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# Developmental trajectories of intentional self regulation in adolescence: The role of parenting and implications for positive and problematic outcomes among diverse youth☆

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A B S T R A C T

This study assessed 1574 Grades 5 to 11 youth (63.6% female) from the 4-H Study of Positive Youth Development (PYD), a longitudinal study involving U.S. adolescents, to assess if patterns of intentional self regulation (ISR) existed; whether these trajectories differed in relation to several Grade 5 parenting characteristics; and whether ISR trajectories were linked to positive and negative developmental outcomes at Grade 11. Growth mixture modeling identified a four-group solution of ISR trajectories: Steady Decline, Elevated, Late Onset, and Pronounced Decline. Most adolescents reported an incremental decrease in ISR from Grades 5 to 11 (Steady Decline). Lower levels of parental warmth, monitoring, and school involvement at Grade 5 predicted Late-Onset ISR development while Pronounced Decline adolescents reported lower levels of PYD and Contribution at Grade 11. We discuss the finding that youth at initially similar levels of ISR diverged over adolescence, while youth at initially disparate levels converged.


Intentional self regulation (ISR), which involves the conscious control of goal-directed thought and action, is a fundamental process of human functioning that, due to individual and contextual influences, changes greatly and becomes particularly important for healthy functioning during adolescence (e.g., Gestsdóttir & Lerner, 2008). Given the complexity and diversity among contexts, individual characteristics, and the relationships among individuals and contexts, heterogeneity in the patterns of adolescent ISR development (trajectories) are likely to exist; however, most studies on ISR have taken a variable-centered approach to data analysis, and at least have implicitly assumed sample homogeneity (i.e., the assumption that relationships among variables are invariant across the individuals comprising a sample). In addition, although the family has been identified as a key "developmental asset" (Benson, Scales, Hamilton, & Sesma, 2006) in the ecology of youth and, more specifically, parents have been found to be the most important asset in predicting several positive youth outcomes (e.g., Laursen & Collins, 2009; Lewin-Bizan, Bowers, & Lerner, 2010; Theokas & Lerner, 2006), little research has examined the

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relationship between attributes of parenting and ISR development. Finally, most studies have examined the relations between ISR and negative outcomes (e.g., Brody & Ge, 2001). Some research has linked ISR to both positive and negative outcomes in the short-term (e.g., Gestsdóttir & Lerner, 2007), but evidence of the long-term impact of ISR on both positive and negative outcomes for adolescence is sparse.

To determine the nature of the development of ISR, the present study took a person-centered approach and assessed whether any ISR trajectories were predicted by selected familial and parenting characteristics (socioeconomic status, household structure, maternal warmth, parental monitoring, and parental school involvement) and sex. In addition, we assessed whether these trajectories predicted positive outcomes – positive youth development (PYD) and youth contribution – and negative outcomes – substance use, delinquency, and depression. To achieve these goals, we used data from the 4-H Study of PYD, a national longitudinal study of the individual and contextual resources present in the lives of U.S. youth (e.g., Bowers et al., 2010; Lerner et al., 2005).

### *Intentional self regulation in adolescence*

Evidence from several fields suggests that intentional self-regulatory, or goal-directed, processes become critical to healthy development during adolescence (e.g., Cunha & Heckman, 2007; Freund & Baltes, 2002; Gestsdóttir & Lerner, 2007, 2008; Zimmerman & Martinez-Pons, 1986). Given the myriad of interconnected physiological, physical, cognitive, emotional, and contextual changes in adolescence (Gardner & Steinberg, 2005; Gestsdóttir & Lerner, 2007, 2008; Raffaelli & Crockett, 2003), a young person must effectively use ISR to maximize the adaptive integration of changes in the self and the context.

ISR may be operationalized in several ways (e.g., Brandtstädter & Lerner, 1999). Researchers involved in the 4-H Study of PYD, a longitudinal study of U.S. adolescents, use the selection (S), optimization (O), and compensation (C) (or SOC) model developed by Baltes, Baltes, and colleagues (Baltes, 1997; Baltes & Baltes, 1990; Freund & Baltes, 2002) to conceptualize ISR, and employ a SOC measure developed to index the individual's "contribution" to the mutually beneficial person ← → context relations that occur across the life span. The SOC measure distinguishes between two kinds of selection, *elective selection* and *loss-based selection*. Elective Selection (ES) represents the purposes or goals a young person opts to enact, as well as the construction of a goal hierarchy and the commitment to a set of goals. Loss-based Selection (LBS) involves making an alternative goal choice or restructuring of one's goal hierarchy when an original goal cannot be attained. *Optimization* (O) refers to acquisition and investment of goal-relevant resources (time, effort, recruitment of other people, development of strategies) in order to achieve one's goals. *Compensation* (C) refers to the use of alternative means to maintain a given level of functioning when specific goal-relevant means are no longer available (Baltes, 1997; Freund & Baltes, 2002). Compensatory actions, while seemingly similarly to the actions of LBS, differ in one critical characteristic. Compensatory actions are still enacted in service to the original goal; LBS changes the original goal in some way.

Past research using data from the 4-H Study of PYD has identified the structure of the SOC measure among adolescents ranging, to date, from fifth to tenth grades (e.g., Gestsdóttir & Lerner, 2007; Gestsdóttir, Lewin-Bizan, von Eye, Lerner, & Lerner, 2009; Gestsdóttir, Bowers, von Eye, Napolitano, & Lerner, 2010). In Grades 5 through 7, the SOC construct exists globally (Gestsdóttir & Lerner, 2007; Zimmerman, Phelps, & Lerner, 2007), as opposed to the adult-like structure of three distinct processes. However, reflective of the orthogenetic principle (Werner, 1957), evidence was found for a tripartite, differentiated structure of SOC beginning in the eighth grade as the individual S, O, and C components identified in older populations (Freund & Baltes, 2002) were found in these younger people (Gestsdóttir et al., 2009). In addition, Gestsdóttir and Lerner (2007) reported that global SOC scores correlated positively with PYD and contribution and negatively with problem behaviors, such as substance use and delinquency. Subsequent studies have found that individual SOC components, as well as a global measure of SOC, exhibited concurrent and predictive relations with measures of both healthy and problematic development in early and middle adolescence (e.g., Gestsdóttir et al., 2009, 2010; Zimmerman et al., 2007, 2008).

The reports to date from the 4-H Study have generally assessed SOC structure over no more than three waves of data, and none have used person-centered analysis to examine the development of SOC. There is a lack of information about the long-term relations between SOC and outcomes across adolescence and little understanding of the possible existence of subgroups that show different patterns of the development of these indicators of ISR. As a consequence, the present study examined the development of SOC over seven years of adolescence (Grades 5 to 11) using a person-centered approach. In undertaking this work, we elected to examine SOC using the global, nine-item SOC score first identified in early adolescence (Grades 5 and 6) by Gestsdóttir and Lerner (2007). Despite the structure of SOC becoming more differentiated as youth progress through adolescence (Gestsdóttir et al., 2009, 2010), the nine-item SOC score was predictive of both positive and negative outcomes in older adolescents as well (Gestsdóttir et al., 2009). In fact, the nine-item measure often accounted for slightly more variance in PYD and risk behavior scores that an eighteen-item SOC measure and almost as much variance as a model that included all three individual SOC components (Gestsdóttir et al., 2009). Therefore, to assess whether varied pathways of SOC development exist from the beginning of early adolescence to the end of middle adolescence, the nine-item global measure was used.

### *A person-centered approach to intentional self regulation*

The PYD perspective focuses on the strengths of all youth and on how thriving can be promoted by aligning youth strengths with ecological developmental assets (Benson et al., 2006; Larson, 2000; Lerner, Phelps, Forman, & Bowers, 2009). Although several versions of the PYD perspective exist (see Lerner et al., 2009; Lerner et al., in press, for a review), most