

Parenting practice, leisure experience, and substance use among South African adolescents

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Abstract

There is limited understanding of parents' role in positive youth/adolescent development through leisure in developing countries. Using a sample of 6,626 eighth-grade students in South Africa, this study examined the interrelationships among parenting practice, adolescents' leisure experience, and substance use. Results of structural equation modeling showed that parental leisure involvement was associated with less substance use, while parental leisure overcontrol was associated with greater substance use. The relationship of parental leisure involvement to substance use was mediated by healthy leisure engagement. The relationship of parental leisure overcontrol to substance use, on the other hand, was mediated by leisure boredom and healthy leisure engagement. The model path coefficients had little variation between genders and socioeconomic groups except that parental leisure overcontrol had a stronger positive relationship with leisure boredom for males than for females. Theoretical and practical implications are discussed.

Keywords: Parental leisure involvement; parental leisure overcontrol; boredom; substance use; South Africa

Leisure is an important developmental context for adolescents across the world (Coatsworth et al., 2005; Dworkin, Larson, & Hansen, 2003; Hunter & Csikszentmihalyi, 2003; Larson, 2000). Studies have shown that positive leisure experience is associated with a number of desired youth development outcomes such as increased educational attainment and academic performance, increased self-esteem, improved interpersonal skills, and development of identity (Caldwell & Baldwin, 2003; Coatsworth, Palen, Sharp, & Ferrer-Wreder, 2006; Fletcher, Nickerson, & Wright, 2003; Mahoney, Larson, Eccles, & Lord, 2005; McLaughlin, 2000; Youniss, McLellan, Su, & Yates, 1999). On the other hand, if leisure time is

not spent wisely, it may become a context for adolescents' negative risky behaviors such as substance use (Caldwell & Darling, 1999; Weybright, Caldwell, Ram, Smith, & Wegner, 2015).

In general, many consider that adolescence is a developmental stage characterized by heightened risk-taking tendency (Chassin, Hussong, & Beltran, 2009; Farrington, 2003; Steinberg, 2008) due to desire for experimentation, sensation seeking, and novel experiences (Casey, Getz, & Galvan, 2008; Haugaard, 2001). Engagement in healthy and meaningful leisure may provide a mechanism to meet adolescents' need to partake in novel and developmentally productive risky experiences (Caldwell & Smith, 2006; Caldwell & Weybright, 2018). Therefore, it is promising to prevent adolescents' negative risky behavior through promotion of positive use of leisure time.

As one of the most important socializing agents of adolescents, parents usually have a substantial influence on adolescents' leisure pursuits and experience. For example, parents may control adolescents' use of leisure time (e.g., deciding what activities adolescents can and cannot do) or get involved in adolescents' leisure activities (e.g., participating in leisure activities with adolescents) (Barber, Olsen, & Shagle, 1994; Caldwell, Darling, Payne, & Dowdy, 1999; Hutchinson, Baldwin, & Caldwell, 2003; Van der Eecken, Spruyt, & Bradt, 2018). Hence, parents may play an important role in promoting positive adolescent development through positively engaging in adolescents' leisure (Ward & Zabriskie, 2011). However, the majority of studies on parenting practices and influence on adolescent leisure have been focused on families from Western, educated, industrialized, relatively affluent, and developed societies (Bornstein & Putnick, 2012; Henrich, Heine, & Norenzayan, 2010). To date, there has been scant research on parents' role in adolescents' leisure and developmental outcomes in developing countries. To address this gap, we built a structural model to examine how parental involvement and parental overcontrol in adolescents' leisure affect adolescents' substance use in a large sample of South African adolescents. This study focused on use of alcohol and tobacco, which are the two most frequently used drugs among South African adolescents (Reddy et al., 2003) and are typical "gateway" drugs that precede more serious drugs (e.g., inhalants, cocaine, and heroin) (Palen, Smith, Caldwell, Matthews, & Vergnani, 2009; Patrick et al., 2009). In addition, we investigated two leisure experience constructs, adolescents' perceived leisure boredom and healthy leisure engagement, as potential mediators of those relationships and explored whether the model varied between different genders and socioeconomic groups. We expect that the findings of this study will not only offer insights on the design of leisure-based prevention intervention in South Africa or similar countries with adolescent substance use issues, but also provide valuable information for future cross-cultural comparisons in parenting, adolescents' leisure, and substance use.

Leisure experience and substance use

This study addresses two leisure experience constructs that may influence adolescents' substance use: leisure boredom and engagement in healthy leisure. Boredom is listed as one of the "triple threats" of substance use by National Center on Addiction and Substance Use (2003). From a neuroscience perspective, brain development occurs more rapidly in the socioemotional system and slower in the cognitive control system, resulting in a phase of

seeking novel and sensational experiences (Dahl, 2004; Shulman et al., 2016). When adolescents experience boredom during leisure time, they are likely to search for novelty and sensation from risky behavior such as substance use. In fact, a number of studies have found that leisure boredom in adolescence is linked to risky behaviors, including substance use, risky sexual behavior, and delinquency (Caldwell & Smith, 1995; Gordon & Caltabiano, 1996; Miller et al., 2014; Wegner & Flisher, 2009; Weybright et al., 2015).

In addition to reducing boredom during leisure, another way of preventing adolescent substance use is through engaging them in healthy leisure pursuits. Although the term “healthy” can include some subjectivity, it is empirically and theoretically associated with self-determined behavior (Weybright, Son & Caldwell, 2019) and therefore associated with positive outcomes and well-being. Compared to other daily-life settings, the leisure context offers unique opportunities for adolescents to obtain optimal experiences and achieve healthy development such as enjoyment, exploration and development of interest, development of initiative and social skills, and identity formation (Coatsworth et al., 2006; Dworkin et al., 2003; Hunter & Csikszentmihalyi, 2003; Larson, 2000). Healthy leisure pursuits may also provide high sensation-seeking adolescents ways to experience risk in a positive context and potentially avoid boredom (Schulenberg, Freund, & Maslowsky, 2017). Promoting positive leisure experience is likely to reduce adolescents’ risk of engaging in substance use, and prior literature supports this association (Weybright et al., 2014). Therefore, we included adolescents’ perceived healthy leisure engagement as another leisure experience construct associated with adolescents’ substance use.

The role of parents in adolescents’ leisure

Parents are important socializing agents in adolescence and influence different domains of adolescents’ lives, including use of leisure time (Coyle-Shepherd, & Hanlon, 2013; Larson, Dworkin, & Gillman, 2001). In this study, we distinguish two types of parenting practices in adolescents’ leisure: adolescent perception of excessive parental control (i.e., overcontrol; Borelli, Margolin, & Rasmussen, 2015; Xie et al., 2017) and parental involvement in adolescent leisure (Sharp, Caldwell, Graham, & Ridenour, 2006). We define parental leisure overcontrol as interference, often in a coercive manner, in adolescents’ leisure. Parental leisure involvement, on the other hand, focuses on facilitating and guiding adolescents’ leisure through active listening, communication, and collaboration. It should be clear that for the purposes of this article we are using the concept of adolescent perception of parental overcontrol as opposed to parents who set standards and rules for their adolescents from an authoritative perspective (e.g., Baumrind, 1978, 1989, 1991), which is typically developmentally important.

Concern among parents and adults about how much control or protection of young people is needed in a society faced with a growing number of environmental risks is one that has been at issue across time. One concern is to try to disentangle the tension among parental support, guidance, protection, and overprotection and overcontrol. A central issue is for whom and under what conditions adolescent autonomy is supported or undermined (Caldwell, 2007; Kloep & Hendry, 2007), an issue this article addresses.

Understanding the role and influence of parents in adolescent leisure is important because adolescents' development and maintenance of leisure interest and intrinsic motivation requires that they perceive a sense of autonomy and self-determination (Deci & Ryan, 2012; Ryan & Deci, 2000). Therefore, excessive control from parents in adolescents' leisure will undermine intrinsic motivation for the activities (Kloep & Hendry, 2007; Mageau et al., 2015; Ryan, Mims, & Koestner, 1983), leading to amotivation and boredom among adolescents and possibly disengagement from healthy leisure options (Caldwell et al., 1999). Meta-analyses also found that parents' excessive or authoritarian control was positively associated with adolescents' externalizing and delinquency behaviors (Hoeve et al., 2009; Pinquart, 2017). On the other hand, parental control in adolescents' leisure may directly limit adolescents' access to or use of substances (de Looze et al., 2012; Fletcher, Steinberg, Williams-Wheeler, 2004). Therefore, these complicated and sometimes conflicting psychological and behavioral mechanisms make it difficult to anticipate the effect of parental leisure control, and perceptions thereof, on adolescents' healthy leisure engagement and substance use, especially in developing countries where there is limited empirical evidence.

Contrasted with parental control, parental involvement is often associated with desirable developmental outcomes and reduction of problem behaviors among adolescents (Sartor & Touniss, 2002; Savioja, Helminen, Fr€ojd, Marttunen, & Kaltiala-Heino, 2017; Wang, Hill, & Hofkens, 2014). For example, parents' knowledge about and monitoring of children's activities reduce the chance of substance use among children (Barnes, Farrell, & Dintcheff, 2006; Chilcoat, Dishion, & Anthony, 1995; Fletcher, Darling, & Steinberg, 1995; Rusby, Light, Crowley, & Westling, 2018). In addition to providing guidance, parents may show interest in, support for, and facilitation of adolescents' healthy and meaningful leisure pursuits. These behaviors from parents are likely to develop or keep adolescents' interest and enjoyment in healthy leisure (Ryan & Deci, 2000), which in turn reduce adolescents' likelihood of substance use.

South Africa: The study context

Although the majority of the studies on parenting practices and youth/child development were conducted in developed countries, this study is set in a particularly understudied and underresourced area in the Western Cape of South Africa. In this context, there are few leisure resources, parks are typically vacant lots where substance use and gang activity take place, and there are limited health-related services. A limited number of studies have shown that common leisure activities among South African adolescents include spending time with friends, watching TV, listening to music, reading, playing sports, and participating in creative activities (Møller, 1992; Wegner, Flisher, Muller, & Lombard, 2006). However, due to the lack resources, many leisure activities (e.g., sports) that are generally adult organized or school/community organized in developed countries such as the United States are often unsupervised or self-organized by adolescents in South Africa, especially in impoverished areas (Burnett, 2002; Goslin, 2002; Wegner et al., 2006)

Lack of positive and healthy leisure opportunities is linked with adolescent substance use, which is a critical social and health issue among adolescents in South Africa (Parry et al., 2004). The combination of frequent discretionary time and lack of available leisure resources

and opportunities (Wegner, 2011) results in a lack of things to do and lack of supervision. Prior research finds time spent in unstructured and unsupervised settings is associated with adolescent delinquent behavior such as substance use (Osgood & Anderson, 2004). Although rates of adolescent substance use in South Africa are comparable to those within Western societies, South African adolescents initiate substance use at an earlier age and transition through substances more rapidly (Patrick et al., 2009; Reddy et al., 2013). The most commonly used substances among South African adolescents are alcohol and tobacco (Reddy et al., 2013). At eighth grade, approximately 26% of South African adolescents are alcohol users and 19% are smokers. By the 11th grade, alcohol and tobacco use increase to 40% and 24%, respectively (Reddy et al., 2013).

Research questions and hypotheses

To summarize, this study aimed to examine how adolescents' perceptions of parental involvement and parental overcontrol in leisure are associated with adolescents' leisure experience and substance use. Drawing on Western theorizing and empirical studies, we hypothesized that parental leisure involvement would be negatively associated with adolescents' leisure boredom and positively associated with adolescents' engagement in healthy leisure. Parental leisure overcontrol, on the other hand, was hypothesized to be positively associated with adolescents' leisure boredom. We did not set up a specific hypothesis for the relationship between parental leisure overcontrol and healthy leisure engagement because we believed that it might be positive, negative, or neutral (i.e., no effect) due to the multiple, potentially conflicting psychological/behavioral mechanisms parental overcontrol could trigger. Furthermore, we hypothesized that leisure boredom would have a positive relationship with adolescents' substance use, while healthy leisure engagement would have a negative relationship with adolescents' substance use. In other words, we posited that the relationship between parental leisure involvement/overcontrol and substance use would be mediated by adolescents' leisure boredom and healthy leisure engagement. However, it should be noted that we considered these hypotheses as exploratory because this study was conducted in a unique context from previous studies where the Western theories were developed. Finally, given that the parenting behavior and its impact on adolescents may vary between genders and socioeconomic groups (Conger et al., 2002; Fischer & Crawford, 1992; Pychyl, Coplan, & Reid, 2002), we also explored these two variables as potential moderators for the model.

Methods

Study design and participants

The current study sample consisted of 6,626 eighth-grade students from the baseline data of a translational research study. The purpose of the translational study was to examine factors that influenced the degree to which South African teachers of an evidence-based prevention intervention aimed at reducing substance use and sexual risk behavior among adolescents taught the curriculum with fidelity (Caldwell et al., 2012). The translational research involved

10,103 students in 56 schools in the Metro South Education District and Metro East Education District in Cape Town, which provided a representative sample of students in the study areas. This study used the first wave of data collection in eighth grade. These baseline data were collected before the implementation of treatment using a three-form planned missingness design (Graham, Taylor, Olchowski, & Cumsille, 2006). All students received an X set of questions and an additional two of the remaining A, B, and C sets, which were rotated across forms giving each non-X set an equal likelihood of missing questions. Only the subsamples that were assigned with the current study's questions were included in the analysis. The study sample had a mean age of 14.2 years (SD = 1.64) and was 53.0% females. The majority of the students identified themselves as either Black (41.3%) or Colored/Multiracial (48.4%). Half (50.6%) of the participants spoke Afrikaans at home, followed by English (42.4%) and Xhosa (39.9%). In terms of housing, 65.6% lived in a brick house, flat, or apartment, followed by a "wendy house" or backyard building/room (13.3%) and shack (13.0%); 88.9% had tap water, and 50.5% had a motor car in their homes.

During data collection, self-administered surveys in English were given to the students via trained research assistants to complete on netbooks. Researchers in South Africa reviewed the survey questions to ensure that they were culturally valid. The study was approved by the institutional review boards at study-affiliated universities and by school administrators in South Africa.

Measures

Perceptions of parental leisure overcontrol and involvement

Questions for parental leisure involvement and overcontrol have been used in past studies (e.g., Sharp et al., 2006; Xie et al., 2017). Perception of parental leisure overcontrol was measured by three items on a 4-point scale (1 = never or almost never; 2 = some of the time; 3 = quite often; 4 = all of the time, or nearly all the time): (a) My parents have too much control over what I do in my free time; (b) My parents interfere too much in my free time; and (c) My parents won't allow me to do things I want to. Parental leisure involvement, on the other hand, was measured by five items on the same 4-point scale: (a) My parents help me do things in my free time; (b) My parents are interested in what I do; (c) My parents know who my friends are; (d) How often do your parents like to hear your opinions, even if they don't agree with you? and (e) How often do you tell your parents what you are thinking about?

Perceived leisure boredom and healthy leisure engagement

The two leisure experience constructs were assessed using subscales of the Leisure Experience Battery for Adolescents (Caldwell, Smith & Weissinger, 1992). Leisure boredom was measured by four items. Specifically, participants were asked to answer the following questions: (a) How often do you feel your free time drags on and on? (b) How often do you not like (dislike) what you are doing in your free time? (c) How often is your free time boring? (d) How often do you have nothing to do in your free time? Participants' responses

were recorded on a 4-point scale (1 = never or almost never; 2 = some of the time; 3 = quite often; 4 = all of the time, or nearly all the time). Healthy leisure engagement was measured by three items on the same 4-point scale: (a) How often do you get benefits (good things) out of your free time activities? (b) How often do you do healthy things in your free time? (c) How often do you feel good about yourself in your free time?

Substance use

Adolescents' substance use was represented by use of two substances in the past month: alcohol and cigarettes (Motamedi, Caldwell, Wegner, Smith, & Jones, 2016). In the survey, participants were first asked to indicate lifetime use of each substance. Those who indicated they had used any of those substances were asked about the frequency of use in the past month: (a) How many drinks of alcohol have you had in the past 30 days (month)? (1 = none, 2 = only sips for religious services, 3 = only sips NOT for religious services, 4 = part or all of 1 drink, 5 = 2 to 3, 6 = 4 to 7, 7 = 8 to 15, 8 = 16 to 30); (b) How many days in the past month have you smoked cigarettes? (1 = none, 2 = 1 day, 3 = 2 or 3 days, 4 = 4 to 7 days, 5 = 8 to 15 days, 6 = 16 to 30 days). All the scales were converted to 4-point scale using Little's (2013, pp. 17–20) procedure. We chose to use adolescents' use of substance in the past month for two reasons. First, the past-month measure usually has less recall bias than the entire life measure. Second, the measures of the other constructs in the model all captured participants' current perception and attitude, which theoretically correspond better to past-month substance use than entire life substance use. Using self-reported data of substance use has been deemed valid and reliable by a number of studies (e.g., Murphy, Hser, Huang, Brecht, & Herbeck, 2010; Napper, Fisher, Johnson, & Wood, 2010)

Moderators

We examined the potential moderating effect of gender and socioeconomic status, with the housing condition being used as a proxy for participants' socioeconomic status (Plüddemann, Flisher, McKetin, Parry, & Lombard, 2010; Weybright, Caldwell, Wegner, Smith, & Jacobs, 2016). Participants were asked to identify their gender (boy or girl) and describe their home (1 = shack; 2 = wendy house or backyard building/room; 3 = tent; 4 = brick house, flat, or apartment; 5 = other). Participants living in the brick house, flat, or apartment were categorized in the high SES group, while participants living in other types of housing were categorized in the low SES group. All the measures used in this study were from or adapted from previous studies with South African adolescents (e.g., Motamedi et al., 2016; Weybright et al., 2015; Xie et al., 2017).

Data analysis

Structural equation modeling (SEM) was used to examine the interrelationships among the five constructs in the model: parental leisure overcontrol (PC), parental leisure involvement (PI), leisure boredom (LB), healthy leisure engagement (HL), and substance use (SU). Prior to estimating the relationships between constructs, confirmatory factor analysis (CFA) was

used to examine the goodness of fit of the measurement model. To control for the potential confounding effect of and explore possible differences in gender and socioeconomic status (SES), we examined the model for different gender and SES groups after testing the measurement invariance across the groups (MacCallum, Rosnowski, Mar, & Reith, 1994). The group differences were examined using multiple-group SEM, in which the model parameters in comparison (i.e., factor loadings and path coefficients) were constrained to be equal across groups in a series of nested models (Kline, 2016). Significance tests on change of model fit between original and nested models were then used to assess the group differences in model parameters. Several indices were used to jointly determine the goodness of fit of the models including chi-square, root mean square error of approximation (RMSEA; Browne & Cudeck, 1993), comparative fit index (CFI; Bentler, 1990), and nonnormed fit index (NNFI; Bentler & Bonett, 1980; Tucker & Lewis, 1973). Both SEM and CFA were performed using Mplus 8.2 (Muth_en & Muth_en, Los Angeles). The models were estimated using robust maximum likelihood method (MLR) to accommodate the nonnormality within the data (Rosseel, 2012). Missing data were handled using full information maximum likelihood (FIML) method.

Results

Descriptive statistics

Table 1. Descriptive statistics of constructs and indicators in the model.

Constructs and indicators	N	M	SD
Parental leisure overcontrol (PC)	5,624	2.49	0.784
My parents have too much control over what I do in my free time.	5,578	2.51	1.003
My parents interfere too much in my free time.	5,559	2.50	1.005
My parents won't allow me to do things I want to.	5,545	2.46	1.007
Parental leisure involvement (PI)	5,603	2.72	0.669
My parents help me do things in my free time.	5,526	2.58	0.992
My parents are interested in what I do.	5,512	2.78	0.991
My parents know who my friends are.	5,511	3.01	1.005
How often do your parents like to hear your opinions, even if they don't agree with you?	5,511	2.75	1.001
How often do you tell your parents what you are thinking about?	5,505	2.48	1.034
Perceived healthy leisure (HL)	6,286	2.84	0.698
How often do you get benefits (good things) out of your free time activities?	6,243	2.72	0.945
How often do you do healthy things in your free time?	6,249	2.74	0.95
How often do you feel good about yourself in your free time?	6,230	3.05	0.949
Perceived leisure boredom (LB)	6,232	2.25	0.649
How often do you feel your free time drags on and on?	6,145	2.08	1.062
How often do you not like (dislike) what you are doing in your free time?	6,150	2.25	0.972
How often is your free time boring?	6,174	2.26	0.941
How often do you have nothing to do in your free time?	6,018	2.41	0.954
Substance use (SU)	6,438	1.41	0.694
How many drinks of alcohol have you had in the past 30 days (month)?	5,573	1.54	0.853
How many days in the past month have you smoked cigarettes?	5,643	1.29	0.717

Note. 4-point scale for "Parental overcontrol," "Parental involvement," "Perceived healthy leisure," and "Perceived leisure boredom": 1 = *never or almost never*, 2 = *some of the time*; 3 = *quite often*; 4 = *all of the time, or nearly all the time*.

The original scales for the indicators of substance use varied from 4 to 7 points and were all converted to 4-point scales. Original scale for alcohol use: 1 = *none*, 2 = *only sips for religious services*, 3 = *only sips NOT for religious services*, 4 = *part or all of 1 drink*, 5 = 2 to 3, 6 = 4 to 7, 7 = 8 to 15, 8 = 16 to 30. Original scale for cigarette use: 1 = *none*, 2 = 1 day, 3 = 2 or 3 days, 4 = 4 to 7 days, 5 = 8 to 15 days, 6 = 16 to 30 days.

Table 1 reports the descriptive statistics of all constructs and indicators in the model. On average, participants perceived a moderate level of parental leisure overcontrol ($M = 2.49$, $SD = 0.784$) and parental leisure involvement ($M = 2.72$, $SD = 0.669$). In addition, participants reported that they often engaged in healthy leisure ($M = 2.84$, $SD = 0.698$) despite sometimes experiencing boredom during leisure time ($M = 2.25$, $SD = 0.649$). Overall, the level of substance use in the past month was low among the participants ($M = 1.41$, $SD = 0.694$). Table 2 reported the correlations among the latent constructs for females and males.

Table 2. Correlations among latent constructs for males and females.

	PC	PI	HL	LB	SU
PC	1.000	0.303**	0.224**	0.509**	0.089**
PI	0.642**	1.000	0.553**	0.142**	-0.120**
HL	0.395**	0.564**	1.000	0.229**	-0.129**
LB	0.597**	0.375**	0.412**	1.000	0.140**
SU	0.046*	-0.059**	-0.083**	0.102**	1.000

Note. Correlations for males are located below the diagonal; correlations for females are located above the diagonal.

PC: parental leisure overcontrol; PI: parental leisure involvement; HL: perceived healthy leisure; LB: perceived leisure boredom; SU: substance use.

* $p < .05$; ** $p < .01$.

Estimation of measurement and structural models

Results of multiple-group analyses showed that the low and high SES groups had good and equivalent measurement model in terms of factorial structure and factor loadings. In addition, the path coefficients did not differ significantly between the two groups. Therefore, the low and high SES groups were combined in the analyses when examining gender differences in the model.

The measurement model was also found to be equivalent between females and males. Specifically, the measurement model had a good fit when the same factorial structure was applied to both genders ($\chi^2 = 791.364$ ($df = 218$, $p < .001$), $RMSEA = 0.028$ (90% CI [0.026, 0.030]), $CFI = 0.949$, $NNFI = 0.937$). After the factor loadings were constrained to be equal between the two groups, the change of model fit in chi-square was nonsignificant ($\Delta\chi^2 = 16.433$ ($\Delta df = 12$, $p = .172$)). In the next step, the model path coefficients (i.e., relationships among constructs) were examined. After constraining all the path coefficients to be equal between males and females, a significant change in model fit was observed ($\Delta\chi^2 = 24.746$ ($\Delta df = 8$, $p < .01$)). Subsequent analyses using individual equality constraint showed that females and males differed significantly on the relationship between parental overcontrol and boredom but did not differ significantly on the other model path coefficients. Therefore, in the final model estimation as reported in the following, the overcontrol boredom path coefficient was freely estimated for each gender, while the other path coefficients were constrained to be equal between genders. The final model achieved a good model fit ($\chi^2 = 817.764$ ($df = 237$, $p < .001$), $RMSEA = 0.027$ (90% CI [0.025, 0.029]), $CFI = 0.949$, $NNFI = 0.937$).

0.941). All the factor loadings were significant at the $p = .001$ level (Table 3). After ensuring the fit of the measurement model, the interrelationships of the constructs were examined through path coefficients in the structural model (Figure 1). Results showed that parental leisure overcontrol had a significant positive effect on leisure boredom (females: $b = .334$, $p < .01$; males: $b = 0.471$, $p < .01$) and healthy leisure engagement ($b = .048$, $p < .05$).

Table 3. Factorial structure and standardized factor loadings.

Construct and indicators	Factor loading
Parental leisure overcontrol (Cronbach $\alpha = 0.672$)	
My parents interfere too much in my free time.	.621
My parents have too much control over what I do in my free time.	.671
My parents won't allow me to do things I want to.	.597
Parental leisure involvement (Cronbach $\alpha = 0.672$)	
My parents are interested in what I do.	.586
My parents help me do things in my free time.	.629
My parents know who my friends are.	.514
How often do you tell your parents what you are thinking about?	.547
How often do your parents like to hear your opinions, even if they don't agree with you?	.515
Healthy leisure engagement (Cronbach $\alpha = 0.570$)	
How often do you do healthy things in your free time?	.550
How often do you get benefits (good things) out of your free time activities?	.620
How often do you feel good about yourself in your free time?	.526
Leisure boredom (Cronbach $\alpha = 0.551$)	
How often do you not like (dislike) what you are doing in your free time?	.439
How often do you feel your free time drags on and on?	.589
How often do you have nothing to do in your free time?	.488
How often is your free time boring?	.507
Substance use (Cronbach $\alpha = 0.564$)	
Last month's use of alcohol	.666
Last month's use of cigarettes	.572

Note. All factor loadings were significant at the $p < .001$ level.

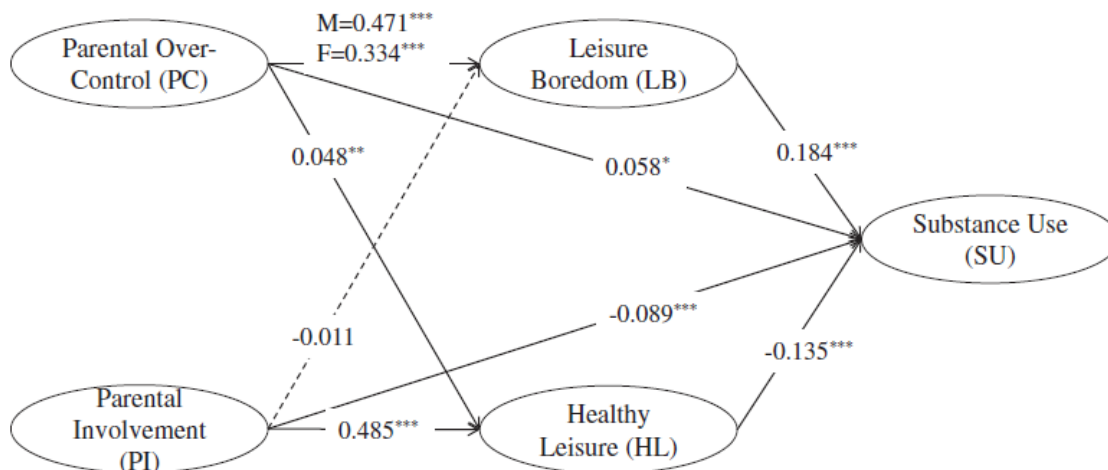


Figure 1. Estimation results of the structural model. Note. Unstandardized path coefficients; * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$; R^2 : Males: Healthy Leisure Engagement = 0.320; Leisure Boredom = 0.356; Substance Use = 0.033; R^2 : Females: Healthy Leisure Engagement = 0.309; Leisure Boredom = 0.259; Substance Use = 0.054.

Parental leisure involvement, on the other hand, had a significant effect on healthy leisure engagement ($b = .485, p < .01$) but not on leisure boredom ($b = -.011, p > .10$). In turn, leisure boredom had a significant positive effect on substance use ($b = .184, p < .01$), while healthy leisure had a significant negative effect on substance use ($b = -0.135, p < .01$). According to MacKinnon, Lockwood, Hoffman, West, and Sheets (2002), this suggests that the effect of parental leisure overcontrol on substance use was mediated by leisure boredom and healthy leisure engagement, while the effect of parental leisure involvement was mediated by healthy leisure engagement. The test of indirect effects of parental leisure overcontrol (males: $b = .080, p < .01$; females: $b = .055, p < .01$) and parental leisure involvement ($b = -.068, p < .01$) on substance use was also significant, supporting the conclusion on mediation.

Parental leisure overcontrol had a positive total effect on substance use (males: $b = .138, p < .01$; females: $b = .113, p < .01$). By contrast, parental leisure involvement had a negative total effect on substance use ($b = -.157, p < .01$). After controlling for the mediators, the residual/direct effect of parental leisure overcontrol on substance use became marginally significant ($b = .058, p = .086$), while the residual/direct effect of parental leisure involvement remained significant ($b = -.089, p < .05$).

Discussion

Using a sample of South African adolescents, this study found that perceptions of parents' involvement in and overcontrol of adolescents' leisure affected adolescents' leisure experience, which in turn affected adolescents' substance use. Overall, parental leisure involvement was associated with less substance use, while parental leisure overcontrol was associated with greater substance use. Even more interesting, perhaps, was the discovery of the potentially complicated psychological/behavioral mechanisms underlying those relationships. Specifically, the effect of parental leisure involvement on substance use was mediated by healthy leisure engagement. However, the impact of parental leisure overcontrol was exerted in two opposite directions through leisure boredom and healthy leisure engagement.

The positive relationship between parental leisure involvement and adolescents' healthy leisure engagement was expected. Previous studies have shown that parents' involvement in adolescents' lives is associated with positive youth development (Baumrind, 1991; Fantuzzo, McWayne, Perry, & Childs, 2004; Hill & Tyson, 2009). Through listening to, working with, and providing necessary help to adolescents, parents are more likely to guide adolescents in their pursuit of healthy and meaningful leisure. This may also facilitate the development and maintenance of adolescents' intrinsic motivation for healthy leisure activities and improve the adolescents' satisfaction with their leisure (Deci & Ryan, 2012; Ryan & Deci, 2000).

Therefore, it is somewhat surprising that parental leisure involvement did not have a significant negative relationship with leisure boredom. A possible explanation is that although some parents in this study were involved in adolescents' leisure, the safety issues and the lack of recreation and leisure resources and opportunities in some local communities (Wegner et al., 2006) could have mitigated the potential impact of parental involvement on

adolescents' leisure experience. Future studies should investigate the contexts and healthy leisure options that would promote positive parental involvement and adolescent developmental outcomes.

After controlling for the mediators, parental leisure involvement still had a significant negative residual effect on substance use. This may suggest that the act of being involved in adolescents' leisure on its own has a protective effect on adolescents' risky behavior. When adolescents perceive their parents care about them, invest time in them, or are interested in what they do, they feel loved and supported (Piko & Balazs, 2012). This may increase their resistance to negative peer influence and reduce their chance of engaging in risky behavior (Gray & Steinberg, 1999)

Excessive parental control over adolescents' leisure, on the other hand, may be detrimental to adolescents, which is supported by this study. According to self-determination theory (Ryan & Deci, 2000), experience of autonomy and self-determination is a universal need of human beings that is essential to well-being and optimal functioning. Compared to other daily life settings, the leisure context offers unique opportunities for adolescents to explore freely, experience a sense of autonomy, and develop intrinsic motivation for activities (Larson, 2000; Silbereisen & Todt, 1994). Excessive control from parents may deprive adolescents of a sense of autonomy and self-determination during their leisure pursuits, leading to amotivation and boredom (Caldwell et al., 1999). Further, we found that the negative impact of parental overcontrol on adolescent boredom was stronger for males than for females. This is generally consistent with some previous studies that found parental excessive control had a stronger negative impact on adolescent developmental outcomes for males than for females (e.g, Conger, Conger, & Scaramella, 1997; Harper, 2010). One possible explanation is females usually have better emotional regulation skills (Nolen-Hoeksema, & Aldao, 2011), which to some extent mitigate the negative impact of parental overcontrol and negative parenting. Another possibility is related to the types of leisure activities being controlled by parents. In South Africa, male and female adolescents usually engage in somewhat different types of leisure activities, with males being more likely to do sports or physically active leisure (Gleeson, 2008; Palen et al., 2010). These activities may take place in open lots or other outdoor areas that are characterized by gang violence. It is possible that some parents may try to exert more control of these types of activities, thereby inducing a sense of deprivation of autonomy, thus contributing to greater feelings of boredom among male adolescents in this study.

While parental leisure overcontrol might increase adolescents' boredom, our results showed that it also had a small positive relationship with adolescents' healthy leisure engagement in our study context. Although we know from past work in South Africa that adolescents do engage in leisure activities of some type (most of which are informal), we wonder whether parents see the salience of leisure as a context for healthy development. Do parents of these adolescents understand or care about the concept of leisure at all as they are more concerned for their child's safety and protection given the environment? Many leisure opportunities for youth in these contexts are characterized by vacant lots or shebeens (unlicensed "bars" that serve as places for gang and drug activity). South Africa townships are breeding grounds for the development of new and lethal drug cocktails that are inexpensive. For example, nyaope is a recently developed drug consisting of low-grade

heroin, marijuana, antiretroviral drugs, cleaning detergent, rat poison, and chlorine that is highly addictive. Thus, it would not be surprising that parents would try to place severe restrictions on their adolescents' behavior. This may explain why parental overcontrol was positively associated with healthy leisure as those strict controls kept adolescents from risky behavior and choices. In the meantime, however, adolescents whose parents placed many restrictions on their children's leisure activities may have felt bored because their autonomy was suppressed and they were not allowed to engage in risky and "exciting" behavior like their peers.

Although parental leisure overcontrol might affect substance use through different ways, our results showed that overall it was associated with increased likelihood of substance use among adolescents. Therefore, to maximize the positive impact of parents on adolescent development, future studies should further investigate the ways parents control adolescents' leisure and carefully examine the differences between appropriate and inappropriate/over parental control of adolescents' leisure. Obviously, researchers will need to consider the social norms and cultures of the study population in their research.

Finally, we did not find significant differences between low and high SES groups in terms of the effect of parental leisure overcontrol and involvement. Although there is considerable evidence showing that SES is a predictor of parenting behavior/style (e.g., Conger et al., 2002; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000; Querido, Warner, & Eyberg, 2002; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001), studies examining SES as a moderator for the effect of parenting behavior/style are limited and have mixed findings. For example, Rekker, Keijsers, Branje, Koot, and Meeus (2017) found that the impact of parental control on delinquency was stronger among low-SES adolescents. However, in Anton, Jones, and Youngstrom's (2015) study, SES (income) did not significantly moderate the relationship between parenting style and adolescent externalizing problems, which is generally consistent with our finding. Therefore, future studies should continue to explore whether the impact of parenting behavior and styles on adolescents' leisure experience/developmental outcomes varies between different SES groups.

Limitations

This study has a few limitations to consider in the interpretation of results. First, parental leisure involvement and overcontrol were reported by adolescents. Although adolescents' own perceptions may better predict their behavior than perceptions by others, future research should consider using alternative ways to measure these two constructs. For example, researchers may have parents report their involvement in and control of adolescents' leisure. In addition, researchers may want to separately measure the control/involvement of fathers and mothers (Collins & Russell, 1991; Hart, DeWolf, Wozniak, & Burts, 1992) as they may have different impacts on adolescents. Second, in our measure of parental leisure overcontrol and involvement, a few questions did not include the term "free time/leisure" (e.g., My parents won't allow me to do things I want to) in order to mirror the way these constructs were measured in some previous studies (e.g., Guo, Reeder, McGee, & Darling, 2011). Given that these measures were embedded in a section that dealt entirely with free time, we believe that participants would have interpreted the parental

involvement/overcontrol items to be connected to free time. However, it is possible that certain participants might have interpreted those questions out of the free time context, causing a certain degree of measurement error. Therefore, researchers could improve these measurements by making the “leisure/free time” context more explicit in the questions. Third, this study made use of one timepoint, which was not ideal for testing mediation and limited our confidence in making conclusions on causality despite the availability of some theoretical support. Therefore, future research should consider testing similar models using longitudinal data or data obtained from experiments. For example, researchers may test whether the change in parental leisure control/involvement is associated with the change in adolescents’ leisure experience and substance use across time. Researchers may also conduct qualitative studies to explore or confirm the psychological and behavioral mechanisms underlying the observed relationships. Finally, the model was tested using a sample of South African adolescents. As a result, the findings may not be fully generalizable to adolescents of other ethnicities and cultures. Future research should examine and compare the model in different cultures.

Conclusion and implication for practice

Leisure is an important developmental context for adolescents. Engagement in healthy leisure reduces adolescents’ risk for substance use, while leisure boredom has the opposite impact. Parents have the potential to affect adolescents’ substance use through influencing adolescents’ leisure experience. They may improve adolescents’ leisure experience through appropriate involvement such as showing interest in adolescents’ activities and providing necessary help to adolescents. Excessive control from parents, however, may increase the levels of boredom in adolescents’ leisure, which in turn increases adolescents’ likelihood of substance use.

It is promising to prevent substance use through promoting healthy leisure and alleviating leisure boredom among adolescents in South Africa and possibly other similar countries. According to the results of this study, it is useful to involve parents, possibly through partnership with schools, in promotion of healthy leisure and prevention of substance use among South African adolescents. To maximize parents’ positive impact, researchers should consider implementing certain education sessions for parents to improve their knowledge of and skills for effective parenting, youth development through healthy and enjoyable leisure, and particularly how to develop adolescents’ interests in healthy and meaningful leisure and alleviate adolescents’ boredom during leisure time.

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