajectories

Parenting's impact on a child's drinking trajectory should be mediated by his or her self-esteem trajectory. Although prior research has established parenting's impact on self-esteem, it has not examined its impact on self-esteem trajectories. The decline in self-esteem discussed above results in a negative slope until late high school (Petersen 1988), which is most pronounced in eighth and ninth grade and among girls (Simmons, Carlton-Ford, and Blyth 1987). Responsiveness inhibits this deterioration by impeding the onset and severity of initial level and rate of deterioration. Psychological control, though, negatively affects self-esteem due to the feelings of rejection engendered. It contributes to family dysfunction and impairs healthy maturation (Barber and Harmon 2002). It thus intensifies the pressures on the teen, leading to a steeper decline. Behavioral control may inhibit this decline in younger children (Barber 1996).

Hypothesis 4: (a) Parental responsiveness will be positively, (b) psychological control will be negatively, and (c) behavioral control will be positively related to initial self-esteem.

Hypothesis 5: (a) Parental responsiveness will be positively, (b) psychological control will be negatively, and (c) behavioral control will be positively related to self-esteem slope.

The argument above assumes a positive relationship between intercept and slope of self-esteem—that those who start with higher self-esteem will have a slower rate of decline. This assumption is dubious—under analogous situations, a positive relationship to intercept is often associated with a negative relationship to slope of self-esteem (Muthén 2005). ''Ceiling'' and ''floor'' effects are observed—those starting with very low initial self-esteem exhibit a slower deterioration, while the opposite holds for those starting with very high self-esteem. This causes a negative correlation between intercept and slope and leads to a reversal in sign to parenting theory's expectations above. Therefore, a set of competing hypotheses to Hypothesis 5a–c is presented:

Hypothesis 6: (a) Parental responsiveness will be negatively, (b) psychological control will be positively, and (c) behavioral control will be negatively related to self-esteem slope.

The authors argue that self-esteem partially mediates the influence of parenting on drinking. It should be negatively related to drinking and factors leading to low self-esteem are often

associated with teen alcohol use. Furthermore, a typical alcohol trajectory starts low and has a positive slope over time, increasing linearly through the mid teenage years (Duncan, Duncan, and Strycker 2006). This trajectory reflects increases in psychological and social pressures, and the decline in self-esteem, which is known to drive behavior problems and negative peer influence (Marsh 1988). Therefore, negative relationships between self-esteem and alcohol intercept and slope are expected. Lower initial and greater decline of self-esteem should cause higher initial rates and larger increases in drinking. Thus, parenting strategies should influence initial level and slope of drinking not only directly but also indirectly via self-esteem and its impact on alcohol use.

> Hypothesis 7: (a) The intercept of the self-esteem trajectory will be negatively related to that of drinking; (b) The intercept of the self-esteem trajectory will be negatively related to the slope of the drinking trajectory; and (c) The slope of the self-esteem trajectory will be negatively related to the slope of the drinking trajectory.

Covariates/Control Variables

Among the confounding control variables positively related to drinking are higher socioeconomic status (SES), being from a single-parent or blended family, being male, friends' and parents' drinking, early puberty, and transition to high school. Consistent with social class lifestyles as well as its high cost, SES is positively related to alcohol use and having been drunk, especially for twelfth graders (O'Malley, Johnston, and Bachman 1998). Children from single-parent and blended families experience greater emotional and misconduct problems and are more likely to have ever tried cigarettes, alcohol, marijuana, or sexual intercourse, even after controlling for age, race, sex, and mother's education (Flewelling and Bauman 1990). They are also more likely to use alcohol and to have gotten drunk in the last thirty days (O'Malley, Johnston, and Bachman 1998). Friend and parent drinking are strong influences on children's drinking (Simons-Morton et al. 2005). Earlier puberty and the transition to high school are related to lower self-esteem and to increased use of alcohol and drugs (Simmons, Carlton-Ford, and Blyth 1987).

Method

Study participants were drawn from the National Longitudinal Survey of Children and Youth (NLSCY), a national study to influence policy and program development on factors affecting Canadian children. Surveying began on more than 15,000 households with children aged zero to eleven in 1994/1995, followed up at two-year intervals. Of the initial sample, 3,434 had at least one ten- and eleven-year-old child, resulting, due to attrition, in 2,249 twelve to thirteen-year-olds (cycle 2), 2,086 fourteen- to fifteen-year-olds (cycle 3), and 1,414 sixteen- to seventeen-year-olds (cycle 4). (While mortality is relatively high, no significant differences in cycle 1 parenting strategies were observed for respondents versus nonrespondents in cycles 2 and 3, suggesting it is not a problem.) Child transitions from late childhood to early adolescence, early- to mid-, and mid- to late adolescence were captured. Family SES was based on cycle 1 income adequacy and reflected raw income and family size. Based on cycle 1 parent reports, blended families included couples with children not sharing the same natural or adoptive parents; in intact families, all children were natural or adopted offspring of both parents. Gender was coded as 1

for girls and 0 for boys. Puberty timing was based on self-reported physiological changes in cycle 2. In cycles 2 and 3, transitions from primary to junior-high and from junior- to senior-high school were determined. Both parents' drinking frequencies were based on cycle 1 responses to seven-point itemized frequency scales from less than once a month to every day. If either drank more than two to three times a week, parent drinking was coded as 1; non- and very light drinkers coded as 0. Friends' drinking was based on child reports of number of friends who drank alcohol. Child drinking frequency each cycle used six-point itemized frequency scales ranging from *I don't drink any more*, to *every day*. A slightly different cycle 1 measure yielded equivalent intervals. Self-esteem was measured in each cycle by Marsh's (1988) General-Self Scale, with four 4-point scales (α ranged from .73 to .77).

Parental responsiveness, psychological control, and behavioral control were based on cycle 1 measures of Parent Practices Scale of Lempers, Clark-Lempers, and Simons (1989) based on Schaefer (1965). This scale uses child-reported measures as recommended by Buri (1991) and others, of frequency of specific parenting behaviors with responses ranging from *never* (1) to *very often* (4), with five items for parental responsiveness (α = 77) and behavioral control (α = 65), and six for psychological control (α = 69). Triangulation of our findings with parent-reported responsiveness and psychological control displayed convergent but weaker findings.

Model Development and Results

Latent growth curve modeling (LGC) was used to examine how parental responsiveness, psychological control, and behavioral control affect the intercept and slope of the child-drinking curve, after controlling for the effects of the control variables. An *unconditional* LGC model (ULGC) was tested first, and found to fit our data well, with mean intercept and slope estimates significantly differing from zero, and significant individual-level variation. Drinking followed a cubic model, rather than a purely linear function. The ULGC model of self-esteem showed that ''growth'' was best captured by a quadratic model. The authors model the full nonlinear functions—the true ''patterns'' for both self-esteem and alcohol growth curves. Keeping with accepted practice, the authors focus on drinking's linear components (intercept and slope), which captures rate of change, but not acceleration in drinking. Overall fit indices for the nonlinear ULGC model of self-esteem showed a close fit to the data, with significant individual-level variation in intercept and slope.

Conditional latent growth curve models (CLGC) were developed to explain individual variations in drinking trajectories, controlling for sociodemographic influences, first adding all control variables, and then cycle 1 parenting variables as predictors. This direct-effect model involves only the drinking curve, covariates, and parenting predictors. A dual-growth model then adds self-esteem trajectory as a mediator. The authors first interpret direct and indirect (via self-esteem) parenting influences on drinking. They then examine the effects of control variables, which give a macro picture of policy-related sociodemographics. Coefficients of direct-effect and mediation LGC models are presented in table 1; those of the latter are presented graphically in figure 1.

Table 1. Direct and Indirect Multilevel Modeling Results Predicting Drinking Trajectory

Independent Variables	Direct Model		Mediation Model			
	Drinking Intercept	Drinking Slope	Self-Esteem Intercept	Self-Esteem Slope	Drinking Intercept	Drinking Slope
Control Variables						
SES	.087*	−.002	−.025	.104**	.083**	.008
Single-parent Households	.072	−.017	−.087***	.106**	.057†	−.005
Blended Households	.009	.041	−.070**	.015	−.004	.044
Gender	−.144***	.032	−.080**	−.270**	−.158***	.003
Friends Drinking	.452***	−.089**	−.080**	.036	.438***	−.086*
Parent Drinking	.109***	.121***	.025	−.010	.113***	.123***
Puberty Timing	−.178***	−.114**	−.020	−.040	−.182***	−.121***
Transition to Junior-High	.049	−0.41	−0.25	−0.36	.045	−.046
Transition to High School	.052	−0.96**	−.050	.017	.044	−.098**
Parenting Variables						
Responsiveness	−.003	.057	.548***	−.271***	.076	.032
Psychological Control	.213***	−.068*	−.215***	.061†	.178***	−.063†
Behavioral Control	−.084**	−.031	−.011	.071†	−.087**	−.024
Self-Esteem Trajectory						
Self-esteem Intercept	N/A	N/A	N/A	N/A	−.173**	−.008
Self-esteem Slope	N/A	N/A	N/A	N/A	N/A	−.120*
Variance Explained	38.0%	6.2%	43.7%	17.9%	40.1%	7.7%
Fit indices	$\chi^2 = 65.0$, $df = 26$, $\chi^2/df = 2.50$, $p = .000$, CFI = .93, RMSEA = .031			$\chi^2 = 134.6$, $df = 67$, $\chi^2/df = 2.01$, $p = .000$, CFI = .95, RMSEA = .026		

Note: CFI = Confirmatory Fit Index; RMSEA = root mean square error of approximation; SES = socioeconomic status.

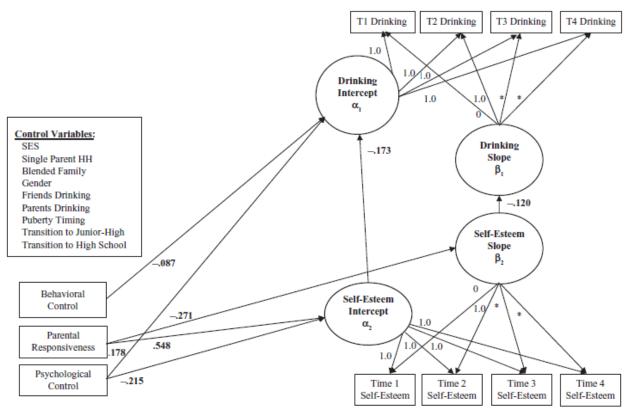*** $p < .001$; ** $p < .01$; * $p < .05$; † $p < .10$.

Figure 1. Direct and indirect effects of dual growth model incorporating mediating role of self-esteem on drinking development.

Note: All paths between exogenous variables and growth factors were estimated, but only significant (*p* < .05) paths are displayed, excluding control variables. Values for each path are standardized regression coefficients.

Direct and Mediated (via Self-Esteem) Parenting Effects on Drinking Trajectories

The leftmost two columns of table 1 present the direct-effect LGC model effects of control variables and parenting. Unexpectedly, responsiveness was not directly related to drinking intercept or slope; failing to support Hypothesis 1a and 1b. Psychological and behavioral control were respectively, positively and negatively, related to initial drinking levels, supporting Hypotheses 2a and 3a. The former was not positively related to drinking slope, but showed a significant (negative) ceiling effect, while the latter was not related to it. Therefore, neither Hypothesis 2b nor 3b was supported. To test Hypotheses 4a to 7c, the authors examined the dual-growth model that adds self-esteem trajectory into the direct-effect model, as presented in figure 1. Responsiveness was positively related to child self-esteem intercept; and psychological control was negatively related to it, consistent with Hypothesis 4a and 4b, while behavioral control was unrelated to it, contrary to Hypothesis 4c. Responsiveness was negatively related to self-esteem slope even though positively related to its intercept, demonstrating a ceiling/floor effect; supporting Hypothesis 6a but rejecting Hypothesis 5a. Self-esteem slope was not significantly related to either psychological or behavioral control contrary to Hypotheses 5b, 5c, 6b, and 6c. Ceiling/floor effects are supported for the role of parental responsiveness on self-esteem slope, contrary to parenting theory expectations. This study breaks new ground, for parenting research by focusing on the relationship between self-esteem and alcohol trajectories.

Regarding the relationship between self-esteem and drinking trajectories, consistent with Hypothesis 7a and 7c, both the intercept and the slope of self-esteem were negatively related to those of drinking. However, self-esteem intercept was not significantly related to drinking slope, contrary to Hypothesis b. The negative indirect path from responsiveness to drinking intercept via self-esteem intercept was also significant in the anticipated direction, as was the positive indirect path from psychological control. Behavioral control did not have an indirect effect on intercept. Both behavioral control and psychological control retained significance after self-esteem was added; and the effect of behavioral control on drinking slope approached significance. Overall, parenting's impact on drinking trajectories is partially mediated by self-esteem, as expected. Parenting, both directly and indirectly (via self-esteem), clearly influences both initial level and growth of teen drinking.

Sociodemographic Influences

The general pattern of sociodemographics on teen drinking supported our expectations. Reflecting high-income lifestyles and the high cost of alcohol, children in higher SES households had higher initial levels of drinking. Neither single-parent nor blended family children had higher drinking intercepts or slopes. Having drinking friends positively influenced both initial level and rate of drinking increase, as did parent drinking. Late maturers had lower initial levels and rates of increase in drinking; and girls had lower initial levels of drinking, as expected. Transitions to junior high and to high school were not related to drinking intercept, but the latter was positively related to increase of drinking, as expected. The general pattern of results for the dual-growth model converges with that above; indicating that sociodemographic influences hold even after self-esteem trajectory is included as a mediator. The pattern of sociodemographic effects on self-esteem is as expected. Its intercept is negatively related to being from a single-parent or blended family and to friends drinking. Both SES and single parency (the latter reflecting a suppressor or ceiling effect) were positively related to self-esteem slope, while being a girl was negatively related to intercept and slope.

Overall, higher levels and rates of increase in drinking were associated with higher SES, friend and parent drinking, early puberty, male gender, lower parental responsiveness and behavioral control, and greater psychological control. The reverse interpretation also holds, that is, lower initial levels and rates of increase for those of lower SES, without drinking friends or parents, later puberty, girls, higher parental responsiveness and behavioral control, and lower psychological control. Parenting strategies influence choice of peers and susceptibility to negative peer influence and parental drinking and smoking are likely related to negative parenting strategies. Self-esteem mediates these effects; responsiveness only emerged in the dual growth model. These patterns and the mechanisms by which parenting and control variables influence drinking trajectories are unique contributions with family policy implications.

General Discussion and Future Research

Teen drinking is a global problem. Poor parenting strategies have been shown to increase it, while responsive parenting, accompanied by behavioral control, and avoiding psychological control, are known to enhance self-esteem and decrease drinking. This will likely hold in developed and developing countries, although only Anglo developed countries have developed

family- and parenting-related policies to reduce teen drinking and its negative impacts on the family. Carvalho et al. (1995), for example, did demonstrate that parental communication and concern with their offspring reduced teen drinking in Brazil. The destructive and recyclable nature of teen drinking is also universal and global, and is likely to expand as more parents work, time pressures and role conflict build, family instability increases, and single parency rises. Family policy must try to curb the growth of teen drinking, its causes, and thus its repercussions. In the United States and Canada, intervention strategies have been developed and tested. Anti-drinking social marketers are using advertising and Web sites to educate parents to be more responsive, and to monitor their child's friends and behavior, to curtail teen drinking. While community- and school-based intervention pilot programs have been developed (Simons-Morton et al. 2005), integrated advertising and media anti-drinking campaigns, targeting parents, by both Web and ad campaigns should be used more to reduce teen alcohol initiation and abuse.

Our study examines all three key parenting dimensions identified by Barber and Harmon (2002) simultaneously, relating them to youthful alcohol use and abuse, in a longitudinal study over the span of late childhood through late adolescence. It incorporates self-esteem trajectories as a mediator of drinking trajectories, leading to greater understanding of the mechanism and psychological processes underlying how parenting influences alcohol and substance use. This work complements traditional policy approaches. From an integrated communications view, it complements the traditional approach of targeting teens, by adding another avenue to reduce teen substance use, one that works by influencing youthful self-esteem. This suggests a dual avenue targeting teens and parents be used simultaneously, and that targeting of risky segments based on sociodemographic profiles identified in this study might be productive in combined media campaigns and community-level interventions as discussed by Goldberg (1995).

From a family policy perspective, our findings suggest that attempts to reach parents through integrated media and Web site campaigns, community- or school-based interventions, or through social services, should begin when their children are at a much earlier age than typically targeted by family/health policy. Unlike existing practice, the primary emphasis should not be on parental monitoring skills (behavioral control) but on avoiding psychological control and on making sure that behavioral control is supported by parental responsiveness. Current programs do not do this and tend to ignore the detrimental effects of psychological control, weakening their effectiveness in preventing or reducing youthful alcohol abuse. Alcohol prevention and reduction efforts should more carefully model themselves after the ''The Anti-drug'' campaign. In Canada, much more emphasis should be given to integrated communication and government Web sites targeting and teaching parents how to change their parenting strategies. Similarly, community/school-based interventions, targeting parents with Web site support, and youth with cognitive and problem-solving interventions should be used to a greater and more sophisticated degree than is current practice. Furthermore, the importance of enhancing a child's self-esteem or preventing its deterioration and the dangers of harming it should be incorporated in intervention and communication efforts targeting parents and school personnel. Youth-targeted campaigns with a self-esteem theme should be examined, along with teaching skills to defend against negative peer or normative influence, and coping skills against alcohol advertising.

Family structure, socioeconomic demographic characteristics, gender, teen maturation, transition to high school, and parents' and friends' drinking all put teenagers at risk of alcohol abuse, and

could be used in targeting for family policy alcohol preventative initiatives, extending current U.S. policy initiatives targeting at-risk groups. These conclusions also hold for Canada, which has not yet used integrated or targeted multimedia ad campaigns, federal Web sites, or community and school intervention programs, targeting parents as well as teens. They likely also hold for developed and developing countries characterized by rampant economic development and social change, weakening family structures, glocalization, and increases in alcohol and other substance abuse. Developing countries have much weaker family alcohol programs than ours. Their traditionally strong family orientation has become weakened (see above), and the impact of time and role conflict on parents, especially mothers, affects their interactions with their children. The prevalence of teen alcohol abuse in North America is the ''tip of the iceberg,'' and similar family, health, and alcohol policies must soon be adapted as culturally appropriate where needed.

Public policy marketers have used teen interventions to develop skills for resistance to alcohol advertising (Goldberg et al. 2006) and to resist group pressure for drug and alcohol consumption (Rose, Bearden, and Teal 1992). Recent approaches outside marketing have used school and community interventions targeting parents in addition to teens. Policy now neglects the importance of child self-esteem as the mediator of parenting and teen drinking and ignores the critical importance of building, maintaining, and buffering it, as well as its role in reducing susceptibility to negative peer influence. The objective of facilitating long-term self-esteem from childhood onward may be more important over the long haul in strengthening the family over multiple generations than more narrow family policy objectives. How can we build a healthy society without first ''building'' healthy children and teens, who become healthy adult parents?

The research reported here should be extended to examine the impact of negative peer influence as part of the underlying mechanism by which parenting influences both self-esteem and drinking behavior, as well as the impact of self-esteem on peer influence. Our model may prove useful to understand and develop family policy initiatives to impede other maladaptive teen behaviors such as drug usage, drinking and driving, adolescent eating habits and obesity, and risky sex. New youth-targeted advertising themes based on the processes unearthed in this study, including self-esteem, as in recent anti-drug ads, may also prove to be of value.

Declaration of Conflicting Interests

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