

## **Perceived parental control, restructuring ability, and leisure motivation: a cross-cultural comparison**

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### **Abstract**

Leisure is viewed worldwide as an important developmental context for adolescents. As leisure research and programs are shared across nations, it is crucial to examine the cultural equivalence of leisure-related constructs and how they are related. Grounded in self-determination theory, this study explored the influence of perceived parental control and leisure restructuring ability on leisure motivation (a motivation and autonomous motivation) using samples of eighth grade adolescents in the United States and South Africa. Results of multiple-group structural equation modeling showed that the measurement model of the constructs was equivalent across the two samples, but the determinants of leisure motivation differed between the two samples. The findings provide implications for future cross-cultural research in leisure and offer insights on design and adaptation of leisure-based intervention and education programs in different cultural contexts.

### **Introduction**

Adolescent leisure has received increased attention from researchers and policy makers in many countries. Globally, leisure is viewed as an important developmental context in which the lives of youth can be significantly improved (Coatsworth et al., 2005; Larson, 2000; Verma & Larson, 2003). At the same time, cross-national research has examined the role of leisure as a context of risk (e.g., Patterson, Pegg, & Dobson-Paterson, 2000) and reported on leisure-based prevention interventions to reduce risky behaviors such as substance abuse and risky sexual activities (Caldwell, Weichold, & Smith, 2006) in countries such as Australia, Germany, and South Africa. Many of these studies used theories of self-determination and motivation as a theoretical basis because leisure motivation plays a crucial role in shaping leisure experience, associated developmental outcomes (Reddon, Pope, Friel, & Sinha, 1996), and risky behaviors (Palen, Caldwell, & Smith, 2007).

Despite the importance of leisure to youth development worldwide, few studies have explored how different types of leisure motivation develop and are maintained among adolescents in different nations or cultural contexts (Mannell, 2005; Walker, Deng, & Dieser, 2005). Particularly, as leisure-based programs to prevent risky behaviors and promote healthy behaviors are transported from developed countries to developing countries, researchers must

understand whether and to what extent the constructs and theoretical models from the Western studies are culturally relevant (Cheung, Van de Vijver, & Leong, 2011).

Self-determination theory (SDT; e.g., Deci & Ryan, 2012a; Ryan & Deci, 2000a) is a relevant and important theory in developmental psychology and leisure literature. SDT suggests that optimal functioning is closely related to individuals' needs to become motivated by an internal desire to engage in activities (i.e., internal regulation or autonomous motivation). Developing a sense of autonomy, a hallmark of SDT, is considered a crucial process as a child transitions into adolescence (Van Petegem, Beyers, Vansteenkiste, & Soenens, 2012). As young people develop a sense of autonomy, they gain greater freedom to choose and participate in self-managed leisure activities. Autonomous behavior is considered to be action that is self-endorsed and self-regulated and stems from an intrinsic desire to enact the behavior. Autonomous behavior is in contrast to behavior caused by an external pressure (e.g., parental pressure to take piano lessons), which is a form of external regulation in SDT (e.g., Van Petegem, et al.). Perceptions of being controlled by external forces undermine one's self-determination (Deci & Ryan, 2012a). Autonomous motivation is linked with positive health and developmental outcomes (e.g., Deci & Ryan, 2012b; Waterman, 2004). There is less consistency, however, in the research on externally regulated behaviors. For example, depending on the child's age or level of development, external regulation through parent practices may be positive, especially if parental practices are autonomy supportive (Caldwell & Darling, 1999; Sharp, Caldwell, Graham, & Ridenour, 2006).

In this article, we explore whether a leisure-based measure of SDT is equivalent in two samples from two different cultural contexts (i.e., measurement invariance), one from a rural area in Pennsylvania and the other from a peri-urban area in South Africa. Past research on SDT has suggested that it is generalizable across cultures and nations (Deci & Ryan, 2012a; Van Petegem et al., 2012), but we do not know whether this generalizability holds when examining leisure motivation. We also explore whether perceptions of parental control by adolescents influence their leisure motivation. In addition, we add another construct thought to be associated with leisure motivation, ability to restructure one's current unsatisfactory situation into a more satisfactory one (i.e., restructuring ability).

### **Adolescent leisure motivation**

Grounded in self-determination theory (SDT; Deci & Ryan; 2012a; Ryan & Deci, 2000a; Ryan, Rigby, & King, 1993), we conceptualize adolescent leisure motivation from a multidimensional perspective. SDT examines human motivations and personality in social contexts by differentiating motivations as being autonomous or controlled. SDT identifies three basic types of motivation—amotivation, extrinsic motivation, and intrinsic motivation—that fall across a continuum of six types of regulation—amotivation, external, introjected, identified, integrated, and intrinsic. These motivation types differ in level of self-determinedness, regulatory process, and locus of causality. Amotivation represents nonintentional, nonregulated, and non-self-determined behavior. It describes situations where adolescents do not know why they participate in activities and have limited intention to do the activities. Extrinsic motivation covers (a) external regulation, which refers to

participation in an activity to obtain desirable consequence (e.g., tangible rewards) or avoid punishment (e.g., scolding from parents); (b) introjected regulation, which represents ego-related behavior driven by the perception of others' opinions and attitude (e.g., to impress friends or avoid guilt); (c) identified regulation which refers to pursuit of an activity because the activity is valued by or felt personally important to the participants; activities undertaken are typically goal-oriented and purposeful; and (d) integrated motivation, which describes behaviors driven by one's belief. Intrinsic motivation describes pursuit of an activity due to the inherent satisfaction derived from the participation (i.e., fully self-determined and internally regulated). According to SDT, external and introjected regulation are controlled motivation (i.e., externally regulated behaviors), while identified, integrated and intrinsic regulation represent autonomous motivation (i.e., internally regulated behaviors; Ryan & Deci, 2000a, 2000b; Sheldon & Elliot, 1998; Williams, Grow, Freedman, Ryan, & Deci, 1996). Individuals may possess different types of motivations at the same time for an activity. In addition, individuals may become more self-determined through assimilating and reconstituting formerly externally regulated behaviors, a process called internalization (Ryan, Connell, & Deci, 1985).

This study focuses on amotivation and autonomous motivation (i.e., identified and intrinsic motivation) because developmentally these two types of motivations are associated with the most negative and positive outcomes. Self-determined behaviors are, in general, associated with greater well-being and health (Ryan & Deci, 2000a). More specifically, autonomous motivation is positively associated with identity development (Waterman, 2004), autonomous behavior (Van Petegem et al., 2012), and development of interest (Hunter & Csikszentmihalyi, 2003) in adolescents. By definition, amotivation refers to nonintentional behaviors, and we would not expect to see the same positive outcomes as seen in goal-directed, intentional behavior. We did not include integrated motivation because the studied population was in early adolescence and was not expected to possess integrated motivation until they enter into late adolescence or early adulthood (Baldwin & Caldwell, 2003; Vallerand, 1997).

### **Restructuring ability, parental control, and adolescent leisure motivation**

Individuals may differ in the ability to fill their free time with meaningful and personally satisfying activities (referred to self-as-entertainment theory; Mannell, 1984, 1985). Adolescents may feel amotivated if they are incapable of restructuring boring or less satisfactory experiences in a more pleasant way (Hunter & Csikszentmihalyi, 1993). To cope with boredom during free time, adolescents also need to possess the ability to plan and organize meaningful and interesting activities and overcome barriers that prevent them from participating in those activities. Recently, the lack of ability to restructure a boring situation into something more interesting was related to higher levels of substance use in a longitudinal study across five to eight measurement occasions (Weybright, Caldwell, Ram, Smith, & Wegner, 2015). Thus, leisure restructuring ability is vital to positive youth development (Caldwell, Baldwin, Walls, & Smith, 2004; Larson, 2000). According to self-determination theory, perceived efficacy for an activity such as restructuring ability is a critical factor that influences individuals' motivation for the activity. Lack of competence for an activity, meaning that an individual is unable to achieve the desired outcomes, could undermine individuals'

autonomous motivation for the activity and leave the individual unintentional and uninterested (i.e., amotivated).

In addition to restructuring ability, adolescents' leisure motivation may be influenced by their parents (Caldwell, Darling, Payne, & Dowdy, 1999; Hutchinson, Baldwin, & Caldwell, 2003). Elicitation and maintenance of autonomous motivation requires experience of autonomy and self-determination (Deci & Ryan, 2012a). In other words, adolescents must perceive that their behaviors are determined by themselves or if not completely self-determined, at least supported by their parents. As the most important socializing agent in adolescents' lives, parents may create an autonomy-supportive environment that promotes autonomous motivation or an autonomy-controlling environment that elicits amotivation (Mageau, Joussemet, Koestner, Moreau, & Forest, 2015), although research is scarce on the relationships between parenting practices and adolescents' leisure motivations.

Appropriate levels of monitoring by parents of adolescents' free time may decrease adolescents' risky behaviors such as substance use (Chilcoat, Dishion, & Anthony, 1995; Fletcher, Darling, & Steinberg, 1995). However, when parents put excessive control over adolescents' use of free time, adolescents may experience loss of self-determination (Grolnick, Deci, & Ryan, 1997; Mageau et al., 2015; Pettit, Laird, Dodge, Bates, & Criss, 2001). This in turn will likely thwart autonomous motivation (Mageau et al., 2015; Ryan, Mims, & Koestner, 1983). For example, Caldwell et al. (1999) found that adolescents experience high levels of a motivation and boredom in their free time when they perceive excessive control from parents or other adults. Further, parents may influence adolescents' leisure motivation indirectly through affecting adolescents' restructuring ability. If parents exert too much control over adolescents' leisure time, adolescents may not have enough opportunities and freedom to develop their own leisure restructuring ability, which may increase adolescents' amotivation and decrease their autonomous motivation (Kloep & Hendry, 2007). Recently, the term controlling parenting has been used to include both psychological control as well as behavioral control (Grolnick & Pomerantz, 2009; Mageau et al.).

### **Understanding cross-cultural differences in context**

Developed and developing countries differ vastly in economic conditions and sociocultural opportunities, and this is true when comparing the United States and South Africa (International Monetary Fund, 2014), the two countries from which our samples were located. For example, compared to U.S. adolescents, many South African adolescents are raised in contexts with limited leisure and recreational resources (Caldwell et al., 2004; Wegner, 2011). These differences in conditions and opportunities, among other things, must be considered when attempting to understand the cultural equivalence of and associations among any constructs, and it is certainly true for understanding factors that influence adolescent development and risk behavior in and through leisure.

Other cultural differences may also exist. In general, the United States may be characterized by a more individualistic culture (Bond, 1988; Triandis, 1989), in which the independent self is central. From this individualist perspective, people prioritize the importance of self-

achievement and concern about their immediate family over larger community concerns. South Africa, on the other hand, generally has a more collectivistic culture in which social integration and conformity are more expected (Eaton & Louw, 2000; Hofstede, 2001).

Compared to individualistic cultures, families in collectivistic cultures may have clearer hierarchies between generations, in which children and adolescents are more likely to obey parents and less likely to question parents' decisions (Dennis & Giangreco, 1996; Leake & Black, 2005; Triandis, 1995). In addition, as nations become more globalized, some researchers speculate that the individualistic–collectivist (I-C) distinctions are becoming hazier. Kağıtçıbaşı (2007), for example, calls for a refinement of the I-C continuum to include normative I-C and relational I-C. The normative I-C refers to whether, or the degree to which, individual interests should be privileged over group (or societal) interests. Relational I-C, on the other hand, focuses on self-other relationships and the degree of separateness or connectedness to others is central. She further suggests that as modernization occurs, normative collectivism is replaced with normative individualization, which results in a less hierarchical family structure. At the same time, Kağıtçıbaşı suggests that conformity-obedience goals are stressed among ethnic minorities and low-socioeconomic status groups in Western societies. Moreover, in contexts where children's individualistic independence is not fostered, parents tend to exert higher levels of control. Based on these studies we anticipate that the South African sample in general has more family hierarchy and stronger conformity-obedience goals than the U.S. sample.

In the meantime, it is important to note that the level of individualism/collectivism may vary between different ethnicities and groups within South Africa. For example, Allik and McCrae (2004) found that Black South Africans are more collectivistic, while White South Africans are more individualistic. Further, Wissing, Wissing, du Toit, and Temane (2006) suggested that Black South Africans might have become more individualistic with urbanization and development of higher socioeconomic status, although there is limited research on changes in cultural values among South Africans. Further, the two samples used in the current study are from different types of living environments, although both came from low-socioeconomic contexts with limited recreational opportunities. The South African sample comes from a peri-urban area, while the U.S. sample comes from a rural/small town area in the northeast. These contextual or micro-cultural differences may further compound the differences discussed previously.

### **Research questions and hypotheses**

This study was undertaken to examine whether there were differences in the factorial structure of the constructs under study (i.e., perceived parental control, restructuring ability, autonomous motivation, and amotivation) as well as how these constructs are related to each other across two different samples from South Africa and the United States. We posited that perceived parental control would influence restructuring ability, and both would have a direct effect on amotivation and autonomous motivation. Specifically, based on Western theorizing, we hypothesized that adolescents who perceived their parents had too much control over their leisure would be less likely to possess restructuring ability and that

perceived parental control would negatively influence autonomous motivation and positively influence amotivation. We also posited that restructuring ability would positively influence autonomous motivation and negatively influence amotivation. Furthermore, we hypothesized that restructuring ability would mediate the influence of perceived parental control on amotivation and autonomous motivation. Finally, we hypothesized that the associations among the constructs in the model would differ between South African and U.S. samples, given the economic and cultural differences between the two nations.

## **Methods**

### ***Study design and participants***

Data for this study were collected from the control groups of two leisure-based prevention interventions. The first was a substance use prevention program implemented in schools in rural central Pennsylvania in the United States (see Caldwell, 2004; Caldwell et al., 2004). The second intervention expanded and culturally adapted the first intervention and was launched

in schools in a low-income township 15 miles outside Cape Town in South Africa (see Caldwell, Smith et al., 2004; Smith et al., 2008). This second intervention focused both on substance use and sexual risk behavior. Both interventions collected data through surveys from control and treatment schools. To filter the unwanted effect of intervention treatment, and because we were only interested in examining construct equivalence to understand how the relations among constructs were similar or different, only students in the control schools were selected for this study. Specifically, the U.S. sample consisted of 310 students in the eighth grade from five schools, and the South African sample comprised 1,284 students in the same grade from five schools. Among the U.S. sample, 96.8% were white, while most of the South African sample (89.8%) were mixed race (also called Coloured). The U.S. and South African samples were similar in terms of age (US:  $M = 13.68$ ;  $SD = .521$  vs. SA:  $M = 13.98$ ;  $SD = .812$ ) and gender ratio (US: %*Male* = 53.1 vs. SA: %*Male* = 49.2).

In both the United States and South Africa, self-administered surveys were given in the schools by trained research assistants or staff. Both surveys were conducted in English and were approved by the institutional review boards at study-affiliated universities and by school administrators in the United States and South Africa.

## ***Measures***

### ***Leisure motivations***

Leisure motivations were measured using items from the Free Time Motivation Scale for Adolescents (FTMS-A; Baldwin & Caldwell, 2003). Specifically, amotivation was measured by three items (e.g., I don't know why I do my free time activities and I don't really care; I don't know why I do my free time activities, nothing much interests me). Autonomous motivation was measured by six items, which included identified motivation (e.g., I do what I do in my free time because it is important to me) and intrinsic motivation (e.g., I do what I do in my free time because I like what I do). Identified and intrinsic motivations both represent internally regulated behaviors (Ryan & Deci, 2000a), and the combination of these two motivations was supported by previous empirical studies (e.g., Sharp et al., 2006; Standage,

Sebire, & Loney, 2008; Wilson, Blanchard, Nehl, & Baker, 2006; Williams et al., 1996). For each item, participants were asked to indicate their level of agreement using a 5-point scale (1 = strongly disagree; 5 = strongly agree).

### ***Leisure restructuring ability***

Restructuring ability was measured by a 4-item, 5-point (1 = strongly disagree; 5 = strongly agree) scale used in both studies: 1) In my free time, I know how to turn a boring situation into something that is more interesting to me; 2) I know how to keep up my interest in my free time activities to me; 3) I can make things more fun for myself in my free time; and 4) I am confident I can overcome things that get in the way of doing what I want to do in my free time.

### ***Perceived parental control***

Perceived parental control was measured using a 5-point scale (1 = strongly disagree; 5 = strongly agree) that include two items: 1) My parents have too much control over what I do in my free time; and 2) There are things I would like to do in my free time but I am not allowed to do them.

All items were developed based on interviews and focus groups with a small sample of U.S. adolescents, and were later reviewed by researchers and educators in South Africa to ensure that they were culturally valid.

### ***Data analytical strategy***

Multiple-Group Confirmatory Factor Analysis (CFA) was used to test the measurement invariance (i.e., invariance in factor structure and factoring loadings; MacCallum, Rosnowski, Mar, & Reith, 1994). Next, Multiple-Group Structural Equation Modeling (SEM) was used to test whether the interrelationships between parental control, restructuring ability, and leisure motivation differed between U.S. and South African adolescents. A total of 4% of cases had missing values. Removing those cases may bias the result of estimation (Graham, Cumsille, & Elek-Fisk, 2003; Shafer & Graham, 2002). Therefore, the full information maximum likelihood (FIML) feature in LISREL 9.20 (Jöreskog & Sörbom, 1996; du Toit & du Toit, 2001) was used to obtain the parameter estimates that included missing data in the sample.

The test of measurement invariance involved two steps (Byrne, Shavelson, & Muthèn, 1989). First, a configural invariance model was estimated in which the factor structure was fixed as the same across the two groups while other model parameters were freely estimated for each group. Model fit indices indicated how well the same factor structure fit the two groups. Second, a factor loading invariance model was estimated where factor loadings were constrained to be equal across the two groups. The difference in goodness of fit between the two models was then used to assess factor loading invariance (Chen, 2007; Cheung & Rensvold, 2002).

After ensuring measurement invariance, differences in the relationships between the latent constructs (i.e., path coefficients in the model) were examined between the two groups

(Bollen, 1989). First, a baseline model was estimated in which all path coefficients were freely estimated for the two groups. Then a constrained model was estimated in which all path coefficients were constrained to be equal across the two groups. The Chi-square difference between the two models was used to assess the overall path coefficients invariance. In situations where the Chi-square difference for the overall test is significant, the equality constraint is put on each individual path coefficient to find out the one(s) that vary across groups. LISREL 9.20 was used to perform the multiple-group CFA and SEM.

## Results

### *Descriptive statistics*

Table 1 reports the mean of each construct in the model for the U.S. and South African samples. Results of independent samples t-tests showed that overall U.S. and South African adolescents differed in the level of all constructs. On average, U.S. adolescents reported lower perceived parental control ( $M_{US} = 2.55$  vs.  $M_{SA} = 2.98$ ,  $p < .001$ ) and slightly higher restructuring ability ( $M_{US} = 3.89$  vs.  $M_{SA} = 3.78$ ,  $p < .05$ ) than South African adolescents. In terms of leisure motivation, U.S. adolescents on average reported lower levels of amotivation ( $M_{US} = 2.00$  vs.  $M_{SA} = 2.63$ ,  $p < .001$ ) and higher levels of autonomous motivation ( $M_{US} = 4.24$  vs.  $M_{SA} = 3.90$ ,  $p < .001$ ) than their South African counterparts.

**Table 1.** Descriptive statistics of the variables and constructs – U.S. and South African (SA) samples.

Constructs and Variables	US		SA		t-test		Cohen's D
	M	SD	M	SD	t	p	
Perceived Parental Control	2.55	1.058	2.98	1.108	6.230	.000	.39
Restructuring Ability	3.89	.644	3.78	.809	-2.425	.016	.13
Amotivation	2.00	.783	2.63	1.000	11.939	.000	.66
Autonomous Motivation	4.24	.531	3.90	.797	-8.734	.000	.44



**Table 2.** Factorial structure and standardized factor loadings – U.S. and South African (SA) samples.

Constructs and Indicators	US	SA
<i>Parental Control</i>		
My parents have too much control over what I do in my free time.	.610	.645
There are things I would like to do in my free time but I am not allowed to do them.	.735	.641
<i>Restructuring Ability</i>		
In my free time, I know how to turn a boring situation into something that is more interesting to me.	.650	.687
I know how to keep up my interest in my free time activities to me.	.786	.730
I can make things more fun for myself in my free time.	.802	.673
I am confident I can overcome things that get in the way of doing what I want to do in my free time.	.526	.535
<i>Amotivation</i>		
I don't know why I do my free time activities and I don't really care.	.640	.650
I don't know why I do my free time activities, nothing much interests me.	.776	.738
I don't know why I do what I do in my free time, but it doesn't matter because I don't do much of anything.	.703	.626
<i>Autonomous Motivation</i>		
I do what I do in my free time because it is important to me.	.750	.594
I do what I do in my free time because I develop skills that I can use later in life.	.644	.713
I do what I do in my free time because the activities help me develop into the person I want to become.	.638	.700
I do what I do in my free time because I want to have fun.	.483	.701
I do what I do in my free time because I like what I do.	.780	.753
I do what I do in my free time because I want to.	.541	.574

Note. All factor loadings were significant at .0001 level.

### ***Test of measurement invariance***

The configural invariance model achieved a reasonable fit ( $\chi^2 (168) = 463.008, p < .01$ ; CFI = .9585; RMSEA = .0469; TLI = .9482; Bentler, 1992; Browne & Cudeck, 1993), supporting that the two groups shared the same factorial structure. For both groups, all the factor loadings were highly significant ( $p < .001$ ; Table 2), indicating good convergent validity of the measurement (Cole, 1987). In terms of construct reliability (CR; Fornell & Lucker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006), the score for perceived parental control, restructuring ability, amotivation, and autonomous motivation were .62, .79, .75, and .81 for the U.S. group, and .59, .75, .71, and .83 for the South African group. This indicated that overall the measurement model had acceptable construct reliability for the two groups. After all factor loadings were constrained to be equal between the two groups (i.e., factor loading invariance model), the model fit remained similar ( $\chi^2 (179) = 547.646, p < .01$ ; CFI = .9482; RMSEA = .0508; TLI = .9392). Although the change in Chi-square was statistically significant ( $\Delta \chi^2 (11) = 84.638, p < .01$ ), constraining a total of 15 factor loadings only resulted in trivial change in both CFI and RMESA (i.e.,  $\Delta CFI = -.010$ ;  $\Delta RMSEA = .004$ ). In this case, the factor loadings can be considered invariant across the two groups (Chen, 2007; Cheung & Rensvold, 2002).

### ***Test of path coefficients invariance***

The baseline model had a reasonable fit ( $\chi^2 (179) = 547.646, p < .01$ ; CFI = .9482; RMSEA = .0508; TLI = .9392). When all the path coefficients were constrained to be equal across the two groups, a significant change in Chi-square ( $\Delta \chi^2(5)$ ) as observed. This indicated that there was an overall difference in path coefficients between the U.S. and South African

groups. As a result, an equality constraint was put on each path coefficient individually to determine variation across groups.

**Table 3.** Estimation of path coefficients – U.S. and South African (SA) samples.

Path	Group	Unstandardized Coefficient	Standardized Coefficient	<i>p</i> *
Restructuring → Amotivation	US	– .503	– .489	< .01
	SA	– .109	– .100	< .01
Restructuring → Autonomous Motivation	US	.589	.772	< .01
	SA	.765	.808	< .01
Perceived Parental Control → Restructuring	US	– .137	– .179	< .05
	SA	.041	.046	
Perceived Parental Control → Amotivation	US	.285	.363	< .01
	SA	.588	.598	< .01
Perceived Parental Control → Autonomous Motivation	US	– .047	– .081	
	SA	.080	.093	< .01

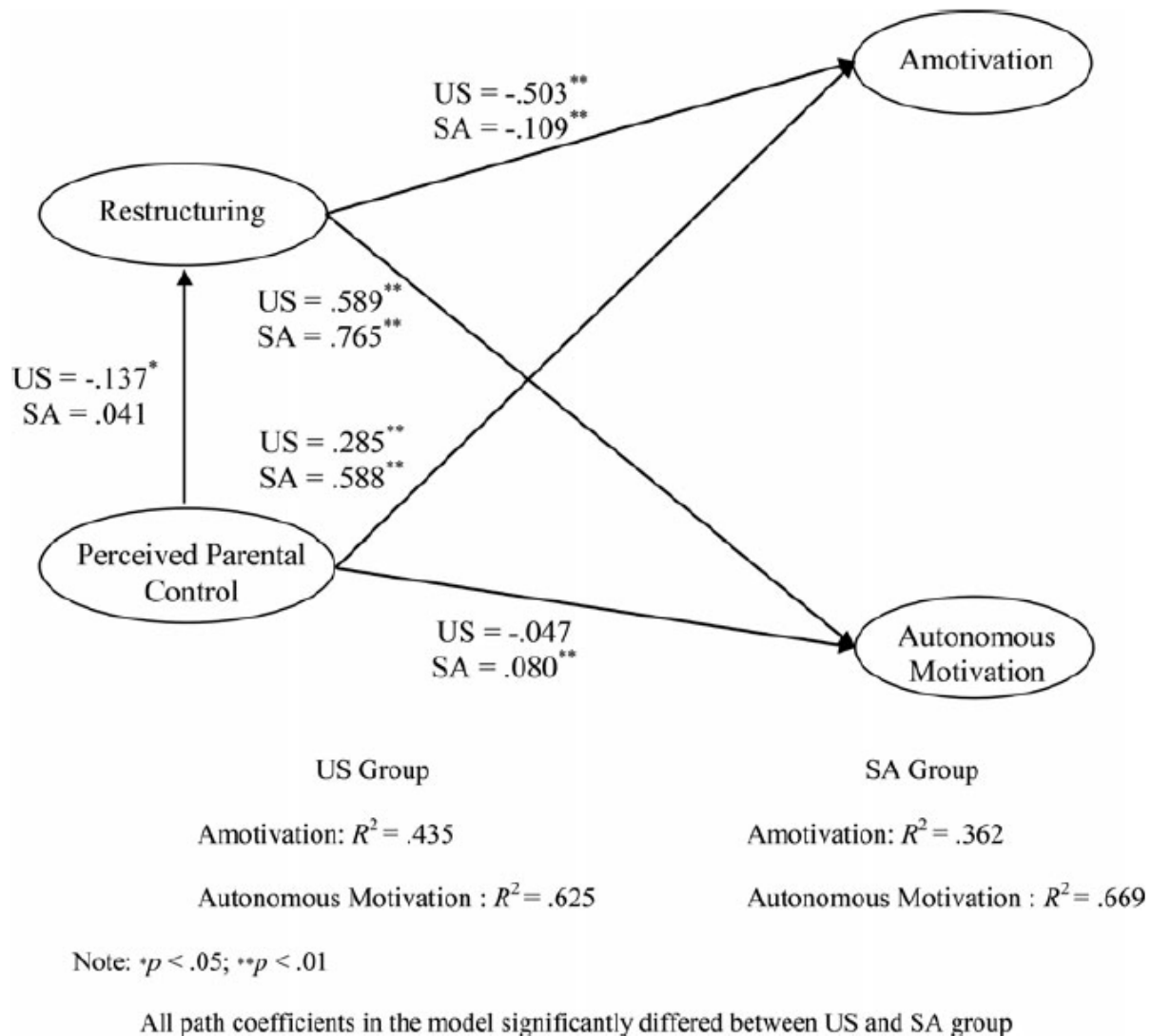
Note. \*Test of group difference in path coefficient.

Results showed that each equality constraint caused a significant increase in Chi-square: 1) parental control – restructuring ( $\Delta\chi^2 (1) = 6.198, p < .05$ ); 2) parental control – amotivation ( $\Delta\chi^2 (1) = 13.258, p < .01$ ); 3) parental control – autonomous motivation ( $\Delta\chi^2 (1) = 7.351, p < .01$ ); 4) restructuring – amotivation ( $\Delta\chi^2 (1) = 24.849, p < .01$ ); and 5) restructuring – autonomous motivation ( $\Delta\chi^2 (1) = 10.852, p < .01$ ). This indicated that the U.S. and South African groups significantly differed in these interrelationships between perceived parental control, restructuring ability, and leisure motivation.

Table 3 and Figure 1 reported the results of estimations of the final model. Restructuring ability had a significant negative association with amotivation with the relation being stronger for the U.S. group ( $b = -.503, p < .01$ ) than SA group ( $b = -.109, p < .01$ ). In addition, restructuring ability was significantly, positively associated with autonomous motivation with the association being stronger for South African group ( $b = .765, p < .01$ ) than the U.S. group ( $b = .589, p < .01$ ).

Perceived parental control was associated with leisure motivations in direct and indirect ways, both of which differed between the U.S. and South African groups. In terms of direct mechanism, perceived parental control was significantly and positively associated with autonomous motivation for the South African group ( $b = .08, p < .01$ ), but not for the U.S. group ( $b = -.047, p > .05$ ). In addition, perceived parental control was significantly and positively associated with amotivation, with the relationship being stronger for the South African group ( $b = .588, p < .01$ ) than U.S. group ( $b = .285, p < .01$ ). As for the indirect mechanism, the association of perceived parental control with leisure motivation was partially mediated by restructuring ability among U.S. adolescents following guidelines from MacKinnon, Lockwood, Hoffman, West, and Sheets (2002). Specifically, parental control was significantly, negatively associated with restructuring ability ( $b = -.137, p < .05$ ), which in turn was significantly associated with both amotivation and autonomous amotivation. The test of

indirect effects (Sobel, 1982, 1986) of perceived parental control on amotivation ( $b = .069$ ;  $p < .05$ ) and autonomous motivation ( $b = -.08$ ,  $p < .05$ ) also supported this conclusion. For the South African group, however, parental control did not have a significant indirect effect (through restructuring ability) on leisure motivation. For both the U.S. and South African groups, perceived parental control and restructuring ability explained a substantive percentage of variance of amotivation (US:  $R^2 = .435$  vs. SA:  $R^2 = .362$ ) and autonomous motivation (US:  $R^2 = .625$  vs. SA:  $R^2 = .669$ ) (Figure 1).



**Figure 1.** Estimation results of the multiple-group structural model.

## Discussion

This research contributes to adolescent leisure and youth development literature by providing some insight on how leisure-related constructs and their associations may be similar or different in two distinct cultural contexts. We compared findings from two samples from low-socioeconomic areas, with the South African sample being more urban than the sample from

the United States. In the first step we found that the factorial structure and loadings of the constructs of interests were invariant across the two samples, providing evidence of measurement equivalence. In the second step, however, results showed that the determinants of leisure motivations differed between the two samples. The amount of variance explained in all models was relatively high ( $R^2$  values ranged from .362 to .669). Interpreting and explaining the cross-sample differences in this study, however, can be a challenging task because the causes of these differences may be environmental, economic, and cultural (Kağıtçıbaşı, 2007). Due to the design of this research, it is difficult to separate one possible cause from the others. In addition, the rapid social, political, and technological changes occurring as a result of globalization further increase the complexity in interpreting cross-cultural differences in adolescent leisure (Larson & Wilson, 2004).

Consistent with self-determination theory (SDT; Ryan & Deci, 2000a), we found that restructuring ability was negatively associated with amotivation, however, the association was stronger among U.S. than South African adolescents. We also found that restructuring ability was positively related to autonomous motivation in both samples, with the association being stronger among South African than U.S. adolescents. These findings suggest that adolescents who are able to make things more interesting for themselves are typically those who have reasons for what they do in their free time and are internally driven. Silbereisen and Eyferth (1986) suggested that purposeful and goal-oriented action that expresses values or solves problems leads to healthy adolescent development. In essence their perspective suggests that development does not just happen to adolescents; they must put forth effort to make things happen for themselves. In their conceptualization, free choice is important, as is the importance of cultural context and social regulations. They termed this phenomenon as “development as action-in-context” and suggest that adolescents who are self-regulated in their environments are really helping themselves from a developmental perspective. Our findings lend credibility to the universality of the development as action-in-context idea, which was initially developed based on research done on adolescents in Germany. The ability to restructure one’s situation in context is a skill that is related to positive developmental outcomes (lower levels of amotivation and higher levels of autonomous motivation) in this study in both samples.

The strength of these associations between samples, however, calls into question whether there may be some underlying differences between the two samples. The association between restructuring ability and amotivation was stronger for the U.S. than the South African sample. This difference may be related to the different developmental contexts in the two nations and in particular the two samples. In terms of leisure, South African adolescents have fewer resources, face more constraints, and have less adult guidance for healthy leisure than U.S. adolescents (Wegner, 2011). The South African sample came from a geographic area characterized by those issues. Because of that, South African adolescents may be less effective in using their restructuring ability to alleviate boredom during free time (e.g., a cook cannot make a good meal without the necessary cookware and ingredients). This may have resulted in a weakened impact of restructuring ability on amotivation among South African adolescents. In contrast, although the U.S. sample came from an under-resourced and low socio-economic

area, youth in that sample had more opportunities at school and even in out-of-school contexts than their South African counterparts, and parents were generally more involved in facilitating recreational opportunities.

Also in line with self-determination and action-in-context theories is that restructuring ability had a positive association with autonomous motivation. However, it is somewhat surprising that the association was stronger among South African adolescents, which may be related to the availability of leisure time. South African adolescents generally have abundant free time (Kingdon & Knight, 2004; Wegner, 2011; Wegner & Magner, 2002). This may enable South African adolescents with restructuring ability to do more what they want or like to do and experience more sense of self-determination in their free time than their U.S. adolescents.

Perceived parental control had a significant negative association with restructuring ability for U.S. adolescents. This indicates that parental control may have limited the U.S. adolescents' opportunities of developing appropriate leisure restructuring ability, perhaps by undermining their ability to take action-in-context (e.g., Mageau et al., 2015; Silbereisen & Eyferth, 1986). For South African adolescents, however, perceived parental control had a nonsignificant, positive association with restructuring ability. It is possible that U.S. and South African parents' control focused on somewhat different things in adolescents' free time, or in South Africa, parental control operates in a way that does not negatively affect the development of restructuring ability. For example, Kağıtçibaşı (2007) reported evidence that strict parental control leads to negative behavior in Euro-American youth but not among African American youth.

She then stated, "this is an important finding that challenges commonly held assumptions in psychology and shows that what is assumed to be human nature may be culture" (p. 30). She further suggests that it is useful to understand the desired level of dependence-independence between parents and children in the socialization process.

Along these same lines, perceived parental control was positively associated with amotivation, but the association was stronger among South African adolescents. The positive relationship between perceived parental control and amotivation is consistent with self-determination theory and previous studies that found that excessive control from parents will deprive or dampen a sense of autonomy among adolescents, making them feel unintentional and uninterested in the leisure activities (Caldwell et al., 1999; Mageau et al., 2015; Ryan et al., 1983). The differences in the strength of the association between U.S. and South African samples may be explained as follows. South African adolescents in this study are raised in a more collectivistic culture and have low socioeconomic status. These two factors are typically associated with a hierarchical family structure (Kağıtçibaşı, 2007; Leake & Black, 2005; Triandis, 1995). In such family contexts, South African adolescents are more likely to perceive themselves as subordinates to the parents and to accept control from their parents. With less negotiation from adolescents themselves, the parental control is likely to cause

more loss of autonomy and in turn have a stronger association with amotivation among South African adolescents.

On the other hand, the association between perceived parental control and autonomous motivation was only significant for South African adolescents; perceived parental control had a small but significant and positive association with autonomous motivation. Thus perception of parental control by South African adolescents was associated with higher levels of both amotivation and autonomous motivation. It is possible that parental control may influence autonomous motivation in the South African sample in two opposite mechanisms (Shrout & Bolger, 2002) demonstrating the need to consider the cultural context of the South African sample. On one hand, parental control may negatively affect autonomous motivation by decreasing the sense of autonomy perceived by adolescents in their free time. On the other hand, for the South African sample in this study who are at high risk for unhealthy leisure activities (e.g., substance use, risky sexual behaviors; Frank, Esterhuizen, Jinabhai, Sullivan, & Taylor, 2008; Pasche & Myers, 2012) parental control may positively affect autonomous motivation by promoting healthy leisure activities and protecting against risky behaviors. In such an environment, it is possible that parental control exerts slightly more positive than negative influence on youth development and leisure motivation. However, this is only a speculation, and needs to be examined in the future.

### **Implications for interventions**

As researchers work to solve problems, they realize that what works in one country may not work in another, making it necessary to engage in a deliberate effort to understand how the theoretical foundations of such programs may operate differently across cultural/national contexts. Our results suggest that development of leisure amotivation and autonomous motivation may differ across cultures, although the constructs are generalizable. Thus, researchers need to pay special attention when interventions related to these two types of motivations are adapted from one nation/culture to another.

Our study was limited in the set of variables used to begin to explore the associations among parental control, motivation, and internally regulated behavior. However, from a practical perspective our study suggests that program providers and/or researchers should fully explore the role of parental control in adolescent leisure motivation, and integrate parental control into prevention interventions. From these set of analyses we can suggest that prevention interventions in the United States should focus on developing adolescents' leisure restructuring ability as it alone strongly affects both amotivation and autonomous motivation. In South Africa, however, the programs should consider addressing both adolescents' leisure structuring ability and parental control, which to some extent may require collaboration between schools and families.

### **Limitations, future research, and conclusion**

This research has limitations that must be kept in mind when considering the findings. First, both U.S. and South African samples consisted of adolescents from one geographic area in each nation and one sample was more urban than the other, although both areas were

characterized in a low socioeconomic status category. Although this may be a limitation in that the samples were not deliberately matched, it is a strength when one considers the robustness of the theoretical constructs in the two samples. Future research should use more representative data to test the generalizability of the finding of this research. Second, both perceived parental control and restructuring ability were reported by adolescents themselves. Although we feel the self-reported measures better predict leisure motivations, future research could use other ways to measure these two constructs. For example, researchers may use an objective approach to measure adolescents' restructuring ability or have parents report the levels of control they have over adolescents' use of free time. In addition, future studies may measure and distinguish paternal and maternal control (Collins & Russell, 1991; Hart, De Wolf, Wozniak, & Burts, 1992) since they may have different impact on leisure motivations and adolescent development. Third, the data are from two different interventions, and a small number of items/questions had to be dropped because they were not shared by both surveys. For example, only two items were used to measure perceived parental control. Although the measurement model was acceptable according to the results of confirmatory factor analysis, there is room to improve the measurement in future studies. Fourth, although we offered explanation for the cross-cultural differences found in this study, the underlying mechanisms for some relationships and differences need further exploration. For example, future research may want to investigate why restructuring ability had a weaker association with amotivation in South Africa than in the United States. Another interesting question is why perceived parental control had a small positive effect on autonomous motivation in South Africa. Researchers may answer these questions by conducting qualitative studies or identifying potential mediators and/or moderators in these processes (Curry & Nunez-Smith, 2015). Fifth, according to this study, parents play an important role in shaping adolescents' leisure motivations. Therefore future studies should expand our knowledge in this area. Besides parental control, researchers may study the impact of different types of parenting styles (e.g., authoritative, permissive, and authoritarian; Baumrind, 1991) on adolescents' leisure motivations and behaviors in different nations/cultures.

Despite these limitations, this study examined the cross-cultural differences in terms of how perceived parental control and restructuring ability affect adolescents' leisure motivations, an area not addressed previously. The findings of this study revealed that for adolescents in different countries, perceptions of parental control and restructuring ability might operate differently during the development of leisure motivation. In addition to offering implications for designing culturally valid leisure-based interventions, this study calls for more cross-national/cultural research in adolescent leisure motivation and behaviors.

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## References

- Allik, J., & McCrae, R. R. (2004). Toward a geography of personality traits: Patterns of profiles across 36 cultures. *Journal of Cross-Cultural Psychology, 35*(1), 13–28.
- Baldwin, C. K., & Caldwell, L. L. (2003). Development of the free time motivation scale for adolescents. *Journal of Leisure Research, 35*(2), 129–151.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*(1), 56–95.
- Bentler, P. M. (1992). On the fit of models to covariances and methodology to the *Bulletin of Psychological Bulletin, 112*(3), 400–404.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York, NY: Wiley & Sons.
- Bond, M. H. (1988). Finding universal dimensions of individual variation in multicultural studies of value: The Rokeach and Chinese value surveys. *Journal of Personality and Social Psychology, 55*(6), 1009–1015.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Byrne, B. M., Shavelson, R. J., & Muthèn, B. (1989). Testing for the equivalence of factor covariance and mean structures: The issue of partial measurement invariance. *Psychological Bulletin, 105*(3), 456–466.
- Caldwell, L. L. (2004). *TimeWise: Taking charge of free time curricular for middle school students*. Scotts Valley, CA: ETR Associates.
- Caldwell, L. L., Baldwin, C. K., Walls, T., & Smith, E. A. (2004). Preliminary effects of a leisure education program to promote healthy use of free time among middle school adolescents. *Journal of Leisure Research, 36*(3), 310–335.
- Caldwell, L. L., & Darling, N. (1999). Leisure context, parental control, and resistance to peer pressure as predictors of adolescent partying and substance use: An ecological perspective. *Journal of Leisure Research, 31*(1), 57–77.
- Caldwell, L. L., Darling, N., Payne, L., & Dowdy, B. (1999). “Why are you bored?” An examination of psychological and social control causes of boredom among adolescents. *Journal of Leisure Research, 31*(2), 103–121.
- Caldwell, L. L., Smith, E. A., Wegner, L., Vergnani, T., Mpofu, E., Flisher, A. J., & Mathews, C. (2004). HealthWise South Africa: Development of a life skills curriculum for young adults. *World Leisure Journal, 46*(3), 4–17.
- Caldwell, L. L., Weichold, K., & Smith, E. A. (2006). Peer influence, substance use, and leisure: A cross cultural comparison. *SUCHT (German Journal of Addiction Research and Practice), 52*(4), 261–267.
- Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*(3), 464–504.
- Cheung, F. M., Van de Vijver, F. J. R., & Leong, F. T. L. (2011). Toward a new approach to the study of personality in culture. *American Psychologist, 66*(7), 593–603.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233–255.
- Chilcoat, H. D., Dishion, T. J., & Anthony, J. C. (1995). Parent monitoring and the incidence of early drug sampling in urban elementary school children. *American Journal of Epidemiology, 141*(1), 25–31.



- Coatsworth, J. D., Sharp, E. H., Palen, L., Darling, N., Cumsille, P., & Marta, E. (2005). Exploring adolescent self-defining activities and identity experiences across three countries. *International Journal of Behavioral Development, 29*(5), 361–370.
- Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology, 55*(4), 584–594.
- Curry, L., & Nunez-Smith, M. (2015). *Mixed methods in health sciences research: A practical primer*. Thousand Oaks, CA: Sage.
- Collins, W. A., & Russell, G. (1991). Mother-child and father-child relationships in middle childhood and adolescence: A developmental analysis. *Developmental Review, 11*(2), 99–136.
- Deci, E. L., & Ryan, R. M. (2012a). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 85–110). Oxford, England: Oxford Library of Psychology.
- Deci, E. L., & Ryan, R. M. (2012b). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology. Vol. 1* (pp. 416–437). Thousand Oaks, CA: Sage.
- Dennis, R., & Giangreco, M. F. (1996). Creating conversation: Reflections on cultural sensitivity in family interviewing. *Exceptional Children, 63*, 103–116.
- du Toit, M., & du Toit, S. (2001). *Interactive LISREL: User's guide*. Lincolnwood, IL: Scientific Software International.
- Eaton, L., & Louw, J. (2000). Culture and self in South Africa: Individualism-collectivism predictions. *Journal of Social Psychology, 140*(2), 210–217.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.
- Fletcher, A. C., Darling, N., & Steinberg, L. (1995). Parental monitoring and peer influences on adolescent substance use. In J. McCord (Ed.), *Coercion and punishment in long-term perspectives* (pp. 259–271). New York, NY: Cambridge University Press.
- Frank, S., Esterhuizen, T., Jinabhai, C., Sullivan, K., & Taylor, M. (2008). Risky sexual behaviours of high-school pupils in an era of HIV and AIDS. *South African Medical Journal, 98*(5), 394–398.
- Graham, J. W., Cumsille, P. E., & Elek-Fisk, E. (2003). Methods for handling missing data. In J. A. Schinka, W. F. Velicer (Eds.), *Handbook of psychology, vol. 2: Research methods in psychology* (pp. 87–114). New York, NY: Wiley & Sons.
- Grolnick, W. S., Deci, E. L., & Ryan, R. M. (1997). Internalization within the family: The self-determination theory perspective. In J. E. Grusec, L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 135–161). New York, NY: Wiley & Sons.
- Grolnick, W. S., & Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives, 3*, 165–170.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson.

- Hart, C. H., DeWolf, M. D., Wozniak, P., & Burts, D. C. (1992). Maternal and paternal disciplinary styles: Relations with preschoolers' playground behavioral orientations and peer status. *Child Development*, *63*(4), 879–892.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.
- Hunter, J. P., & Csikszentmihalyi, M. (2003). The positive psychology of interested adolescents. *Journal of Youth and Adolescence*, *32*(1), 27–35.
- Hutchinson, S. L., Baldwin, C. K., & Caldwell, L. L. (2003). Differentiating parent practices related to adolescent behavior in the free time context. *Journal of Leisure Research*, *35*(4), 396–422.
- International Monetary Fund. (2014). *World economic outlook — recovery strengthens, remains uneven*. Retrieved from <http://www.imf.org/external/pubs/ft/weo/2014/01/pdf/text.pdf>
- Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8 user's reference guide*. Mooresville, IN: Scientific Software.
- Kağıtçibaşı, Ç. (2007). *Family, self, and human development across cultures: Theory and applications* (2nd ed.). Mahwah, NJ: Erlbaum Associates.
- Kingdon, G. G. & Knight, J. (2004). Race and the incidence of unemployment in South Africa. *Review of Development Economics*, *8*(2), 198–222.
- Kloep, M., & Hendry, L. (2007). “Over-protection, over-protection, over-protection!” Young people in modern Britain. *Psychology of Education Review*, *31*(2), 4–8.
- Larson, R. (2000). Toward a psychology of positive youth development. *American Psychologist*, *55*(1), 170–183.
- Larson, R., & Wilson, S. (2004). Adolescence across place and time: Globalization and the changing pathways to adulthood. In R. M. Lerner, L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 299–330). Hoboken, NJ: Wiley & Sons.
- Leake, D., & Black, R. (2005). *Cultural and linguistic diversity: Implications for transition personnel*. National Center on Secondary Education and Transition, University of Minnesota. Retrieved from [http://www.ncset.org/publications/essentialtools/diversity/EssentialTools\\_Diversity.pdf](http://www.ncset.org/publications/essentialtools/diversity/EssentialTools_Diversity.pdf)
- MacCallum, R., Rosnowski, C. Mar., & Reith, J. (1994). Alternative strategies for cross-validation of covariance structure models. *Multivariate Behavioral Research*, *29*(1), 1–32.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*(1), 83–104.
- Mageau, G. A., Joussemet, M., Koestner, R., Moreau, E., & Forest, J. (2015). Validation of the perceived parental autonomy support scale (P-PASS). *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *47*, 251–262.
- Mannell, R. C. (1984). Personality in leisure theory: The self-as-entertainment construct. *Loisir et Societe/Society and Leisure*, *7*, 229–242.

- Mannell, R. C. (1985). Reliability and validity of a leisure-specific personality measure: The self-as-entertainment construct. *Proceedings of 1985 leisure research symposium*. Alexandria, VA: National Recreation and Park Association.
- Mannell, R. C. (2005). Evolution of cross-cultural analysis in the study of leisure: Commentary on “culture, self-construal, and leisure theory and practice”. *Journal of Leisure Research*, 37(1), 100–105.
- Palen, L., Caldwell, L.L., & Smith, E.A. (2007). Profiles of leisure motivation and substance use in the HealthWise South Africa research trial. *Paper presented at the Annual Meeting of the Society for Prevention Research*. Washington, DC.
- Pasche, S., & Myers, B. (2012). Substance misuse trends in South Africa. *Human Psychopharmacology: Clinical and Experimental*, 27(3), 338–341.
- Patterson, I., Pegg, S., & Dobson-Patterson, R. (2000). Exploring the links between leisure boredom and alcohol use among youth in rural and urban areas of Australia. *Journal of Park & Recreation Administration*, 18(3), 53–75.
- Pettit, G. S., Laird, R. D., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and behaviour-problem outcomes of parental monitoring and psychological control in early adolescence. *Child Development*, 72(2), 583–598.
- Reddon, J. R., Pope, G. A., Friel, J. P., & Sinha, B. K. (1996). Leisure motivation in relation to psychosocial adjustment and personality in young offender and high school samples. *Journal of Clinical Psychology*, 52(6), 679–685.
- Ryan, R. M., Connell, J. P., & Deci, E. L. (1985). Amotivational analysis of self-determination and self-regulation in education. In C. Ames, R. E. Ames (Eds.), *Research on motivation in education: The classroom milieu* (pp. 13–51). New York, NY: Academic.
- Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Ryan, R. M., & Deci, E. L. (2000b). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67.
- Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, 45(4), 736–750.
- Ryan, R. M., Rigby, S., & King, K. (1993). Two types of religious internalization and their relations to religious orientations and mental health. *Journal of Personality and Social Psychology*, 65, 586–596.
- Shafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7(2), 147–177.
- Sharp, E., Caldwell, L. L., Graham, J., & Ridenour, T. (2006). Individual motivation and parental influences of interest in the free time context: A longitudinal examination. *Journal of Youth and Adolescence*, 35(3), 359–372.
- Sheldon, K. M., & Elliot, A. J. (1998). Not all personal goals are personal: Comparing autonomous and controlled reasons as predictors of effort and attainment. *Personality and Social Psychology Bulletin*, 24(5), 546–557.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7(4), 422–445.

- Silbereisen, R. K., & Eyferth, K. (1986). Development as action in context. In R. K. Silbereisen, K. Eyferth, & G. Rudinger (Eds.), *Development as action in context: Problem behavior and normal youth development* (pp. 3–16). Heidelberg, Germany: Springer.
- Smith, E. A., Palen, L., Caldwell, L. L., Flisher, A. J., Graham, J. W., Mathews, C., ... Vergnani, T. (2008). Substance use and sexual risk prevention in Cape Town, South Africa: An evaluation of the Health-Wise program. *Prevention Sciences*, 9(4), 311–321.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology* (pp. 290–312). Washington, DC: American Sociological Association.
- Sobel, M. E. (1986). Some new results on indirect effects and their standard errors in covariance structure models. In N. B. Tuma (Ed.), *Sociological methodology* (pp. 159–186). Washington, DC: American Sociological Association.
- Standage, M., Sebire, S. J., & Loney, T. (2008). Does exercise motivation predict engagement in objectively assessed bouts of moderate-intensity exercise?: A self-determination theory perspective. *Journal of Sport & Exercise Psychology*, 30(4), 337–352.
- Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, 96(3), 506–520.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.
- Van Petegem, S., Beyers, W., Vansteenkiste, M., & Soenens, B. (2012). On the association between adolescent autonomy and psychosocial functioning: Examining decisional independence from a self-determination theory perspective. *Developmental Psychology*, 48(1), 76–88.
- Verma, S., & Larson, R. (Eds.). (2003). *Examining adolescent leisure time across cultures: Developmental opportunities and risks. New directions for child and adolescent development (No. 99)*. San Francisco, CA: Jossey-Bass.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in Experimental Psychology*, 29, 271–360.
- Walker, G. J., Deng, J., & Dieser, R. (2005). Culture, self-construal, and leisure theory and practice. *Journal of Leisure Research*, 37(1), 77–99.
- Waterman, A. S. (2004). Finding someone to be: Studies on the role of intrinsic motivation in identity formation. *Identity*, 4(3), 209–228.
- Wegner, L. (2011). Through the lens of a peer: Understanding leisure boredom and risk behavior in adolescence. *Journal of Occupational Therapy*, 41(1), 18–24.
- Wegner, L., & Magner, I. (2002). Is leisure an occupational concern? Understanding leisure in adolescents. *Paper presented at the 13th World Congress of Occupational Therapists*, Stockholm, Sweden.
- Weybright, E. H., Caldwell, L. L., Ram, N., Smith, E. A., & Wegner, L. (2015). Boredom prone or nothing to do? Distinguishing between trait and state leisure boredom and its association with substance use in South African adolescents. *Leisure Sciences*, 37(4), 311–331.
- Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology*, 70(1), 115–126.

- Wilson, P. M., Blanchard, C. M., Nehl, E., & Baker, F. (2006). Predicting physical activity and outcome expectations in cancer survivors: An application of self-determination theory. *Psycho-Oncology*, *15*(7), 567–578.
- Wissing, M. P., Wissing, J. A. B., du Toit, M. M., & Temane, Q. M. (2006). Patterns of psychological cultural context. In A. D. Fave (Ed.), *Dimensions of well-being: Research and intervention* (pp. 14–33). Milano, Italy: FrancoAngeli.