



HHS Public Access

Author manuscript

Int J Adolesc Med Health. Author manuscript; available in PMC 2016 April 11.

Published in final edited form as:

Int J Adolesc Med Health. 2014 ; 26(4): 459–468. doi:10.1515/ijamh-2013-0333.

Future Orientation: A Construct with Implications for Adolescent Health and Wellbeing

Sarah Lindstrom Johnson¹, Robert W Blum², and Tina L. Cheng^{1,2}

¹Department of Pediatrics, Johns Hopkins University School of Medicine, Baltimore, MD

²Department of Population, Family and Reproductive Health, Bloomberg School of Public Health, Baltimore, MD

Abstract

Multi-disciplinary research has supported a relationship between adolescent future orientation (the ability to set future goals and plans) and positive adolescent health and development outcomes. Many preventive strategies—for example contracepting, exercising—are based on taking actions in the present to avoid unwanted or negative future consequences. However, research has been hampered by unclear and often divergent conceptualizations of the future orientation construct. The present paper aims to integrate previous conceptual and operational definitions into a conceptual framework that can inform programs and services for youth and efforts to evaluate future orientation as a target for intervention. Recommendations focus on furthering the study of the construct through measurement synthesis as well as studies of the normative development of future orientation. Also suggested is the need to pair environmental intervention strategies with individual level efforts to improve future orientation in order to maximize benefits.

Keywords

Adolescent Development; Future; Risk Reduction Behavior; Employment; Educational Status

Adolescence is a period of immense change as a child transforms into an adult physically, cognitively, and socially (1). Physically, hormones released during puberty trigger the biological changes necessary for reproduction. Cognitively, adolescence represents an important time of brain development with extensive maturation of both cognitive and emotional systems. Socially, adolescence represents a time of increasing independence, with adolescents gaining increasing autonomy from their parents both in terms of emotional distance and decision-making. While these changes are necessary to transition to adulthood, they also have been cited as potential explanations for the concurrent rise in involvement in some risk behaviors that occurs during adolescence (2). Further, some have suggested that a focus on the present, rather than the future, makes adolescents more likely to make choices that have a negative impact on their long-term health and wellbeing (3).

In this paper we propose the construct of future orientation as a way of understanding adolescent risk-taking in the context of life history and social contextual influences; we will review the literature on future orientation, compare conceptualizations of the construct, and explore the theoretical underpinnings so as to draw implications for health promotion programs and services to adolescents. Given that many health promotion as well as risk prevention strategies are predicated on a young person's beliefs about the future and ability to plan, a developmental understanding of how such future orientation develops across adolescence is critical for effective programs and services.

Definition of Future Orientation

Future orientation is an important component of identity development. Identity has been defined as "a self-produced personality organization achieved by integrating the self in time and social settings" (4). Focusing on the time component, identity development can be thought of as the integration of the past and present self with the future self (5). The ability to envision a future self is the culmination of a process of understanding time that begins at birth and progresses through childhood and adolescence (6).

Adolescents envision multiple aspects of their future self: educational goals, family characteristics, career aspirations, health status, and life benchmarks (e.g., buying a house). A greater future orientation indicates that an adolescent has clearer goals, a better planning ability, and a stronger ability to overcome obstacles to their future. The power of future orientation to influence adolescent behavior is based on expectancy-value theory, which posits that individuals modify current behavior based on their judgment of future outcomes (7) and specifically: (1) how much one values an outcome and (2) the likelihood of the outcome occurring. Research has linked greater future orientation with improved health and educational outcomes such as reduced drug use, less sexual risk taking behaviors, lower violence involvement, and improved educational and vocational outcomes (3,4,8,9). For example, Borowsky and colleagues (2009) (8) (8) used a nationally representative longitudinal sample and found perceived early fatality was related to police arrest (OR 1.26; $p < .05$) and an HIV diagnosis (OR 7.13; $p < .001$) 5 years later.

Additionally, orientation to the future has been identified as an important predictor of adolescents' ability to overcome adverse environments (10). Some research has also suggested that a positive outlook towards the future may moderate the effectiveness of interventions for high-risk youth (11).

Influences on Future Orientation

While there is evidence that future orientation is associated with positive health outcomes, there is limited research on what influences the development of future orientation. As a developmental process, it is expected that future orientation becomes greater with age (12). Studies have shown that older adolescents have greater future orientation, as measured by a lower indifference point for delay discounting measures (13) less likelihood of fatalistic beliefs (8), and self-reports of greater motivation, time perspective, and planning (13,14). Studies have shown more mixed results by gender, partially dependent on the measure of future orientation utilized (4). Measures that take a thematic approach to future orientation,

asking adolescents to comment separately on their beliefs and planning related to family versus career, tend to find that girls have a stronger future orientation towards family, whereas boys have a stronger future orientation towards career (12,15). Studies that measure future orientation more generically have tended to find that girls have a stronger future orientation as measured by a lower likelihood of fatalistic beliefs (8) and higher self-reports of motivation, time perspective, and planning (13,16,17).

Studies have also shown that measures of socioeconomic status are related to adolescents' future orientation (12). For example, receiving public assistance as well as higher neighborhood poverty have been associated with a significant increase in adolescents' holding fatalistic attitudes (8,18). Studies of adults have found higher educational achievement and occupational status to be related to higher scores on the future time perspective scale, indicating a greater future orientation (19). Similarly for adolescents, parental levels of educational achievement have been associated with greater educational and career orientation (14). Fewer studies have examined the impact of race on future orientation or unpacked the differential effects of race and socioeconomic status. Studies have shown that African-American adolescents and Hispanics hold more fatalistic attitudes (8,20,21) and that African-American adolescents have a lower indifference point in measures of delay discounting (13) compared to Caucasian youth. A study of rural African-American youth found racial identity to be an important determinant of planning for the future (17). However, Kao and Tienda (1998) (22) have found that parental educational status more consistently and strongly predicted adolescents' college aspirations than did race.

Parenting has been found to be consistently associated with adolescents' future orientation. Perceived parental acceptance and autonomy granting has been associated with adolescents' motivation to engage in future thoughts and behaviors (23). Maternal attachment security has been related to adolescents' self-efficacy and motivation to engage in future thought, but not their future planning or decision-making process (24). Other studies have not found a role for parental warmth or demandingness, but have found more proximally related parenting variables, such as parental involvement, parental socialization (about future careers), and parental support to be predictive of a stronger future orientation (25). The lack of information about the influences on future orientation is notable since psychology, sociology, and public health all consider future orientation an important determinant of behavior.

Perspectives on Future Orientation and their Relationship to Adolescent Health and Wellbeing

Table 1 presents various constructs that have been utilized to measure a concept related to our definition of future orientation. These constructs are explained below including evidence highlighting their relationship with adolescent health and wellbeing.

Future Orientation

The origin of the term future orientation and some of the original seminal work on this construct was conducted by developmental psychologists in the 1980's (12,26). The original

conceptualization of the construct included both *cognitive* and *motivational/affective* aspects of future orientation (26). Cognition, or the amount of thought about the future, has been conceptualized both as the amount of time extension into the future as well as the frequency or saliency of thoughts about the future (25,26). The motivational/affective aspect of future orientation refers both to adolescents' future expectancies as well as their belief in their control over future events (4,14,27). Some literature has begun to link these components and has shown that motivation affects cognition, which then influences behaviors, such as information seeking (23,28). Using this conceptualization researchers have primarily been concerned with measuring the process of future orientation and the interrelationships between the cognitive and motivational/affective components (12).

Time Perspective

Another conceptualization considers future orientation as just one component of a time perspective. Time perspective is considered to be a trait, with individuals classified as past positive, past negative, present hedonistic, present fatalism, future, and transcendental future (29). Researchers using this framework have demonstrated that a focus on the past is associated with adverse mental health outcomes, the present with risk-taking, and the future with conscientiousness, planning, and consideration for future consequences (29). Studies have shown that adolescents greater in future time perspective demonstrate greater academic achievement (30). An intervention to improve future time perspective improved attitudes towards career planning, but not the quality of the students' planning outcomes (31).

Hope and Optimism

Another dimension of future orientation is hope defined as: "overall perception that one's goals can be met" (32). However, hope has been primarily measured globally without specific reference to goals (33). Most measurements of hope ask instead for appraisals of wellbeing and resourcefulness (27,32). Higher levels of hope in adolescents have been associated with lower levels of externalizing behaviors and less likelihood of violence involvement(34,35) They also have been associated with higher levels of academic achievement among African-Americans (30). Optimism, while related to hope, tends to be conceptualized more broadly and is not considered to be context specific (36). Optimism is usually measured along with its counterpart, pessimism, with items tapping general expectancies for the future (37). Optimism is considered a trait with high levels of stability over time (38). Adolescent optimism has been associated with a wide range of outcomes including improved healthcare seeking behaviors and lower levels of substance use, obesity, and depression (39-41).

Possible Selves

A similar construct to hope, in that it envisions oneself in the future, is the existence of possible selves. *Possible selves* are defined as positive and negative images of the self in a future state (42). Possible selves are a part of the process of identity formation for adolescents, and represent a "trying on" of identity. Individuals who have achieved identity commitment demonstrate more consistent possible selves (43). Possible selves are thought to motivate behavior; for example more academic possible selves have been shown to influence adolescent self-regulatory behaviors including improved academic practices (i.e., homework

and initiative) and reduced disruptive behavior in class (44). An intervention focused on making academic possible selves salient and relevant for urban youth demonstrated improvements in school absences, students' GPA, and a reduction in depression (44).

Career prospects

Some conceptualizations are focused on a more specific aspect of youths' future, their career prospects (45). Two commonly studied constructs include vocational identity and career maturity. Vocational identity refers to the clarity of adolescents' pictures of their goals, interests, and talents (46). Vocational identity is acquired through a process of career exploration. Career maturity measures the success of career exploration. Career maturity has been defined as "the extent to which an individual has acquired the necessary knowledge and skills to make intelligent, realistic career choices" (47). Much of the literature has focused on the interrelationships between these two constructs. In studies, vocational identity has been found to encourage career exploration and therefore enhance career maturity for African-American youth (9,48). Other literature focusing on youths' pessimism about future employment and cynicism about work has found longitudinal impacts of a parental work support program (49,50).

Delay Discounting

Pre-frontal lobe maturation and specifically the maturation of the amygdala and cingulate gyrus is critical for reward and punishment responsiveness, response inhibition and maturation of systems that undergird planning and adolescent perceptions of time and value. Studies attempting to link brain changes to behavioral changes have used measures such as *delay discounting*, which assesses the extent to which a participant prefers an immediate reward of less value to a delayed reward of more value. Recent work has demonstrated a role for impulsivity as well as future orientation in explaining differences in delay discounting with individuals high in measures of future orientation (comprised of questions assessing time perspective, anticipation of future consequences, and planning ahead) demonstrating a greater ability to delay gratification (13,16).

Fatalism and Hopelessness

A common way for studies interested in health outcomes to measure future orientation is by assessing adolescents' perceived risk of dying at an uncommonly young age. Studies using this conceptualization have found that a substantial number of adolescents greatly overestimate their mortality (8,51,52). Greater fatalism has been associated with poorer mental health status, increased exposure to violence, involvement in risk behaviors, and poorer connection to parents, schools, and the neighborhood (51,52). Longitudinally, increased fatalism has been associated with increased likelihood of suicide attempt, involvement in violence, police arrest, unsafe sexual activity, and an HIV diagnosis (8). A related construct to fatalism may be hopelessness, representing negative expectations towards the future (53). Studies have linked adolescent levels of hopelessness with higher levels of suicidality, (e.g., thoughts and attempts), engagement in violence, substance use, pregnancy, and accidental injury (54,55).

Belief in the Future

Another conceptualization of future orientation comes from the positive youth development literature. This literature defines belief in the future as the internalization of hope and optimism linked to long-range goal setting (56). A review of positive youth development programs found that 50% of programs identified named increasing adolescents' belief in the future as a program goal (56). A systematic review of the literature found belief in the future to be predictive of contraceptive use (57). In the same study, Gloppen, David-Ferndon, and Bates (2010) report that most studies operationalized belief in the future as the extent of educational aspirations. Operationalized in this manner (e.g., educational aspirations) studies have linked future orientation with decreases in violent behavior, drug use, pregnancy history, and improvements in mental health (58,59). A recent study attempting to understand the relationships between future expectations and planning behaviors found reciprocal influences between the two constructs, with both having a positive effect on positive youth development outcomes (60).

Conceptual Framework

What we see from the above review of the literature is that there is a wide diversity of constructs that relate to future orientation. But what is missing is any conceptual framework that brings these multiple components together and details their collective influence on adolescent health and wellbeing. Figure 1 presents such a conceptual framework and also attempts to situate the development of future orientation in the context of life history and socio-cultural influences. This figure depicts future orientation as a construct, comprised of three component parts (e.g., expectations, aspirations, and planning), that develops across the lifespan and is influenced by early life experiences as well as individual and environmental determinants. Additionally, the figure acknowledges the complex interplay between attributes of the environment, attributes of the individual, future orientation, and the successful transition to adulthood. The model is grounded in developmental systems theory that views individuals and the environment exerting mutually influential relationships (61,62).

While the majority of conceptualizations of future orientation have shown positive associations with adolescent health and development, it is not necessarily evident that the various measures are tapping into the same construct. Our overview of the various conceptualizations of future orientation suggests that future orientation is best represented by three factors: expectations, aspirations, and planning. Expectations capture an adolescent's impression of what the future will hold (e.g., hope, fatalism), whereas aspirations capture the adolescent's intentions for the future (e.g., possible selves, vocational identity). Planning assesses an adolescent's awareness and ability to create a program of action to achieve their aspirations (e.g., time perspective and delay discounting).

Figure 1 also highlights the influence of life history and socio-cultural factors in the development of future orientation. In particular, adolescents' judgments about how much they value an outcome and the likelihood of an outcome occurring are influenced by both individual attributes (labeled as competencies in our model) and environmental influences (labeled as opportunities and constraints in our model) (7). For example, how much an

adolescents' future orientation includes college attendance is predicted by the importance of college graduation to their self-concept, the norms of behavior that they have been exposed (e.g., neighborhood college attendance rates) as well as macro-level factors such as financial aid policies. When an outcome is not particularly salient to an individual's self-concept, context plays a greater role in determining its valuation (2). Extrinsic experiences may also shape the perception of the likelihood of an event occurring. Adolescents whose lives have no predictability and who have consistently experienced events out of their control may be conditioned to have lower self-efficacy (63). These individuals are also more likely to attribute negative life consequences as outside of their control and due to the influence of others or chance, and have what has been termed a pessimistic explanatory style (64).

In addition, normative changes in the adolescent brain, including maturation of cognitive control systems and their integration with the limbic system, may influence future orientation. Second to the time shortly after birth, adolescence represents the most active time in brain reorganization (65,66). Hormonal changes around the time of puberty influence sensitivity to risky and rewarding stimuli and the ability to delay gratification. Simultaneously, the pre-frontal cortex, responsible for *executive function* such as planning, working memory, impulse control, and attention is becoming more efficient. The differing rate of development of these two systems, with the maturation of the socio-emotional network preceding the maturation of the cognitive control network results in a "maturity gap" (3,65).

This conceptual framework emphasizes the importance of an individual's developmental context in the determination of future orientation. This is in contrast to other seminal models of future orientation (e.g., Seginer, Nurmi, & Poole's Three Component Model of Future Orientation and Nurmi's Three Processes Model of Future Orientation), which focus more on processes and behaviors inherent within the individual (4,12). Nurmi's model does include a social context component; however unlike our model, which hypothesizes that the environment provides opportunities and constraints for the development of future orientation, in his model social context is discussed in terms of the backdrop through which normative expectations about and behaviors toward the futures are developed (12). Through our explicit inclusion of environmental determination, multi-level intervention points through which to improve future orientation are highlighted.

An additional novel aspect of our conceptual framework is the explicit inclusion of risk and protective behaviors as a mediating pathway through which a successful transition to adulthood is established. This is most similar to Seginer's inclusion of a behavioral component in her model, measured by an individual's exploration and commitment to future options. In our model we broaden the types of behaviors that could be influenced by future orientation to include health behaviors (4). This supports a more holistic approach to understanding the influence of future orientation on adolescent risk and promotive behaviors. It also suggests another mechanism through which adverse developmental and environmental influences may contribute to health disparities.

Future Directions

The multidisciplinary interest in future orientation highlights the potential value of this construct for adolescent wellbeing, in particular the promotion of successful transition to adulthood. While the diversity of measures of future orientation make understanding its impact more difficult, it is clear that future orientation is a construct with important implications for adolescent health and development. To date, however, there has been limited research linking this construct with development or environmental influences. These influences represent possible intervention points upon which to act so as to positively impact adolescents' future orientation, in turn potentially impacting involvement in risk behaviors and promoting the acquisition of developmentally appropriate skills.

Implications For Research

Future orientation seems to be best understood as a latent construct, for which the various measurement strategies assess different aspects of the construct. From our review of the various measurement strategies, we identified three factors commonly assessed across disciplines: expectations, aspirations, and planning. Most measures only capture one domain. Thus, there is a need for research that measures multiple aspects of the construct and assesses the pathways through which each aspect influences adolescent health and wellbeing.

Additionally, while most measures of future orientation are collected by questionnaire, some are open-ended responses (e.g., possible selves), and others are task-based measures (e.g., delay discounting). Survey and open-ended responses may suffer from social desirability bias as adolescents are aware of socially accepted future outcomes. Adolescents also tend to be overly optimistic in their evaluation of the likelihood of education and vocational outcomes (2). For example, a national study of adolescent sophomores found that 72% of students expected to get a bachelor's degree (67). The one exception to this optimism is that adolescents also tend to overestimate their mortality. In a nationally representative sample 15% of adolescents believe that there is a high likelihood that they will not live to age 35 (8); perceptions of fatalism have been related to involvement in risk behaviors and exposure to threats to survival suggesting that certain groups may disproportionately lack faith in their future due to situational experiences (e.g., exposure to violence) (8,52). Studies have also questioned the validity of task-based measures of future orientation (i.e. delay discounting), as there may be practical not just developmental reasons for evaluating the value of goods differently at different times (2). Some of these reasons may be tied to poverty or immediate needs. Researchers need to be cognizant of limitations such as these in the various measures of future orientation and take steps to minimize the impact on their findings potentially by triangulating using multiple measure of future orientation.

Additionally, more longitudinal research is needed in order to distinguish between normal and abnormal trajectories of future orientation development. Future developmental research needs to understand the contexts that influence future orientation and not simply to assume a common context for all respondents. Qualitative studies may also provide insight into how opportunities and constraints present in an environment influence adolescents' future

thoughts and behaviors. These studies can provide insight into whether future orientation operates as a mediator or moderator for risk behavior involvement, particularly in high-risk communities.

Implications for Policy and Practice

These studies have practical importance as they can provide insight into appropriate intervention targets. Efforts to modify the environment have traditionally focused on improving school quality particularly for the lowest income students (e.g., Race to the Top) as well as reducing the financial barriers to college attendance (e.g., Pell Grants). A recent study highlights the care that needs to be taken in designing school improvement initiatives, as students with low future orientation exhibited more problem behavior in schools' with higher levels of aggregate future orientation (68). Additionally, findings of a randomized controlled trial of college-going students who received additional financial aid have found mixed effects, with no impact on continued college attendance, but a positive effect on number of credits taken (69).

Efforts to modify exogenous influences on future orientation have mostly been at the national level, whereas efforts to modify endogenous influences on future orientation have been more programmatic. Many youth development programs aim to expose youth to possible futures and support college and vocational aspirations (e.g., 4-H, Boy/Girl Scouts). Unfortunately, as one practitioner has noted, many positive youth development programs struggle to “support skills that are essential for aspirational growth” (70). One of the difficulties for these programs is how to address the realities of youth from tough urban neighborhoods. For some of these youth, the creation of a positive future orientation sometimes can be a “false future”, if they do not have the resources (e.g., financial, academic) to accomplish it. This may explain findings that increased income generated as a result of a parental work support program were related to a decreased likelihood of career preparation (50). This also demonstrates that determinants of future educational and vocational success are broader than resources, and highlights the importance of future orientation as a possible mechanism through which socio-economic status influences the successful transition to adulthood in adolescence. The above discussion highlights the need to take a developmental systems perspective (61,62) to intervention development and simultaneously address environmental and individual influences on future orientation.

For example, the national rhetoric has focused on encouraging college attendance, defined as at least one year of formal education beyond high school (71). However, while this may encourage aspirations or expectations towards college attendance, the reality is that college tuition has been rising and additional funding for increased community college infrastructure has yet to be approved (72,73). Additionally, the current ratio of one counselor for 460 students far exceeds the recommended ratio, making planning for college more difficult, particularly for low-income students and first generation college students (74). These realities highlight the importance for policies and programs to focus not just on encouraging aspirations and normalizing exceptions, but on addressing the planning aspect, which may be most influenced by environment constraints and individual competencies.

Conclusion

Nurmi states that, “Orientation to the future is a complex and multistage process that must be conceptualized in relational terms which simultaneously refers to person-related and contextual properties” (12). Unfortunately almost two decades later while we have progressed in our understanding of the potential implications of future orientation for adolescent health and wellbeing, less work has been done to understand the various mechanisms through which future orientation impacts health and to understand the individual and environmental determinants of future orientation. This understanding is critical to inform the design of interventions to help adolescents improve their future orientation. These interventions may hold special promise for vulnerable adolescents’, those most likely to not successfully transition to adulthood.

Understanding and improving future orientation is critical as a majority of health related interventions are based on the assumption that an individual believes in and desires a healthy future. In order to not engage in an activity that provides immediate reward, adolescents need to believe that the payoffs of delaying are greater than the current value of the reward. Therefore, many of the current interventions to reduce adolescent involvement in risk behavior focus on “selling” the potential negative consequences of a behavior for both future health and future goals. However, implicit in these interventions is the notion that an adolescent believes in and hopes for a positive future. Improving an adolescent’s future orientation therefore has the potential to improve the effectiveness of current risk behavior interventions as well as promote a successful transition to adulthood.

References

1. DiClemente, R.J.; Santelli, J.S.; Crosby, R.A., editors. Adolescent health: Understanding and preventing risk behaviors. San Francisco, CA: Jossey-Bass; 2009.
2. Fischhoff B. Assessing adolescent decision-making competence. *Dev Rev.* 2008;28:12–28.
3. Steinberg L. A social neuroscience perspective on adolescent risk-taking. *Dev Rev.* 2008; 28(1):78–106. [PubMed: 18509515]
4. Seginer, R. Future orientation: Developmental and ecological perspective. New York: Springer; 2009.
5. Erickson, E.H. Identity: Youth and crisis. New York: Norton; 1968.
6. Piaget, J. The child’s conception of time. New York: Ballantine Books; 1971.
7. Wigfield A, Eccles JS. Expectancy-value theory of achievement motivation. *Contemp Educ Psychol.* 2000; 25:68–81. [PubMed: 10620382]
8. Borowsky IW, Ireland M, Resnick MD. Health status and behavioral outcomes for youth who anticipate a high likelihood of early death. *Pediatrics.* 2009; 124(1):81–88.
9. Gushue GV, Scanlan KLR, Pantzer KM, Clarke CP. The relationship of career decision-making self-efficacy, vocational identity, and career exploration behavior in African-American high school students. *J Career Dev.* 2006; 33(1):19–28.
10. Ostaszewski K, Zimmerman MA. The effects of cumulative risk and promotive Factors on urban adolescent alcohol and other drug use: A longitudinal study of resiliency. *Am J Comm Psychol* 2006. 2006; 38:237–249.
11. Schmiege SJ, Feldstein Ewing SW, Hendershot CS, Bryan AD. Positive outlook as a moderator of the effectiveness of an HIV/STI intervention with adolescents in detention. *Health Educ Res.* 2011; 26(3):432–442. [PubMed: 20926554]

12. Nurmi J. How do adolescents see their future? A review of the development of future orientation and planning. *Dev Rev.* 1991; 11(1):1–59.
13. Steinberg L, O'Brien L, Cauffman E, Graham S, Woolard J, Banich M. Age differences in future orientation and delay discounting. *Child Dev.* 2009; 80(1):28–44. [PubMed: 19236391]
14. Kerpelman JL, Mosher LS. Rural African American adolescents' future orientation: The importance of self-efficacy, control, and responsibility and identity development: *Identity.* 2004; 4(2):187–208.
15. Seginer R, Halabi-Kheir H. Adolescent passage to adulthood: Future orientation in the context of culture, age, and gender. *Int J Intercult Rel.* 1998; 22:309–328.
16. Romer D, Duckworth AL, Sznitman S, Park S. Can adolescents learn self-control? Delay of gratification in the development of control over risk-taking. *Prev Sci.* 2010; 11(3):319–330. [PubMed: 20306298]
17. Kerpelman JL, Eryigit S, Stephens CJ. African American adolescent's future education orientation: Associations with self-efficacy, ethnic identity and perceived parental support. *J Youth Adolesc.* 2008; 37:997–1008.
18. Nguyen QC, Hussey JM, Halper CT, Villaveces A, Marshall SW, Siddiqi A, et al. Adolescent expectations of early death predict adult socio-economic status. *Soc Sci Med.* 2012; 74:1452–1460. [PubMed: 22405687]
19. Guthrie LC, Butler SC, Ward MW. Time perspective and socio-economic status: A link to socioeconomic disparities in health. *Soc Sci Med.* 2009; 68(12):2145–2151. [PubMed: 19394738]
20. Jamieson PE, Romer D. Unrealistic fatalism in U.S. youth ages 14–22: Prevalence and characteristics. *J Adolescent Health.* 2008; 42:154–160.
21. Davis M, Niebes-Davis AJ. Ethnic differences and influences of perceived future certainty on adolescent and young adult sexual health knowledge and attitudes. *Health Risk Soc.* 2010; 12(2): 149.
22. Kao G, Tienda M. Educational aspirations of youth. *Am J Educ.* 1998; 106:349–384.
23. Seginer R, Vermulst A, Shoyer S. The indirect link between perceived parenting and adolescent future orientation: A multiple-step model. *Int J Beh Dev.* 2004; 28(4):365–378.
24. Germeijs V, Verschueren K. Adolescents' career decision-making process: Related to quality of attachment to parents. *J Res Adolescence.* 2009; 19(3):459–483.
25. McCabe K, Barnett D. First comes work, then comes marriage: Future orientation among African American young adolescents. *Fam Relat.* 2000; 49(1):63–70.
26. Trommsdorff G. Future orientation and socialization. *International Journal of Psychology.* 1983; 18:381–406.
27. Wyman PA, Cowen EL, Work WC, Kerley JH. The role of children's future expectation in self-system functioning and adjustment to life stress: A prospective study of urban at-risk children. *Dev Psychopathol.* 1993; 5:649–661.
28. Seginer R. Future orientation in times of threat and challenge: How resilient adolescents construct their future. *Int J Beh Dev.* 2008; 32:272–282.
29. Zimbardo PG, Boyd JN. Putting time in perspective: A valid, reliable individual-differences metric. *J Pers Soc Psychol.* 1999; 77(6):1271–1288.
30. Adelabu DH. Future time perspective, hope, and ethnic identity among African American adolescents. *Urban Educ.* 2008; 43:347–360.
31. Marko KW, Savickas ML. Effectiveness of a career time perspective intervention. *J Voc Beh.* 1998; 52:106–119.
32. Snyder CR, Hoza B, Pelham WE, Rapoff M, Ware L, Danovsky M, et al. The development and validation of the Children's Hope Scale. *J Ped Psychol.* 1997; 22(3):399–421.
33. Schmid KL, Lopez S. Positive pathways to adulthood: The role of hope in adolescents' constructions of their futures. *Adv Child Dev Beh.* 2011; 41:69–88.
34. Stoddard SA, McMorris MJ, Sieving ME. Do school connections and hope matter in predicting early adolescent violence? *Am J Commun Psychol.* 2011; 48(3-4):247–256.
35. Valle MF, Huebner S, Suldo SM. Further evaluation of the Children's Hope Scale. *Journal of Psychoeducational Assessment.* 2004; 22(4):320–327.

36. Snyder CR, Feldman DB, Taylor JD, Schroeder LL, Adams VH. The roles of hopeful thinking in preventing problems and enhancing strengths. *App Prev Psychol.* 2000; 9:249–270.
37. Scheier MF, Carver CS. Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology.* 1985; 4(3):219. [PubMed: 4029106]
38. Carver CS, Scheier MF, Segerstrom SC. Optimism. *Clin Psychol Rev.* 2010; 30:879–889. [PubMed: 20170998]
39. Jones T, DaMore M, Cohen LL, O’Connell C, Jones D. Childhood healthcare experience, healthcare attitudes and optimism as predictors of adolescents’ healthcare behavior. *J Clin Psychol Med Settings.* 2008; 15:234–240. [PubMed: 19104968]
40. Khuller D, Oreskovic NM, Perrin JM, Goodman E. Optimism and the socioeconomic status gradient in adolescent adiposity. *J Ad Health.* 2011:553–555.
41. Patton GC, Tollit MM, Romaniuk H, Spence S, Sheffield J, Sawyer MG. A prospective study on the effects of optimism on adolescent health risks. *Pediatrics.* 2011; 127:308–316. [PubMed: 21220404]
42. Markus H, Nurius P. Possible Selves. *Am Psychol.* 1986; 41(9):954.
43. Dunkel CS, Anthis KS. The role of possible selves in identity formation: A short-term longitudinal study. *J Adolesc.* 2001; 24:765–776. [PubMed: 11790056]
44. Osyerman D, Bybee D, Terry K. Possible Selves and academic outcomes: How and when Possible Selves impel action. *J Pers Soc Psychol.* 2006; 91(1):188–204. [PubMed: 16834488]
45. Vondracek FW. The developmental perspective in vocational psychology. *J Vocat Behav.* 2001; 59(2):252–261.
46. Holland, JL.; Daiger, DC.; Power, PG. *My Vocational Situation: Description of an experimental form for the selection of vocational assistance.* Palo Alto, CA: Consulting Psychologists Press; 1980.
47. Levinson EM, Ohler DL, Caswell S, Kiewra K. Six approaches to the assessment of career maturity. *J Couns Dev.* 1998; 76(4):475–482.
48. Ladany N, Melincoff DS, Constantine MG, Love R. At-risk urban high school students commitment to career choices. *J Couns Dev.* 1997; 76(1):45–76.
49. McLloyd VC, Kaplan R, Purtell KM, Huston AL. Assessing the effects of a work-based antipoverty program for parents on youth’s future orientation and employment experiences. *Child Dev.* 2011; 82:113–132. [PubMed: 21291432]
50. Purtell KM, McLloyd VC. Parents’ participation in a work-based anti-poverty program can enhance their children’s future orientation: Understanding pathways of influence. *J Youth Adolesc.* 2013; 42:777–791. [PubMed: 22878938]
51. Duke NN, Skay CL, Pettingell SL, Borowsky IW. Adolescent perception of premature risk for death: Contributions from individual and environmental contextual factors. *Acad Pedia.* 2009; 9(4):256–262.
52. Fischhoff B, Bruine de Bruin W, Parker AM, Millstein SG, Halpern-Felsher BL. Adolescents’ perceived risk of dying. *J Ad Health.* 2009; 46(3):265–269.
53. Kazdin AE, Rodgers A, Colbus D. The Hopelessness Scale for Children: Psychometric characteristics and concurrent validity. *J Consult Clin Psychol.* 1986; 54(2):241–245. [PubMed: 3700812]
54. Bolland. Hopelessness and risk behaviour among adolescents living in high-poverty intercity neighbourhoods. *J Adolesc.* 2003; 26:145–158. [PubMed: 12581723]
55. Stewart SM, Kennard BD, Lee PWH, Mayes T, Huges C, Emslie G. Hopelessness and suicidal ideation among adolescents in two cultures. *J Child Psychol Psych.* 2005; 46(4):364–372.
56. Catalano RF, Bergund ML, Ryan JAM, Lonczak HS, Hawkins JD. Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Ann Amer Aca Polit Soc Sci.* 2004; 591:98–124.
57. Gloppen KM, David-Ferndon C, Bates J. Confidence as a predictor of sexual and reproductive health outcomes for youth. *J Adolesc Health.* 2010; 46(3S):S42–S58. [PubMed: 20172459]
58. Aspy CB, Oman RF, Vesely SK, McLeroy K, Rodine S, Marshall L. Adolescent violence: The protective effects of youth assets. *J Couns Dev.* 2004; 82:268–276.

59. Fors SW, Crepaz N, Hayes DM. Key factors that protect against health risks in youth: further evidence. *Am J Health Behav.* 1999; 23(5):368–380.
60. Schmid KL, Phelps E, Lerner RM. Constructing positive futures: Modeling the relationship between adolescents' hopeful future expectations and intentional self regulation in predicting positive youth development. *J Adolesc* 2011. 2011; 34:1127–1135.
61. Lerner, RM. *Liberty: Thriving and civic engagement among American youth.* Thousand Oaks, CA: Sage; 2004.
62. Overton, WF. Life-span development: concepts and issues. In: Lerner, RM., editor. *The handbook of adolescent psychology.* 2. Hoboken, NJ: Wiley; 2010.
63. Bandura, A. *Social Learning Theory.* 1. New York: General Learning Press; 1977.
64. Buchanan, GM.; Seligman, MEP., editors. *Explanatory Style.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc; 1995.
65. Casey BJ, Jones RM, Hare TA. The adolescent brain. *Ann NY Acad Sci.* 2008; 2008(1124):111–126. [PubMed: 18400927]
66. Giedd JN. The teen brain: Insights from neuroimaging. *J Adolesc Health.* 2008; 32:335–343. [PubMed: 18346658]
67. Ingels SJ, Burns LJ, Charleston S, Chen X, Cattaldi EF, Owings J. A profile of the American high school sophomore in 2002. *NCES 2005.* 2005; 338:1–392.
68. Chen P, Vazsonyi AT. Future orientation, school contexts, and problem behavior: A multi-level study. *Journal of Youth and Adolescence.* 2013; 42:67–81. [PubMed: 22760994]
69. Goldrick-Rab S, Harris DN, Benson J, Kelchen R. Conditional cash transfers and college persistence: evidence from a randomized need-based grants program. 2011:1393–11.
70. Gray CW. A practioner's view: Invited commentary. *J Adolesc.* 2011; 34:1221–1223. [PubMed: 21868082]
71. U.S. Department of Education. *U.S. Department of Education strategic plan for fiscal years 2011-2014.* 2010
72. Collegeboard. [December 12, 2013] Average rate of growth of published charges by decade. Available at: <http://trends.collegeboard.org/college-pricing/figures-tables/average-rates-growth-tuition-and-fees-over-time>
73. Inside Higher Ed. [December 12, 2013] The old community college try. 2013. Available at: <http://www.insidehighered.com/news/2013/07/31/obama-again-proposes-new-monty-job-training-community-colleges>
74. American School Counselor Association. [June 15, 2010] 2007-2008 student to school counselor ratios. Available at: <http://www.schoolcounselor.org/files/Ratios2007-2008.pdf>

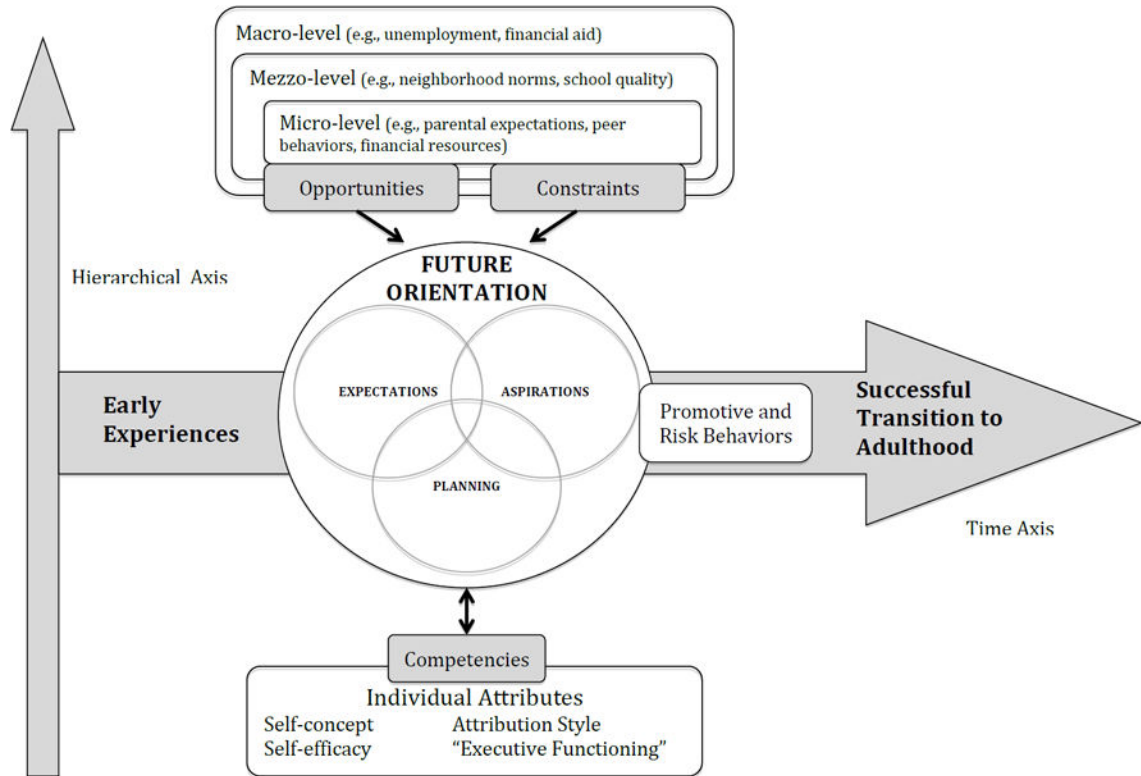


Figure 1.
Conceptual Framework

TABLE 1

Operationalization and Measurement of Future Orientation

Construct Name	Definition of Construct	Measurement Design	Example Measurement	Citations
Future Orientation	A process through which future related behaviors are influenced by both cognitive and motivational/affective factors	Survey	Considering the materialization of my career plans, I am optimistic. What feelings are aroused when you think of your future? How often do you think about or plan your future?	Kerpelman & Mosher, 2004 McCabe & Barnett, 2000 Nurmi, 1991 Seginer, 2010 * Trommsdorff, 1983 Wyman et al., 1993 Adelabu, 2008
Time Perspective	Beliefs, preferences, and values about the past, present, and future	Survey	I am able to resist temptations when I know that there is work to be done. I complete projects on time by making steady progress.	Marko & Savickas, 1998 Zimbardo & Boyd, 1999 *
Hope	Sense of successful agency (motivation) and pathways (planning) to accomplish goals ⁴	Survey	I can think of many ways to get the things in life that are most important to me How sure are you that you will have a happy life	Adelabu, 2008 Snyder et al., 1997 *
Optimism	Dispositional tendency to have positive expectations for the future	Survey	In certain times, I usually expect the best I always look on the bright side of things	Wyman et al., 1993 * Jones et al., 2010 *
Possible Selves	Positive or negative images of the self in a future state	Open-ended questionnaire	Next year, I expect to be... Next year, I want to avoid...	Khullar et al., 2011 Patton et al., 2011
Vocational Identity	A clear picture of one's goals, interests, and talents	Survey	I am concerned that my present interests may change over the years. I don't know what my strengths and weaknesses are.	Dunkel & Anthis, 2001 Oyserman et al., 2006 *
Career Maturity	Readiness to make appropriate, informed decisions about ones career	Survey	If someone would tell me which occupation to enter, I would feel better. I seldom think about the job I want to enter.	Gushue et al., 2006 Ladany et al., 1997 Levinson et al., 2001 *
Delay Discounting	The amount of preference for an immediate reward of lesser value over a delayed reward of greater value	Task based assessment	Participants are asked to identify an amount of money that if received later would be equivalent to an amount of money received now.	Romer et al., 2010 *
Fatalism	Perception of minimized life expectancy	Survey	What do you think the chances are that you will live to be 35?	Steinberg et al., 2009 * Borowsky et al., 2009 *

Construct Name	Definition of Construct	Measurement Design	Example Measurement	Citations
Hopelessness	Belief of negative expectations towards the future	Survey	All I see ahead of me are bad things, not good things	Duke et al., 2009 Fischhoff et al., 2009 Bolland, 2000*
Belief in the Future	An optimistic outlook towards future events, particularly educational goals	Survey	I might as well give up because I can't make things better for myself How much do you want to go to college? How likely is it that you will go to college? I have a sense of purpose and future of my life.	Kazdin et al., 1986 Aspy et al., 2004 Catalano et al., 2004 Fors et al., 1999* Gloppen et al., 2010* Schmid et al., 2011

* Indicate sources of example measurement questions

† As defined by Snyder et al., 1997.

Additional discussion regarding the conceptualization and measurement of hope can be found in the text.