

The Pennsylvania State University
The Graduate School
Department of Human Development and Family Studies

**THE DEVELOPMENT OF SOCIAL RESPONSIBILITY IN ADOLESCENCE:
DYNAMIC SOCIALIZATION, VALUES, AND ACTION**

A Dissertation in
Human Development and Family Studies

by
Laura Wray-Lake

© 2010 Laura Wray-Lake

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

August 2010

The dissertation of Laura Wray-Lake was reviewed and approved* by the following:

Constance A. Flanagan
Professor of Youth Civic Development
Dissertation Advisor
Co-Chair of Committee

Jennifer L. Maggs
Associate Professor of Human Development
Co-Chair of Committee

Ann C. Crouter
Raymond E. and Erin Stuart Schultz Dean
College of Health and Human Development

D. Wayne Osgood
Professor of Crime, Law, and Justice

Douglas M. Teti
Professor of Human Development and Psychology
Professor in Charge of Graduate Studies, Department of Human Development and Family Studies

*Signatures are on file in the Graduate School

ABSTRACT

Promoting adolescents' development as socially responsible citizens is a shared goal of researchers, practitioners, and parents. Recent revisions to value socialization theory argue that parental strategies for cultivating values are flexibly adapted, value messages are content-specific, and adolescents are active agents in the process. This dissertation advanced theory by investigating change in value socialization messages over time, the role of socialization in shaping adolescents' values, and value-behavior links in the context of health promotion. Data came from a three-year longitudinal and socioeconomically diverse sample of adolescents (ages 10 to 18) and their mothers. Study 1 explored correlates of mothers' value messages using mother and adolescent reports across three years ($N=1638$). Two fundamental socialization dimensions were assessed: messages of compassion (e.g., looking out for the good of others) and messages of caution (e.g., being wary of others). Separate multilevel models revealed distinct between-person and within-person correlates for mothers' compassion and caution messages. Compassion messages were predicted by the family context (e.g., mothers' knowledge of friends and concerns for their child's future) and neighborhood climate; compassion also declined in concert with adolescents' experiences of being bullied. Caution messages were predicted by mothers' education levels, race/ethnicity, and marital status, and increased in relation to mothers' concerns and perceptions that illegal substances were easily attainable. Study 2 examined the ways in which adolescents' reports of value messages of compassion and caution predicted adolescents' self-interest and public-interest values and beliefs using data from two waves ($N = 2516$). Results from multiple regression models indicated that adolescents' perceptions of parental compassion messages positively predicted their self-transcendent values, social responsibility beliefs, and public health beliefs, and negatively predicted self-enhancement values and private health beliefs. In addition, democratic parenting consistently predicted adolescents' public-interest orientations across outcomes and waves. Caution messages were best understood in relation to compassion

messages. When caution was coupled with compassion, self-transcendent values were enhanced, yet when caution messages were emphasized without compassion, self-enhancement values were more likely to result. Study 3 tested a process model of maternal socialization of adolescents' social responsibility values and behaviors using mother and adolescent reports across three waves ($N = 1870$). Structural equation models supported a theoretically-derived sequential process of value internalization: The link between mothers' compassion messages and adolescents' values of social responsibility operated through adolescents' perceptions of compassion messages.

Adolescents' social responsibility values predicted greater willingness to intervene in the substance use of friends as well as lower personal use of alcohol, cigarettes, and marijuana one year later. The dissertation's contributions to science were strengthened by the use of longitudinal data and multiple reporters, the reduction of missing data bias through quantitative strategies, and the integration of disparate literatures from multiple disciplines. Conclusions suggest that compassion and caution are distinct yet complementary value messages that parents communicate. Furthermore, adolescents' social responsibility values, developed in part through the socialization of compassion, may facilitate health promotion behaviors. Understanding adolescents' values and the role of parental strategies in cultivating these values has implications for parent-child communication, positive youth development, and substance use prevention.

TABLE OF CONTENTS

LIST OF FIGURES	viii
LIST OF TABLES	ix
ACKNOWLEDGEMENTS	x
INTRODUCTION. The Development of Social Responsibility in Adolescence:	
Dynamic Socialization, Values, and Action	1
The Context of Adolescence	1
Dynamic Socialization	3
Social Responsibility Values.....	4
Socially Responsible Actions in the Context of Health	6
Description of Dissertation Studies.....	7
References	9
STUDY 1. Socialization in Context: Exploring Longitudinal Correlates of Mothers’	
Value Messages of Compassion and Caution	12
Parents’ Value Socialization	13
<i>Theoretical Perspectives on Parental Flexibility</i>	13
<i>Content of Value Socialization Messages</i>	14
The Role of Parent Characteristics.....	17
<i>Social Class</i>	17
<i>Marital Status</i>	18
<i>Race</i>	18
The Role of Child Characteristics	19
<i>Adolescent Gender</i>	19
<i>Adolescents’ Leisure Attitudes and Behaviors</i>	19
The Role of School, Family, and Neighborhood Contexts	21
<i>School Context</i>	21
<i>Family Context</i>	23
<i>Neighborhood Context</i>	25
Study Goals	25
Method	26
<i>Missing Data</i>	27
<i>Measures</i>	28
Analytic Plan.....	31
Results.....	33
<i>Age, Period, and Cohort</i>	33
<i>Mother Characteristics</i>	35
<i>Adolescent Gender</i>	36
<i>Adolescent Leisure Attitudes and Behaviors</i>	36
<i>School Context</i>	36
<i>Family Context</i>	37
<i>Neighborhood Context</i>	37
<i>Full Models</i>	38

Discussion	39
<i>Advancements in Socialization Research</i>	40
<i>Period, Not Age</i>	42
<i>Mother Characteristics</i>	43
<i>Gender</i>	45
<i>Being Bullied</i>	46
<i>Family Context</i>	46
<i>Neighborhood Context</i>	48
<i>Non-Significant Results</i>	48
<i>Limitations and Future Directions</i>	49
<i>Implications</i>	49
References	51
STUDY 2. Communicating Compassion and Caution: Parental Value Messages as Correlates of Adolescents' Self-Interest and Public-Interest Orientations	64
Adolescents' Value Orientations	65
Value Socialization	67
Democratic Parenting	70
Demographic Correlates	71
Hypotheses	73
Method	73
<i>Procedure</i>	73
<i>Missing Data</i>	74
<i>Measures</i>	75
<i>Plan of Analysis</i>	78
Results	78
<i>Correlations among Constructs</i>	78
<i>Public-Interest Orientations</i>	79
<i>Self-Interest Orientations</i>	80
Discussion	82
<i>Compassion and Caution Messages</i>	82
<i>Democratic Parenting</i>	85
<i>Demographic Correlates</i>	86
<i>Future Directions</i>	88
<i>Implications</i>	90
References	92
STUDY 3. Examination of a Process Model Linking Maternal Value Socialization and Adolescent Substance Use in a Social Responsibility Framework	104
Socially Responsible Behaviors	105
Personal Values	111
Parental Value Socialization	114
Potential Heterogeneity in Processes	115
Study Goals	118
Method	119
<i>Measures</i>	120
Analyses	122
<i>Structural Equation Modeling</i>	122
Results	124

<i>Measurement Model</i>	124
<i>Path Model</i>	124
<i>Multigroup Analyses</i>	125
Discussion	126
<i>Social Responsibility Value – Behavior Links</i>	127
<i>Value Socialization</i>	130
<i>Limitations and Future Directions</i>	133
Footnote	135
References	136
CONCLUSION. Contributions to Science and Practice	149
What was Learned.....	149
Why it Matters	151
Next Steps	155
Final Thoughts	156
References	158

LIST OF FIGURES

Figure 1-1. Mothers' Messages of Compassion: Raw Means Plotted by Age and Age Cohort	62
Figure 1-2. Mothers' Messages of Caution: Raw Means Plotted by Age and Age Cohort.....	63
Figure 2-1. Wave 1 Compassion X Caution Interaction for Self-Transcendent Values	100
Figure 2-2. Quadratic Age Pattern for Wave 1 Self-Transcendent Values	101
Figure 2-3. Compassion by Caution Interaction for Self-Enhancement Values	102
Figure 2-4. Quadratic Age Pattern for Wave 1 Self-Enhancement Values.....	103
Figure 3-1. Process Model of Maternal Socialization of Adolescent Social Responsibility ...	148

LIST OF TABLES

Table 1-1. Patterns of Missingness	58
Table 1-2. Contrasts and Means for Polynomials	59
Table 1-3. Models of Change Over Time for Mothers' Compassion and Caution Messages ..	60
Table 1-4. Full Multilevel Models of Correlates for Mothers' Messages of Compassion and Caution	61
Table 2-1. Correlations among Value Socialization Messages, Democratic Parenting, and Adolescents' Self-Interest and Public-Interest Orientations.....	97
Table 2-2. Regression Models Predicting Adolescents' Public-Interest Orientations.....	98
Table 2-3. Regression Models Predicting Adolescents' Self-Interest Orientations	99
Table 3-1. Descriptive Statistics for Study Variables	145
Table 3-2. Measurement Model.....	146
Table 3-3. Correlations among Latent Variables	147

ACKNOWLEDGEMENTS

Data collection was funded by the National Institute on Drug Abuse [R01 DA13434; PI Constance Flanagan]. My dissertation work was generously supported by a Ruth L. Kirschstein National Research Service Award from the National Institute on Drug Abuse [F31 DA024543]. I was honored to receive the 2010 Penn State Alumni Association Dissertation Award for this project. As I close the final chapter of my graduate career at Penn State, I am tremendously grateful for the incredible opportunities, stimulating intellectual environment, and wonderful relationships that enabled me to grow as a scholar and a person. *To my committee:* You are a stellar team of scholars and mentors. Wayne, thank you for being an important part of my journey, for your expert methods feedback, and for your incredibly supportive attitude and congenial spirit in our work together. I appreciate how you've encouraged me over the years. Nan, thank you for nurturing my interests in values, mentoring me through our work on decision-making autonomy, and imparting your wisdom to me throughout the years. You are an exemplary female scholar, leader, and role model. Jenn, I have extremely enjoyed working with you, and I cannot thank you enough for the hours you have put into mentoring me. I truly admire your brilliance, and your superb feedback has deepened my thinking, enhanced my knowledge, and sharpened my writing. Connie, thank you for being an inspiration to me! I have been shaped in lasting ways by your passion for social justice, your generous spirit, your enthusiasm for mentoring the next generation of scholars, and your creativity. *To my community:* To my dear friends, thank you for being an unwavering source of support and joy in my life! To my in-laws, thank you for your prayers and support at every step along the way. To my parents, thank you for believing in me, showing me unconditional love, and encouraging me to pursue three decades of education. To Brian, words cannot express how much you have helped me get to where I am today. You are my rock, my best friend, and the love of my life. I thank you for everything and relish the thought that the best is yet to come! To God: thank you, thank you, thank you!

INTRODUCTION

The Development of Social Responsibility in Adolescence: Dynamic Socialization, Values, and Action

The field of human development actively seeks to better understand the “factors that allow individuals, communities, and societies to flourish” (Seligman & Csikszentmihalyi, 2000, p. 13). To achieve this important and challenging goal, rigorous empirical tests of key unanswered questions are needed. Encouraging adolescents to flourish, that is to meet their full potentials, necessitates prevention efforts aimed at decreasing health risks such as substance use, but also goes beyond prevention to focus on the promotion of character strengths, competencies, and well-being. My research centers on the development of personal values – principles that guide individuals’ behaviors and ways of interacting with others in the world – and the role of the family in cultivating these values. I am most interested in values of social responsibility and their bearing on actions that promote the greater good.

The Context of Adolescence

Equipped with this positive orientation and grounded in developmental and family theory, my thesis is premised on three core ideas or underlying assumptions. The first is that values of social responsibility offer important insights into individuals’ current and future selves. Adolescence is characterized by the exploration of moral and ideological commitments and views about the world (Flanagan, 2004) in conjunction with explorations of identity (Erikson, 1968; Hitlin, 2003) and relationships with others (Collins, Gleason, & Sesma, 1997). Adolescence represents an important time to study values because, although they likely have developmental roots in childhood, values take shape during this period (Flanagan, 2004). Though a lifespan perspective suggests that values have the capacity to change over time, some argue that values crystallize shortly after adolescence (Jennings, 1989), suggesting that adolescence is a critical period for value development.

The second core idea is that parents are a primary source for passing on values, and thus the family context is ripe for studying value socialization processes. Indeed, parents “have been given primary power by evolution and by society to socialize” (Kuczynski & Grusec, 1997, p. 402). The majority of empirical studies of the family’s role in adolescent development focus on the importance of parents as relational companions, models, monitors, and disciplinarians. Yet parents also serve as instructors to their children, communicating value messages about how to behave and how to view the world (Parke & Buriel, 2006).

The third idea is that adolescence is an ideal time in which to explore the themes of values and value socialization because of the myriad dramatic changes taking place within individuals and in family relationships during this age period. As adolescents develop, they gain social-cognitive capacities for reasoning about their responsibilities and perspective-taking about others’ interests (Smetana & Villalobos, 2009); these cognitive changes likely correspond with the consolidation of values (Flanagan, 2003). Along with exploration of moral commitments and identity, adolescents also have a heightened propensity toward risk-seeking. Substance use, in particular, is a normative adolescent experience (Maggs & Schulenberg, 2006) that involves notable health risks (Centers for Disease Control & Prevention (CDC), 2008). Furthermore, young people undergo shifts in relationships and contexts during adolescence; for example, adolescents increasingly spend less time with their parents and more time with peers (Larson, 2001). Experimentation with substance use typically occurs in the presence of peers (Steinberg, 2003), and decision-making about substance use is guided in part by personal values (Goff & Goddard, 1999), which develop in the context of family relationships (Grusec & Goodnow, 1994).

Thus, adolescence is a time of dramatic changes where there is heightened potential for risk as well as thriving. The development of social responsibility in adolescence is understudied, yet empirical investigations could help us understand how to facilitate values and actions that promote the greater good. This set of three studies examined the dynamic nature of value

socialization processes within the family, the ways in which socialization messages link to adolescents' value orientations, and the role of adolescents' personal values of social responsibility in explaining adolescents' socially responsible actions in the context of health.

Dynamic Socialization

Value socialization theory has burgeoned in recent years (cf. Grusec & Kuczynski, 1997), yet empirical research has not kept pace. Three innovative tenets of value socialization theory are in need of further study in order to augment knowledge regarding the dynamic processes of value socialization within the family and the family origins of adolescents' value orientations.

First, value socialization may be more effective when parents are responsive to children's experiences and views. This proposition is consistent with person-environment fit perspectives as well as value socialization theories, which posit that parents are most effective when they exercise flexibility in their socialization strategies (Dix, 1992; Grusec & Goodnow, 1994; Kuczynski & Hildebrandt, 1997). Thus, this contextual perspective departs from traditional perspectives that tend to view parenting as static and trait-like. Yet, empirical studies are needed to identify the conditions under which parental value messages are adapted.

Second, value socialization theorists have recently recognized the importance of the content of the values being communicated for the value socialization process (Boehnke, 2001; Smetana, 1997). This recognition departs from traditional socialization perspectives in which processes and relationships were emphasized, yet studies rarely mentioned differing value content and little attempt was made to specify the value orientations children might prioritize as a result of parental socialization (cf. Kuczynski & Grusec, 1997). In particular, messages of compassion (e.g., looking out for the good of others) and caution (e.g., being wary of others) represent two fundamental value dimensions that parents communicate to children regarding how to treat other people (Flanagan, 2003).

Third, according to Grusec and Goodnow's (1994) model of value socialization, children's internalization of their parental values is a two-step process: First, children must

accurately perceive the value message imparted by parents, and second, children can choose to either accept or reject the parents' values. Empirically specifying the process of value internalization, however, is lacking in the literature as it requires sequentially linking parents' values or value messages, adolescents' perceptions of these messages, and adolescents' own values. Complete socialization ultimately links to behaviors, as children's behaviors should be influenced by their values (Grusec & Goodnow, 1994).

The current investigation of value socialization processes within the family offers empirical tests of these three components of value socialization theory by examining parental value messages in developmental and social contexts, exploring the role of compassion and caution messages in socializing adolescents' value orientations, and testing a sequential process model of value socialization. A primary goal is to generate information useful to scientists and the public regarding how parents socialize values and promote adolescents' thriving through social responsibility.

Social Responsibility Values

Social responsibility is a concept employed by scholars across various domains. For example, this term has been invoked in business to reference corporate responsibility (Sen & Bhattacharya, 2001), used in economics and political science in discussing common pool resources (Ostrom, 1990), and catalogued in positive psychology as a fundamental character strength (Peterson & Seligman, 2006). A shared definition across disciplines is that social responsibility reflects concerns that extend beyond the self (see also Gallay, 2006; Rossi, 2004). In the developmental literature, social responsibility overlaps with the construct of altruism (Batson, Ahmed, & Stocks, 2004) and falls under the broad umbrellas of prosocial and moral development (Eisenberg & Morris, 2004). Social responsibility is a prosocial orientation that is rooted in morality and ethical considerations (Kohlberg & Candee, 1984), and though the concept is not explicitly political, social responsibility may be a developmental foundation for political views and actions (Flanagan & Tucker, 1999).

As a psychological construct, social responsibility can be operationalized as a value, a belief, or a behavior. Values are emotionally-valenced, higher-order beliefs that guide attitudes and behaviors (Rokeach, 1973; Schwartz, 1992). Values are more cognitively oriented than emotional expressions (e.g., empathy) and are more hierarchically situated in the self-system than other preferences. There are several reasons why values may be a particularly useful construct to explore. For example, values reflect a core aspect of the self, unifying and giving coherence to individuals' personal identities (Hitlin, 2003). Furthermore, values are situated at the top of a motivational hierarchy and thus guide more specific beliefs and attitudes (Grube, Mayton, & Ball-Rokeach, 1994; Rokeach, 1973). In exploring developmental underpinnings and socialization processes, it is logical to focus on the origins of higher-order motivations.

Social responsibility can be easily situated in value theory; it traverses the value types of universalism and benevolence in Schwartz's (1992) cross-culturally validated circumplex model of values. Social responsibility can be extended broadly to the welfare of unknown others, society, and the environment (akin to universalism) or refer more locally to the common good of friends and family (like benevolence). Schwartz uses the term self-transcendence to refer collectively to universalism and benevolence. This term is interchangeable with the way these studies conceptualize social responsibility values, but the measure employed here may not exactly replicate Schwartz's conception (see Study 2).

Beyond social responsibility, other value orientations are important to understand in adolescence. Value theorists note a distinction between self-enhancement (self-interest) values that emphasize achievement, competition, and power versus self-transcendent (i.e., social responsibility or other-oriented) values that emphasize justice, equality, benevolence towards others, and the public good (Inglehart, 1997; Schwartz, 1992; Triandis, 1995). Self-enhancement values typically oppose values of social responsibility, but these two orientations are not necessarily mutually exclusive. Self-interest orientations may be particularly relevant for shaping identity and behaviors during adolescence, as a focus on the self is reflected in risk-seeking behavior and autonomy

development; likewise, values of self reliance and individual rights tend to peak in early and middle adolescence (Ruck, Keating, Abramovitch, & Koegl, 1998).

Socially responsible actions are not abstract, as are values, and thus empirical work on behaviors lends itself more directly to practical application. Importantly, however, socially responsible behaviors can have multiple motivations (e.g., Omoto & Snyder, 1995). Values are central motivations to understand insofar as they give meaning to behaviors (Rokeach, 1973) and make actions more purposeful (Damon, Menon, & Bronk, 2003). A long line of social psychological work has found empirical evidence for a value-behavior link (cf. Bardi & Schwartz, 2003). Several potential mediators of a value-behavior relationship have been identified such as attitudes and behavioral intentions (Fishbein & Ajzen, 1975; Grube et al., 1994). Finding strong associations between conceptually distal constructs gives added significance to the important role played by values in motivating action.

Socially Responsible Actions in the Context of Health

Social responsibility value orientations are important for understanding adolescents' views of the relation between self and society, their prosocial behavior, and their health. Indeed, health is one arena where value orientations are quite relevant, as adolescents' views on health tend to take an individual rights perspective, that is, that health decisions constitute personal choices with only personal consequences, or a public health perspective, that is, that health is a public issue for which individuals have a shared responsibility (Flanagan, Stout, & Gallay, 2008). There are significant negative consequences of adolescent substance use for individuals and the public (CDC, 2008). Thus, an ethic of social responsibility, especially when made explicit in relation to health, should encourage adolescents to refrain from high substance use in order to avoid the long-term personal consequences of these behaviors and to ensure the health and well-being of others. Willingness to intervene in friends' substance use is a socially responsible behavioral intention. Particularly as intervening behaviors become better understood in the context of friends, this socially responsible action has vast potential to transform the way we think about substance use prevention. Given

that adolescent substance use occurs in the context of peers (Steinberg, 2003), adolescents' interventions to prevent the substance use of friends could be an untapped strategy for reducing adolescent substance use and related health consequences.

Description of Dissertation Studies

The following studies elaborate on these introductory themes and unite disparate literatures focused on value socialization, values, prosocial development, and substance use in adolescence. Three interrelated empirical investigations reveal novel findings that should interest developmental scientists, prevention researchers, parents, and community leaders. The studies rely on a large, three-year longitudinal sample of adolescents and their mothers recruited from schools in the northeastern and midwestern United States.

To further understand flexibility and value content in parental value socialization, Study 1 examines mothers' value messages of compassion and caution longitudinally across ages 10 to 18. As noted above, these value messages represent two key value dimensions that parents communicate to children regarding how to treat other people (Flanagan, 2003). I test the degree to which mothers' compassion and caution messages vary based on mothers' own background, and on relational and contextual factors such as adolescents' behaviors, aspects of the family environment, and adolescents' experiences at school or in the neighborhood. Given the dynamic changes during adolescence, mothers' value messages may also change in relation to adolescent age. This multidimensional set of predictors of mothers' value messages is explored in a series of multilevel models.

Study 2 seeks to further specify the role played by parental value socialization messages in shaping adolescents' self-interest and public-interest value orientations. Adolescents' value orientations are measured multidimensionally and cover self-transcendent and self-enhancement values, social responsibility beliefs, public health beliefs, and private health beliefs. Multiple regression analyses examine the unique and interactive effects of parental value messages of compassion and caution and also consider the role of democratic parenting and demographic

correlates of age, gender, race/ethnicity, and social class in predicting adolescents' value orientations. Parental value messages of compassion are hypothesized to positively predict adolescents' public-interest orientations. Furthermore, value messages of caution should negatively predict adolescents' self-interest orientations, particularly when combined with low compassion messages.

Finally, Study 3 tests a process model of maternal socialization of adolescents' social responsibility using structural equation modeling, with three specific aims. The first aim is to examine empirical support for Grusec and Goodnow's (1994) sequential process of value internalization. Aim 2 investigates the role of social responsibility values in predicting adolescents' substance use and willingness to intervene to prevent friends' substance use behavior. Aim 3 tests the generalizability of the process model by examining differences in proposed pathways for various subgroups.

Using rigorous statistical methodologies and longitudinal data, these studies contribute to our understanding of dynamic value socialization processes within the family, the ways in which parental value messages may shape adolescents' value orientations, and the role of social responsibility values in adolescents' actions to protect their own health and the health of their friends. The following chapters discuss each study in turn, followed by concluding remarks that point to broad themes and future directions.

References

- Bardi, A. M., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin*, *29*, 1207-1220.
- Batson, D. C., Ahmad, N., & Stocks, E. L. (2004). Benefits and liabilities of empathy-induced altruism. In A. G. Miller (Ed.), *The social psychology of good and evil*, (pp. 359-385). New York: Guilford Press.
- Boehnke, K. (2001). Parent-offspring value transmission in a societal context: Suggestions for a utopian research design with empirical underpinnings. *Journal of Cross-Cultural Psychology*, *32*, 241-255.
- Centers for Disease Control and Prevention (CDC). (2008, June 6). Youth risk behavior surveillance – United States 2007. *Surveillance Summaries*, *57*, No. SS-4.
- Collins, W. A., Gleason, T., & Sesma, A. (1997). Internalization, autonomy, and relationships: Development during adolescence. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 78-99). New York: John Wiley & Sons, Inc.
- Damon, W., Menon, J., & Bronk, K. C. (2003). The development of purpose during adolescence. *Applied Developmental Science*, *7*, 119-128.
- Dix, T. (2000). What motivates sensitive parenting? *Psychological Inquiry*, *11*, 94-97.
- Eisenberg, N., & Morris, A. S. (2004). Moral cognitions and prosocial responding in adolescence. In R. M. Lerner & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 155-188). Hoboken, NJ: John Wiley & Sons, Inc.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W. W. Norton.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Flanagan, C. A. (2004). Volunteerism, leadership, political socialization, and civic engagement. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 721-745). Hoboken, NJ: John Wiley & Sons, Inc.
- Flanagan, C. A., Stout, M., & Gallay, L. (2008). Health as a public or private issue: Adolescents' perceptions of rights and responsibilities. *Journal of Social Issues*, *54*, 815-834.
- Flanagan, C. A., & Tucker, C. J. (1999). Adolescents' explanations for political issues: Concordance with their views of self and society. *Developmental Psychology*, *35*, 1198-1209.
- Gallay, L. (2006). Social responsibility. In L. Sherrod, C. A. Flanagan, R. Kassimir, & A. K. Syvertsen (Eds.), *Youth activism: An international encyclopedia* (pp. 599-602). Westport, CT: Greenwood Publishing.
- Goff, B. G., & Goddard, H. W. (1999). Terminal core values associated with adolescent problem behaviors. *Adolescence*, *34*, 47-60.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, *30*, 4-19.
- Grusec, J. E., & Kuczynski, L. (Eds.) (1997). *Parenting and children's internalization of values: A handbook of contemporary theory*. New York: John Wiley & Sons, Inc.
- Hitlin, S. (2003). Values as the core of personal identity: Drawing links between two theories of self. *Social Psychology Quarterly*, *66*, 118-137.
- Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic and political change in 43 societies*. Princeton, NJ: Princeton University Press.
- Jennings, M. K. (1989). The crystallization of orientations. In M.K. Jennings and J. van Deth (Eds.), *Continuities in political action*, (pp. 313-348). Berlin, Germany, Gruyter.

- Kohlberg, L., & Candee, D. (1984). The relationship of moral judgment to moral action. In L. Kohlberg (Ed.), *The psychology of moral development: The nature and validity of moral stages* (Vol. 2; pp. 498-581). San Francisco: Harper & Row.
- Kuczynski, L., & Grusec, J. E. (1997). Future directions for a theory of parental socialization. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 399-414). New York: John Wiley & Sons, Inc.
- Kuczynski, L., & Hildebrandt, N. (1997). Models of conformity and resistance in socialization theory. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.23-50). New York: John Wiley & Sons, Inc.
- Larson, R. W. (2001). How U.S. children and adolescents spend time: What it does (and doesn't) tell us about their development. *Current Directions in Psychological Science*, 10, 160-164.
- Maggs, J. L., & Schulenberg, J. E. (2006). Initiation and course of alcohol consumption among adolescents and young adults. In M. Galanter (Ed.), *Alcohol problems in adolescents and young adults: Epidemiology, neurobiology, prevention, and treatment* (pp. 29-47). New York: Springer.
- Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: Motivations, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of Social and Personality Psychology*, 68, 671-686.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge, UK: Cambridge University Press.
- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg, W. Damon, & R. Lerner (Eds.), *Handbook of child psychology: Vol. 3: Social, emotional, and personality development* (6th ed., pp. 429-504). New York: Wiley.
- Peterson, C., & Seligman, M. E. P. (2006). *Character strengths and virtues: A handbook and classification*. New York: Oxford University Press.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rossi, A. S. (2005). Social responsibility to family and community. In O.G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we?* (pp. 550-585). Chicago: University of Chicago Press.
- Ruck, M. D., Keating, D. P., Abramovitch, R., & Koegl, C. J. (1998). Children's and adolescents' understanding of rights: Balancing nurturance and self-determination. *Child Development*, 64, 404-417.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1-65.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.
- Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing* 38, 225-243.
- Smetana, J. G. (1997). Parenting and the development of social knowledge reconceptualized: A social domain analysis. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.162-192). New York: John Wiley & Sons, Inc.
- Smetana, J. G., & Villalobos, M. (2009). Social cognitive development in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Vol. 1: Individual bases of adolescent development 3rd Edition* (pp. 187-228).

- Steinberg, L. (2003). Is decision making the right framework for research on adolescent risk taking? In D. Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 18-24). Thousand Oaks, CA: Sage.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

STUDY 1

Socialization in Context: Exploring Longitudinal Correlates of Mothers' Value Messages of Compassion and Caution

Parents are primary socialization agents: In addition to their roles as relational partners and providers of opportunity, parents are instructors that give direct messages about values, norms, and rules as well as provide guidance and support to children (Parke & Buriel, 2006). Recent theoretical perspectives on value socialization argue that children are active agents in the socialization process and that parenting strategies are most effective when flexibly adapted to the child and the context (Grusec, Goodnow, & Kuczynski, 2000; Kuczynski & Hildebrandt, 1997; Kuczynski, Marshall, & Schell, 1997; Smetana, 1997). Parents' value socialization messages are understudied empirically, and little is known about the ways in which these messages change over time and are shaped by adolescents' characteristics and the social context.

The current study explored correlates of value socialization messages of compassion and caution in a three-year longitudinal sample of mothers of adolescents. Compassion (e.g., looking out for the good of others) and caution (e.g., being wary of others) represent two fundamental value-oriented dimensions that mothers communicate to children regarding how to treat other people (Flanagan, 2003a). I examined value *messages* as a verbal communication strategy and one strategy (among many) that mothers use to socialize values (Grusec & Goodnow, 1994). Mothers' emphasis on compassion and caution to children likely varies based on mothers' own background, and on relational and contextual factors such as adolescents' behaviors, aspects of the family environment, and adolescents' experiences at school or in the neighborhood. Mothers' value messages may also change over time or in relation to adolescent age.

PARENTS' VALUE SOCIALIZATION

Theoretical Perspectives on Parental Flexibility

Value socialization may be more effective when parents are responsive to children's experiences and views. This proposition is consistent with person-environment fit perspectives as well as value socialization theories, which posit that parents are most effective when they exercise flexibility in their socialization strategies (Dix, 1992; Grusec & Goodnow, 1994; Kuczynski & Hildebrandt, 1997). Likewise, in current socialization research, key concepts of 'transmission,' 'internalization,' and 'compliance' are being exchanged with terms such as 'co-construction,' 'transaction,' and 'reciprocity' as unidirectional models are discarded and replaced with bidirectional modes of thinking (Kuczynski et al., 1997; Lollis & Kuczynski, 1997).

The contextual perspective of value socialization argues that competent parents adapt disciplinary and other socialization strategies to the situation and to children's temperament and developmental stage (Kuczynski & Hildebrandt, 1997). For example, Baumrind's (1971) authoritative parenting style includes receptivity to child communication and prioritizes child autonomy. In the same vein, Dix (1992; 2000; Dix, Gershoff, Meunier, & Miller, 2004) views parenting as a process of ongoing decision making in which needs of the child and parent as well as socialization goals are considered. In moment-to-moment interactions, effective parenting necessitates that parents accurately read and respond to children's signals regarding their needs (see also Ainsworth, Blehar, Waters, & Wall, 1978; Belsky, 1984; Maccoby & Martin, 1983).

Parents' ability to draw upon multiple strategies in the appropriate situations is considered more critical for children's acquisition of values than is the use of any single parenting strategy alone (Grusec et al., 2000; Grusec & Goodnow, 1994; Smetana, 1997). Flexible parenting also requires an understanding that children are active contributors to the process rather than passive recipients of values, and effective socialization of values entails tailoring messages to children in the context of reciprocal and mutually reinforcing exchanges (Grusec et al., 2000; Kuczynski & Hildebrandt, 1997; Kuczynski et al., 1997). Importantly, children are likely to reject

parents' value messages if they do not view them as appropriate to the situation or as communicated with the right intentions (Grusec & Goodnow, 1994).

This contextual perspective of parenting as situation- and child-specific departs from traditional views of parenting (Kuczynski & Hildebrandt, 1997). Indeed, scholars have critiqued static and trait-like models of parenting for rigidly endorsing a single socialization strategy (Holden & Edwards, 1989; Kuczynski & Hildebrandt, 1997). Of course, not all parents adapt their parenting to the situation or the child, and parents' flexibility may be more desirable in some situations than in others (Dix, 2000; Hastings & Grusec, 1998). Parenting that is too rigid or inflexible, however, may reflect insensitivity and can compromise parent-child relationships and children's well-being (Dix, 2000). This study assumed that examining flexibility in parental strategies is important for understanding family dynamics and value socialization processes. Analyses aimed to identify predictors of change in messages, suggesting flexibility, yet were not intended to examine the effectiveness of flexibility for adolescent outcomes.

Content of Value Socialization Messages

The present study examined correlates of mothers' value messages of compassion and caution. As noted above, messages of compassion and caution represent two fundamental value dimensions communicated to children regarding how to treat others (Flanagan, 2003a). Value socialization processes are often discussed without specifying which values are being imparted, yet socialization processes may differ depending on the value dimension in question (Boehnke, 2001; Knafo & Schwartz, 2003; Kuczynski & Grusec, 1997; Piquart & Silbereisen, 2004). Mothers likely vary in the degree to which they emphasize the two value dimensions (Flanagan, 2003), and they may also adapt their messages based on different contexts.

Compassion. Socializing compassion is conceptually similar to constructs of socializing other-oriented induction (Hoffman, 1977) and care reasoning (Gilligan, 1982; Pratt, Skoe, & Arnold, 2004). These related parenting strategies sensitize children to the needs and concerns of others and promote the development of prosocial behavior (Eisenberg & Morris, 2004), moral

reasoning (Pratt et al., 2004), and political beliefs about how society's disadvantaged should be treated (Flanagan & Tucker, 1999). For example, Pratt and colleagues found that caring themes in parents' narratives to adolescents predicted adolescents' development of care reasoning (i.e., considering the needs of others in moral dilemmas) across time.

Compassion is a socially desirable, prosocial quality that most parents likely encourage in children to some degree. Parents differ in the flexibility of their expectations for value domains, and some scholars have noted a lack of parental flexibility in socialization of moral development (Kuczynski & Grusec, 1997; Smetana, 1997). Thus, it is possible that mothers' compassion messages have few correlates that suggest flexibility. Yet, individual differences in mothers' reports of compassion may stem from the surrounding social context. Grounded in the theories of adaptive parenting described above and based on an ecological perspective, the present study advanced previous literature by testing correlates of mothers' compassion messages.

Caution. Socializing caution entails communicating messages about looking out for oneself and being wary of others (Flanagan, 2003a). Caution messages stem from the socialization strategies of 'cocooning,' in which parents endeavor to shield children from negative influences, and 'prearming,' in which parents teach children defensive strategies for sticking up for their own beliefs and disregarding the negative influences of others (Goodnow, 1997; Grusec, 2002). Studies of ethnic-racial socialization examine a variant of this aspect of parenting in the construct of promotion of mistrust; these parental messages urge caution and wariness about other racial groups and barriers to success (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006; Hughes & Chen, 1997), and were once termed cautious/defensive socialization (Demo & Hughes, 1990). The messages of caution examined here are broader messages of caution and thus are likely to be more prevalent in families than the less common ethnic-racial socialization strategy of promoting mistrust (see Hughes et al., 2006). Caution messages go beyond parental monitoring, which involves keeping track of children's whereabouts and activities (Stattin & Kerr, 2000), and prioritize looking out for oneself and holding healthy

skepticism about the dangers of the world and other people (Flanagan, 2003a). As described more fully below, I expected that mothers' messages of caution would be determined in part by various situations including the adolescents' proximal environment and experiences at school and in the neighborhood.

Age-related change? Socialization processes are best examined at pivotal developmental periods when socialization goals as well as expectations for and demands on the parent-child relationship undergo change (Bell & Chapman, 1986; Maccoby & Martin, 1983). Adolescence is an ideal time to examine changes in mothers' value socialization messages, given the normative gains in autonomy, capacity for reasoning and problem-solving, and diversified exposure to environmental contexts that steadily increase across this period (Ambert, 2001; Hawkins, Amato, & King, 2007; Scarr & McCartney, 1983). Scholars agree that parenting strategies should change substantially in response to such developmental transformations across adolescence (Grusec & Goodnow, 1994; Kerr & Stattin, 2003; Maccoby, 1992).

Whereas the literature suggests no clear prediction for longitudinal change in mothers' value socialization messages, there are several reasons to believe that mothers' endorsements of compassion and caution messages would decrease in relation to adolescent age. First, mothers may report less values communication to adolescents over time as they may have fewer opportunities for such communication. Compared to children, U.S. adolescents spend more time away from parents and more time in extracurricular and after-school activities, with peers, and using media (Larson, 2001; Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). Larson et al. (1996) found a linear decline in time spent with family across early to late adolescence. Second, mothers may report less emphasis on value messages as adolescents get older in an effort to not overcontrol them. There is much research finding that people react negatively when they are controlled by others (e.g., Kerr & Stattin, 2003; Seligman, 1975). Likewise, research on early and middle adolescence has found that youth negatively respond to parents when they are too demanding, nagging, or restrictive, often by withdrawing from family (Caughlin & Malis, 2004;

Fulgini & Eccles, 1993). Relatedly, mothers may report less emphasis on value messages as adolescents get older in an effort to not be overly redundant with messages, particularly if they perceive adolescents as having already internalized the values.

Thus, grounded in developmental theory and empirical work, this study examined change in mothers' value messages over time. Extant literature suggested a linear decline in mothers' value message of compassion and caution with adolescent age. However, other mechanisms could be responsible for change in mothers' value messages over time, such as the historical and social milieu. Given the cohort sequential design of the present study, it was important to examine age as well as period and cohort effects in order to identify the best explanation for change over time (Glenn, 2005; Raudenbush & Chan, 1992).

THE ROLE OF PARENT CHARACTERISTICS

Belsky's (1984) process model posited that parenting is multiply determined by parent characteristics, child characteristics, and contextual influences, and this study investigated these three domains. Starting with the role of individual differences in socializing compassion and caution, the idea was that some mothers emphasize compassion and/or caution more than others, and these differences may be based on demographic characteristics. Specifically, I examined differences due to social class, marital status, and race.

Social Class

A long line of theoretical and empirical work argues that socioeconomic status (SES), or social class, plays an important role in parenting behaviors and strategies (e.g., Sears, Maccoby, & Levin, 1957; cf. Conger & Dogan, 2007; Parke & Buriel, 2006). Higher SES parents tend to be more authoritative and communicative (Hart & Risley, 1995; Hoff, Laursen, & Tardif, 2002; Straus & Stewart, 1999). Literature linking social class to values argues that lower SES parents tend to socialize values of obedience and conformity whereas higher SES parents tend to socialize values of self-direction (Boehnke, 2001; Kasser, Koestner, & Lekes, 2002; Kohn, Slomczynski, & Schoenbach, 1986; Kohn, 1995). Few studies have examined social class differences in the

socialization of compassion and caution, and thus expectations were unclear. Given that higher SES mothers tend to be more communicative, they may report greater messages of both types. On the other hand, given the prosocial nature of compassion, these messages may be highly endorsed across social groups. Furthermore, lower SES mothers tend to be more authoritarian and punitive (e.g., Straus & Stewart, 1999), and this effect may be due in part to high-risk neighborhood conditions (Parke & Buriel, 2006), suggesting that lower SES mothers would communicate greater caution messages.

Marital Status

Across developmental domains, children in single parent households seem to be at risk for maladjustment (cf. Amato, 2001). Bengtson, Biblarz, and Roberts (2002) found that in divorced families, parents had less influence on children's values. Other scholars have suggested that value socialization efforts may be more effective when both parents are working together (Boehnke, 2001; Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982; Parke & Buriel, 2006). On the other hand, when fathers are not present, mothers may feel the need to intensify socialization messages of both types given that messages may only come from one parental source. Single mothers may also communicate greater caution messages to protect children, given their heightened vulnerability. Surprisingly, however, diverse family forms have been understudied with respect to socialization processes; thus, specific directions of effects could not be predicted.

Race

As noted above, ethnic-racial socialization strategies include messages that promote mistrust and a wariness of others (Hughes et al., 2006; Hughes & Chen, 1997). Given that these messages include a clear element of caution (Demo & Hughes, 1990), I hypothesized that Black or African American mothers would report greater caution messages than White mothers. Given the relatively small number of other ethnic and racial minorities in the sample, the current study's analyses were limited primarily to comparisons between Black and White mothers. No race differences were expected in value messages of compassion.

THE ROLE OF CHILD CHARACTERISTICS

Elsewhere in the review, I have documented theoretical perspectives arguing that parenting strategies are dynamic and can be shaped by children (Belsky, 1984; Dix, 2000; Grusec & Goodnow, 1994; Kuczynski et al., 1997; Maccoby & Martin, 1983). In the current study, I explored adolescent correlates of gender and leisure attitudes and behaviors in relation to mothers' value messages of compassion and caution.

Adolescent Gender

Value socialization studies typically find differences in value socialization processes depending on children's gender (Boehnke, 2001; Crouter, Whiteman, McHale, & Osgood, 2007; Knafo & Schwartz, 2003; Pratt, Hunsberger, Pancer, & Alisat, 2003). In childhood and early adolescence, parents discuss more emotions and relational contexts with daughters as compared to sons (Kochanska & Thompson, 1997), which may facilitate socialization of prosocial orientations such as compassion and social responsibility (Collins, Gleason, & Sesma, 1997). Parents *and* children report that parents emphasize prosocial behaviors more in daughters than sons (Eisenberg & Morris, 2004). However, one study found that boys reported hearing more moral value messages than girls (Pratt et al., 2003). I expected that mothers of daughters would report greater compassion messages than mothers of sons.

Parents of daughters are generally more restrictive of behaviors, such as dating, than parents of sons (Madsen, 2008; Seydlitz, 1991). Parents may be more restrictive of daughters' behaviors out of fear that someone will take advantage of them. Thus, mothers of daughters were expected to emphasize caution more than mothers of sons.

Adolescents' Leisure Attitudes and Behaviors

A range of empirical studies offer support for the theoretical perspective that parenting is conditioned on children's behaviors (cf. Ambert, 2001; Crouter & Booth, 2003; Pardini, 2008; Pettit & Lollis, 1997). Adolescents choose to spend time in a variety of ways, and leisure behaviors and related attitudes may offer socialization opportunities. Based on extant literature,

the present study examined the role of adolescents' substance use behavior and related attitudes as well as community service in predicting mothers' value messages of compassion and caution.

Substance use. Across many studies, parenting practices such as authoritative discipline, knowledge of children's activities, and warmth towards children have predicted lower adolescent problem behaviors (e.g., Dishion, Nelson, & Bullock, 2004; Fletcher, Steinberg, & Williams-Wheeler, 2004; Kerr & Stattin, 2000). A few studies have examined longitudinal reciprocal associations between parenting and adolescents' substance use and problem behaviors (Coley, Votruba-Drzal, & Schindler, 2008; Kerr & Stattin, 2003; Maggs & Galambos, 1993; Stice & Barrera, 1995; van der Vorst, Engels, Meeus, Dekovic, & Vermulst, 2006).

For example, using longitudinal cross-lagged models, Kerr and Stattin (2003) found that adolescents' delinquency predicted decreases in parents' control, emotional support, and encouragement over time, whereas parenting behaviors did not predict changes in adolescents' delinquency. Results led Kerr and Stattin to conclude that withdrawals in parenting were a reaction to youth's delinquency rather than a cause. Examining prediction of within-person change using growth curve models, Coley et al. (2008) found evidence for the primacy of family interactions, such that increases in shared family activities predicted within-person decreases in adolescent substance use, but the reverse direction was not significant. Stice and Barrera (1995) found full reciprocal relationships between adolescents' substance use and both parental control and parental support. Thus, there is some evidence that adolescents' substance use predicts parenting behaviors, and the process seems to be bidirectional.

Based on prior work, the present study examined whether mothers' value socialization messages were predicted by adolescents' substance use and substance use attitudes. Attitudes are important to examine given the strong association between positive attitudes towards substance use and heavy use (Bachman, Johnston, & O'Malley, 1998; Graham, 1996). Adolescents' substance use and positive attitudes towards use may engender increased socialization of caution: Mothers may recognize a greater need to emphasize caution, such as staying away from the

wrong crowd, when they suspect adolescents of substance use. On the other hand, extant literature suggests that adolescents' substance use may lead to withdrawal of parenting, as parents may give up or get discouraged by deviant behaviors; thus, alternatively, substance use may predict decreases in maternal messages of compassion and caution.

Community service. Parental messages of compassion offer youth encouragement to be benevolent citizens and extend acts of kindness to everyone, including others who are different (Flanagan & Tucker, 1999; Pratt et al., 2003). Helping others and serving one's community are prosocial acts that reflect compassion towards others (Eisenberg & Morris, 2004). Adolescence is a period where young people often become more involved in their communities, perhaps due to having internalized family values of compassion (Flanagan, 2003a; 2004). Thus, greater messages of compassion were expected in families where adolescents were engaged in community service. Whereas social trust and civic engagement are reciprocally associated (Flanagan, 2003b; Jennings & Stoker, 2004), a healthy skepticism of others would not necessarily be at odds with adolescents' community involvement. Thus, no relationship was expected between adolescent community service and messages of caution.

THE ROLE OF SCHOOL, FAMILY, AND NEIGHBORHOOD CONTEXTS

As noted above, parenting is partly determined by context (Belsky, 1984), and a contextual perspective argues that socialization strategies are adapted based on the child's needs as well as the environment (e.g., Kuczynski et al., 1997). Given the relevance of these contexts for adolescents' lives and thus for parental socialization, I examined the role of school, family, and neighborhood contexts in relation to mothers' socialization messages.

School Context

School transitions. During transitions to middle school, adolescents are at increased risk for a variety of disruptions such as declines in academic competence, motivation, and interest (Eccles & Midgley, 1998); lower academic achievement (Seidman, Allen, Aber, Mitchell, & Feinman, 1994); declines in self-esteem (Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991);

and increases in depressive symptoms (Rudolph, Lambert, Clark, & Kurlakowsky, 2001). Middle schools are typically larger, less personal, and more controlling than elementary schools; these characteristics mismatch with the psychological and developmental needs of middle school students (Eccles et al., 1993). Transitions to high school involve many of the same risks including greater academic pressure, feelings of peer rejection or exclusion, depressive symptoms, declines in intrinsic motivation, and exposure to a larger and more impersonal school environment (Barber & Olsen, 2004; Newman, Newman, Griffen, O'Connor, & Spas, 2007; Otis, Grouzet, & Pelletier, 2005). The high school transition is viewed as less intense than the transition to middle school, perhaps because of older adolescents' greater maturity in coping with stressors and consolidation of identity and peer relationships compared to adolescents in middle school (cf. Barber & Olsen, 2004). The middle school transition may also be more intense given its normative co-occurrence with pubertal development (Simmons & Blythe, 1987).

Relatively few studies have investigated the role of parents in helping adolescents navigate the transitions to middle and high school, though some evidence has suggested that perceived support from parents facilitates these school transitions (Duchesne, Larose, Guay, Vitaro, & Tremblay, 2005; Lord, Eccles, & McCarthy, 1994). Given the multitude of stressors and the impersonal, unfriendly climates expected in the new school environments, mothers are likely to increase their efforts to socialize caution for adolescents transitioning to middle and high school. Indeed, larger schools bring together children from different communities, which may fuel children's or parents' fears of the unknown, and adding to that fear, anecdotal and research reports point to high drug use in middle school (e.g., Johnston, Bachman, O'Malley, & Schulenberg, 2007). Messages to be wary of others and to stay away from the wrong crowd may be a strategy mothers use to support their children during the stressful transition and buffer them from anticipated or real psychological and academic disturbances. Given the lack of previous work, no predictions were made regarding school transitions and compassion messages.

Being bullied. The transition to middle school is often accompanied by an increase in

bullying and victimization among peers (Pellegrini & Long, 2002). Early adolescence is a particularly important time to study bullying and victimization because, during this period, variability in pubertal development creates social hierarchies, and aggression is viewed less negatively by peers (Moffitt, 1993; Pellegrini & Long, 2002). Early-maturing adolescents of both genders tend to display higher levels of aggression towards their peers (Lynne, Graber, Nichols, Brooks-Gunn, & Botvin, 2007; Kaltaila-Heino, Marttunen, Rantanen, & Rimpelä, 2003).

Unfortunately, there is no coherent picture from the literature regarding the characteristics of parents whose children are victimized (cf. Ahmed & Braithwaite, 2004). When adolescents or their peers are victimized by bullies, these experiences represent a logical trigger for parents to emphasize values of caution. It is also unclear from the literature whether most mothers know if and when their children or children's friends are victims of bullying. However, there is some evidence that children's victimization is associated with parental overprotection and parents' involvement in school, findings that may reflect some parental awareness of children's victimization (Nansel et al., 2001; Veenstra et al., 2005). The current study's measure of being bullied combined personal experiences with those of a friend. Mothers' efforts to socialize caution were expected to be higher, and possibly increase, in correspondence with adolescents' reports of themselves or a friend being bullied. Predictions regarding compassion were yet again unclear. Either direction could be predicted in terms of compassion. Adolescents' experiences of being bullied may result in "*quid pro quo*" messages from mothers, that is, messages suggesting, "don't help others if they won't look out for you;" on the other hand, in these situations mothers may stick to the *golden rule* of treating others with compassion, "as you would want to be treated."

Family Context

Three unique aspects of the family context were examined in relation to mothers' value messages: maternal knowledge of peers, mothers' concerns for the child, and family religiosity.

Knowledge. Parental knowledge of children's activities is a dynamic process between parent and child (Crouter, Bumpus, Davis, & McHale, 2005; Kerr & Stattin, 2000). Parents who are more knowledgeable about children's activities tend to be more successful with socialization strategies (Grusec, 2002). Building on this line of work, the current study argued that maternal knowledge of friends should be related to value messages about how to treat others. Greater knowledge of children's friends should bolster messages about helping others (i.e., compassion). Likewise, when parents have greater knowledge of their child's peers, they may feel more comfortable with their adolescents' peer interactions and endorse fewer messages of caution.

Concerns. Mothers' concerns for their child may be a proxy for their socialization goals. Socialization goals represent parental expectations for the child's behaviors and future (Grusec & Goodnow, 1994), and having salient concerns may intensify socialization strategies. In addition, mothers' concerns may in part reflect the anxieties of children, as children often raise the subjects that are discussed in parent-child interactions (Parke & Buriel, 2006). Regardless of the origins of mothers' concerns for their child and their future, I expected that greater concerns would be associated with greater compassion *and* caution messages. However, these concerns and anxieties are more conceptually related to messages of caution.

Religiosity. Religions around the world share a common theme of espousing values of compassion (Dalai Lama, 2001), and compassion and religiosity are positively linked (Sprecher & Fehr, 2005). Moreover, research has documented an association between religiosity and prosocial behaviors, such as volunteering, among adults (e.g., Mattis et al., 2000) and adolescents (Smetana & Metzger, 2005; Youniss, McLellan, & Yates, 1999). The role that maternal socialization plays in this association remains unspecified (Smetana & Metzger, 2005). Religiosity could bolster socialization messages of compassion by connecting mothers to a network of fellow parents who share a common set of values (Parke & Buriel, 2006). Given the lack of extant literature, no relationship was expected between family religiosity and caution.

Neighborhood Context

Social capital perspectives argue that cohesive neighborhoods and networks of caring adults can offer valuable support to parents (Coleman, 1988; Putnam, 2000), and that neighborhood contexts can play a role in socialization processes (Parke & Buriel, 2006). The current study measured two aspects of neighborhood context: *neighborhood cohesion* reflects a positive, supportive climate and *ease of attaining substances* in the community is an index of neighborhood risk. Positive neighborhood climates bolster individuals' commitments to helping others as well as their social trust (Putnam, 2000). Likewise, the present study hypothesized that neighborhood cohesion would positively predict mothers' messages of compassion and negatively predict their messages of caution. When the outside world is less welcoming, parents may cocoon children, protecting them from exposure (Bugental & Goodnow, 1998). In stressful neighborhood contexts, authoritarian parenting is sometimes linked to positive outcomes, because restrictions may be a way to protect against risk (cf. Parke & Buriel, 2006). Research on emotional reactivity suggests that behavioral inhibition and wariness of risks may be a protective factor in high-risk neighborhoods (Haapasalo & Tremblay, 1994). Thus, ease of attaining illegal substances in adolescence, a measure of neighborhood risk, should be positively related to mothers' caution messages.

Study Goals

Building on theoretical and empirical work on transactional and contextual parenting processes, this study's goal was to identify maternal, child, and contextual correlates of mothers' values messages of compassion and caution. I charted new territory by longitudinally examining a range of correlates, and separate multilevel models were conducted to identify predictors of mothers' compassion and caution messages. The study design allowed me to examine between- and within-person effects of socialization messages, that is, whether predictor variables related to level differences and/or change over time in mothers' value messages. Between-person effects reflect individual differences between mothers that were likely to be present prior to the study and

relatively stable. Within-person effects suggest a dynamic process of change in a predictor relating to change in mothers' socialization messages, and thus these effects point to flexibility in maternal strategies. The majority of *a priori* predictions related to level differences, and given the novelty of the study, many examined associations were exploratory in nature.

Method

Data came from the Social Responsibility and Prevention Study, a three-year longitudinal study of adolescents, parents, and teachers with the overarching goal of understanding the development of adolescents' social responsibility and intentions to intervene in the alcohol, tobacco, and other drug use of friends. Adolescents were surveyed annually in 5th through 12th grade classrooms across eight school districts in two northeastern and midwestern states, representing rural, urban, and semi-urban districts. Adolescents were recruited through social studies classrooms in participating schools. Adolescents and parents gave active consent to participation, resulting in a wave 1 response rate of 79% for adolescents. In wave 2, researchers surveyed adolescents who had participated in the first wave and were still in the school system, and new students were recruited through social studies classrooms (as in wave 1), resulting in a wave 2 response rate of 54%. In wave 3, only students who participated in a previous wave and were in the school system were sought for the study, resulting in a wave 3 response rate of 65%.

Parents (biological, step-, or adoptive) or guardians of participating adolescents were recruited via surveys mailed to their home addresses. Two surveys were mailed to each home, and each parent was compensated \$20 for returning a survey. No other follow-ups were conducted or incentives provided to encourage participation. Although both parents' participation was requested, in the majority of cases, only one parent (84% mothers) participated. The wave 1 response rate for one parent per family was 40% ($n = 1117$). For waves 2 and 3, response rates for one parent per family based on the obtained adolescent sample (44% and 41%) were similar to that of wave 1. The present study used data from 1638 mothers who participated in at least one wave of the study (nine cases were omitted from analyses because adolescents were outside of the typical age

range for their grade). The vast majority of the sample consisted of biological or adoptive mothers; 24 stepmothers, eight guardians (most self-identified as grandmothers), and two mother figures (father's domestic partner) were also included. Due to the small number of fathers in the study longitudinally ($n = 627$ at any wave, $n = 57$ across three waves), it seemed imprudent to use data from fathers in the current analyses.

Most mothers reported completing either a high school education (32%) or some college or a community college degree (40%); in addition, 25% reported a bachelor's degree or higher and 3% did not finish high school. Family income was lower than \$30,000 for 24% of the sample: 28% had family income between \$30,001 and \$50,000, 43% reported between \$50,001 and \$100,000, and 5% reported a family income of more than \$100,000. Thus, the sample represented a range of socioeconomic levels. Mothers' ethnicity was 85% White or European American, 10% Black or African American, and 5% of another ethnicity. Adolescents ranged in age from 10 to 19 years at wave 1 ($M = 13.13$, $SD = 2.03$), and 55% were female.

Missing Data

Patterns of missingness are reported in Table 1-1 for the sample of 1638 mothers. The majority of mothers (56.4%) completed one wave of data, 27.8% completed two waves, and 15.8% completed three waves. To reduce bias to inferences due to missing data, multiple imputation of data was employed. This strategy handles missing data beyond the methods built into the multilevel modeling framework, and is acceptable for use with nested models that have random intercepts and no other random effects (Graham, 2009).

Using SAS PROC MI, 40 datasets were imputed as recommended by Graham and colleagues to avoid power fall-off (Graham, Olchowski, & Gilreath, 2007). The imputation analysis included 84 variables, representing all items across waves that were in models. A ridge prior was used, due to the relatively small proportion of complete cases. This command functioned as if adding 0.75% ($n = 12$) cases to the bottom of the dataset during imputation such that all variables were uncorrelated. These cases suppressed correlations and thus stabilized the

model (Graham, Cumsille, & Elek, 2003; Schafer, 1997). Data were set to impute after 200 iterations, based on convergence of the EM model. The imputation model converged in 39 iterations, based on EM posterior mode. Diagnostic plots of each variance, covariance, and autocorrelation indicated normality in data augmentation. Relative efficiency estimates for all subsequent multilevel models were above 98%, demonstrating the acceptability of the imputation.

The descriptive statistics reported from here forward were derived from an EM dataset. The expectation maximization algorithm provides excellent maximum likelihood estimates for parameters where hypothesis testing is not used, such as reliability coefficients, factor analysis, means, and standard deviations (Graham et al., 2003).

Measures

Value socialization messages. Value socialization messages tapped the extent to which mothers agreed that they endorse value messages; thus, changes over time were discussed as representing increased or decreased emphasis on communicating these value messages. Means were plotted by wave and adolescent age cohort for the two constructs in Figures 1-1 and 1-2.

Six items measured mothers' value messages of compassion, and response options were *Strongly Disagree* (1) to *Strongly Agree* (5). Items began with "I tell my children...", and content included: "respect people no matter who they are," "not to judge people before you get to know them," "treat everyone equally," "stand up for others, not just yourself," "be helpful to others, especially the less fortunate," and "be aware of other people's feelings." Alphas across the three waves were .77, .74, and .78.

In addition, five items measured mothers' value messages of caution. Items began with the same stem described above, "I tell my children...", and content of the messages included "people sometimes take advantage of you," "you can't always trust people," "stay away from the wrong crowd," "be careful who you are kind to", and "be careful in dealing with people." Items were adapted from Katz and Hass (1987), and response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). Alphas across the three waves were .64, .63, and .71.

Mother characteristics. Mothers reported their level of education using a 5-point scale, where options were *Didn't finish high school* (1), *High school diploma or GED* (2), *Some training after high school or community college degree* (3), *Bachelor's or 4-year degree* (4), and *Master's, Ph.D. or professional degree* (5). Mothers reported their marital status, which was dichotomized to represent *Married* (1) or *Other* (0); other statuses included divorced or separated, single, and widowed. Mothers' race was dummy-coded into *Black*, *Other Minority*; the reference group was *White*. Given the relatively low proportions of Hispanic and Asian individuals, it was necessary to combine non-Black ethnic minorities into a single category. The focus of race comparisons was on Black versus White participants. Other minorities were included into a single dummy variable to facilitate this comparison of interest.

Adolescent leisure attitudes and behaviors. Items measuring substance use were taken from the Adolescent Alcohol Prevention Trial (Graham, Rohrbach, Hansen, Flay, & Johnson, 1989) and were similar to items in the Alcohol Initiation Index (AII) (Spath, Redmond, & Lepper, 1999). Adolescents were assured that their responses to these questions were confidential. Three items asked whether adolescents had ever used cigarettes; beer, wine, or liquor; and marijuana/other drugs. Response options were *Never* (1), *Quit, Don't do it anymore* (2), *Once or twice ever* (3), *Once or twice in the last month* (4), *Once or twice in the last week* (5), *More than twice a week* (6). An additional two items addressed whether adolescents had ever ridden "in a car with someone who was drunk" or "gone to a party where there was a lot of drinking going on." Response options were *Never* (1), *Rarely* (2), *Sometimes* (3), and *Often* (4). A factor analysis confirmed that these items formed a single factor, representing 54%, 58%, and 58% of the variance at waves 1, 2, and 3, respectively. Items were standardized in order to examine them on the same scale. Alphas across the three waves were .77, .82, and .81.

Positive substance use attitudes were measured with three items: "Secondhand smoke is not really dangerous," "Smoking marijuana is not any more dangerous than smoking a cigarette," and "Having a few drinks at a party is not going to hurt anyone." Response options ranged from

Strongly Disagree (1) to *Strongly Agree* (5), and higher scores reflected attitudes that substance use was not harmful. Alphas across the three waves were .56, .63, and .69.

Adolescents' community service was measured by one item asking adolescents if they ever did any volunteer or community service work [*Yes* (1) or *No* (0)]. In total, 65% of adolescents reported doing community service at wave 1, 47% at wave 2, and 53% at wave 3.

School context. Two separate dummy variables represented whether adolescents transitioned from elementary to middle school [*Yes* (1) or *No* (0)] and from middle school to high school [*Yes* (1) or *No* (0)]. Variables were constructed based on information about the school youth attended at each wave. A transition was counted when students were in their first year at a new school; thus, transitions could only occur at one wave and some transitions happened at wave 1. In total, 10% of youth transitioned to middle school at wave 1, 11% transitioned at wave 2, and 18% at wave 3; 8%, 14%, and 14% of students transitioned to high school at waves 1, 2, and 3, respectively. Variables were nearly mutually exclusive; only four students made both transitions across the three years.

Whether adolescents experienced being bullied at school was measured in the first two waves by asking adolescents to respond *Yes* (1) or *No* (0) to the following question, "Have you or any of your friends been bullied in school?" At wave 3, the question was asked differently: First, adolescents were asked if any of their friends had been bullied in school, and then they were asked, "Did it happen to you?" A response of *yes* to either question was coded into a single variable to mirror coding at the first two waves. Personally being bullied and a friend being bullied could not be teased apart in the first two waves. In total, 53% of adolescents reported that either they or a friend had been bullied at wave 1, 41% at wave 2, and 29% at wave 3.

Family context. Four items at wave 1 measured mothers' knowledge of friends, which reflected perceived knowledge of how well parents knew the child's best friend, best friend's parents, most of the child's friends, and most parents of the child's friends. Responses ranged from *Not at All* (1) to *Very Well* (3). Alphas across waves were .83, .87, and .81. Mothers' concerns for their children and their future were measured by six items. Items included concerns

about getting involved with the wrong crowd, violence and drugs at school or in the community, getting into a good college, getting a job that pays well, and finding steady work. Response options were *Not at All Concerned* (1), *Somewhat Concerned* (2), and *Very Concerned* (3). Despite the wide range of concerns, all items loaded onto a single factor in factor analyses across the three waves. Alphas across waves were .77, .76, and .76. Family religiosity was measured by mothers' report of a single item, "Do you consider yours a religious family?" Response options were *Yes* (1) or *No* (0).

Neighborhood context. Adolescents reported on neighborhood cohesion using eight items that measured positive perceptions of the neighborhood, such as perceptions that people in the neighborhood feel safe, trust each other, count on each other, and work together. Factor analysis pointed to a single factor. Alphas across waves were .85, .86, and .88. Mothers reported ease of attaining illegal substance in the community by responding to three items about whether adolescents could get access to cigarettes, alcohol, and drugs if they desired them. Response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). Alphas across waves were .93, .93, and .95.

Analytic Plan

Multilevel modeling was conducted using SAS PROC MIXED 9.1. Analyses were conducted in a series of steps.

Age, period, and cohort. First, separate unconditional growth models were estimated to understand how mothers' messages of compassion and caution changed over time. This study represented an accelerated longitudinal or cohort-sequential design (Raudenbush & Chan, 1992), meaning that adolescents of varying ages were followed across a short time frame (see mean plots in Figures 1-1 and 1-2). This design had the advantage of studying developmental patterns across approximately 10 years, yet only surveying families for three consecutive years (Raudenbush & Chan, 1992). Given this complex design, changes over time could have represented changes due

to age, period, or cohort effects. Thus, I examined trends across age, period, and cohort using multilevel models with waves of data nested within individuals.

To test the hypothesis that mothers' value messages change due to adolescent age, models examined adolescent age as a within-person (level 1) effect, centered at age 14 (mean across the study). The quadratic polynomial for age was centered at the sample mean for the quadratic term ($M = 5$), and the cubic polynomial for age was calculated by multiplying the centered linear and quadratic terms (Osgood, personal communication, May, 2009). Centering lessened the correlation between the linear, quadratic, and cubic terms. Age effects in this study represented within-person change in mothers' value messages due to adolescents' age. Cohort effects were estimated using individuals' means (across waves) for the linear, quadratic, and cubic age terms at level 2. These three mean terms captured the variance in mothers' messages due to adolescents being in an older or younger age group across the study. In other words, cohort effects in this study represented between-person differences in mothers' value messages due to adolescents' age group or "age cohort". Typically, these effects also include between-person differences that can come from attrition, although this bias was reduced here via the use of multiple imputation. Finally, period effects were examined by including two dummy variables for wave 2 and wave 3, with wave 1 as the reference category. These terms captured change in value messages that characterizes mothers with adolescents of all ages. All three effects – age, period, and cohort – were tested in order to ascertain whether change over time in mothers' value messages was due to age, which was the effect of substantive interest. All models included random intercepts only. Table 1-2 depicts the age, cohort, and period effects entered into models.

Given the inherent confound between age, period, and cohort (Glenn, 2005), all three effects could not be estimated simultaneously. Thus, three models were estimated for each dependent variable to evaluate which combination of age, period, and cohort effects most parsimoniously captured change in mothers' value messages. Effects were evaluated using both

single coefficient tests of statistical significance and Wald multiple-coefficient significance tests for age, period, and cohort terms, respectively.

Model building. After settling on the best-fitting model of time for messages of compassion and caution, a separate model was estimated for each predictor category: mothers' characteristics, adolescent gender, adolescent leisure attitudes and behaviors, school context, family context, and neighborhood context. Each set of predictors was entered separately to fully understand associations. Adolescent gender (male versus female), mothers' characteristics (education, marital status, and race), and family religiosity were entered as level 2 (time-invariant) predictors. All other variables were entered as both level-1 (within-person) and level-2 (between-person) predictors in models.

In the final analysis step, predictors were combined into full models to examine unique effects of predictors for mothers' messages of compassion and caution, respectively.

Results

In first examining compassion and caution messages descriptively, means for compassion messages showed some decline across waves ($M_{w1} = 4.36$, $SD_{w1} = .47$; $M_{w2} = 4.23$, $SD_{w2} = .48$; $M_{w3} = 4.18$, $SD_{w3} = .47$) but remained at high levels. Means for caution messages were somewhat lower and showed a less consistent pattern ($M_{w1} = 3.90$, $SD_{w1} = .57$; $M_{w2} = 3.92$, $SD_{w2} = .52$; $M_{w3} = 3.82$, $SD_{w3} = .53$). The two constructs showed a small but positive correlation within waves ($r_{w1} = .11$, $r_{w2} = .06$, $r_{w3} = .13$, p 's < .001).

Age, Period, and Cohort

Compassion. Three separate models were estimated to examine combinations of age, period, and cohort effects (see Table 1-3 for models). Model 1 included level 1 age terms (linear, quadratic, and cubic) and corresponding means at level 2 to represent cohort effects. Linear age was negatively related to mothers' compassion ($\beta = -.09$, $p < .001$), and linear cohort (i.e., the linear age mean) was positively related to mothers' compassion ($\beta = .08$, $p < .001$). Quadratic and cubic terms were not significant. Wald multiple-coefficient significance tests confirmed

significant effects for both age and cohort (see Table 1-3). Model 2 included linear, quadratic, and cubic age terms as well as the two dummy-coded variables representing period. As shown in Table 1-3, results indicated a significant decline in mothers' compassion at wave 2 ($\beta = -.12, p < .001$) and wave 3 ($\beta = -.16, p < .001$), each compared to wave 1. Mothers' compassion decreased marginally with each increase in adolescents' (linear) age ($\beta = -.01, p = .09$). Wald tests indicated that period effects were significant, whereas age terms were not. Model 3 included period and cohort and is shown in Table 1-3. Period effects remained significant and thus unchanged from the previous model, and Wald tests showed that cohort effects were not significant. In other words, after taking period into account, neither age nor cohort explained significant variation in compassion. Thus, change in mothers' compassion messages was most parsimoniously explained by period terms alone, without age and/or cohort effects. The final trimmed model of period only is depicted in Table 1-3.

These results indicated that change in mothers' compassion messages declined consistently across the three occasions, regardless of adolescents' age or age cohort. A period only model best fit the data, as there were no significant single coefficient or multiple-coefficient tests for age or cohort effects after period was included. Figure 1-1 shows that the raw data were consistent with a period effect, as changes over time for mothers' compassion appeared consistent across age and age cohort.

Caution. The same sequence of three models was tested for mothers' messages of caution (see Table 1-3). In Model 1, linear age was significantly and negatively related to mothers' caution ($\beta = -.03, p = .03$). The multiple-coefficient Wald test for age effects was marginal. Cohort terms were not significant. Model 2 tested the period and age model. Period effects revealed a significant increase in mothers' caution at wave 2 ($\beta = .07, p < .001$), but no difference between waves 1 and 3. Model 2 also showed that mothers' caution declined over time in relation to linear age ($\beta = -.01, p = .04$), but no other age terms were significant. Wald multiple-coefficients tests revealed significance for period but not for age. Model 3, also shown in Table 1-

3, included period and cohort effects. Period effects indicated a marginal increase in mothers' caution at wave 2 ($\beta = .04, p = .07$) and a significant decrease at wave 3 ($\beta = -.05, p = .01$). Wald tests suggested that whereas period effects were significant, cohort effects were not.

The most parsimonious model for mothers' caution messages was determined to be the period and age model. The final trimmed model for caution, including period and age effects, is depicted in Table 1-3. This model, showing a significant increase in mothers' caution at wave 2 and an age-related decline in mothers' caution, was also consistent with the patterns of raw means in mothers' caution (see Figure 1-2). In the trimmed model, non-significant quadratic and cubic age terms were omitted based on non-significant Wald multiple-coefficient tests for the two caution models that included age. As seen in Table 1-3, the trimmed model (including linear age and the two period terms) produced the same significant results.

In the next analysis step, separate models were tested for each set of predictors and included period effects for compassion models and period and age effects for caution models. These models are not pictured in tables.

Mother Characteristics

Compassion. Models including mother characteristics tested the effects of mothers' education, race (Black and Other versus White), and marital status (married versus other). Results for compassion revealed that mothers who were married reported greater messages of compassion ($\beta = .05, p = .05$). Mothers' education and race were not significant predictors.

Caution. Mother characteristics were stronger predictors of caution messages. Mothers' education was significantly and negatively related to mothers' messages of caution ($\beta = -.07, p < .001$). In addition, Black mothers reported greater messages of caution compared to White mothers ($\beta = .17, p < .001$). Mothers who were married reported less emphasis on caution compared to unmarried mothers ($\beta = -.09, p < .001$).

Adolescent Gender

Adolescent gender was not a significant predictor of mothers' compassion messages. As predicted for the caution model, mothers with daughters reported greater caution messages than mothers with sons ($\beta = -.04, p = .05$).

Adolescent Leisure Attitudes and Behaviors

Compassion. Adolescent leisure models included within-person and between-person effects of three variables: adolescents' substance use, substance use attitudes, and community service. Results indicated a between-person effect for positive substance use attitudes: mothers whose adolescents had more positive attitudes toward substances, on average, tended to also report less emphasis on compassion messages on average ($\beta = -.05, p = .02$). In addition, and as hypothesized, a between-person effect emerged for community service: mothers whose adolescents engaged in more community service than average across the study reported greater compassion messages on average ($\beta = .02, p = .04$). Mothers' compassion messages were not predicted by adolescents' substance use. In addition, there was no significant within-person change in any leisure variables.

Caution. In the model with adolescent leisure attitudes and behaviors predicting mothers' caution messages, only one significant effect emerged. Community service was related to mothers' caution at the between-person level: mothers whose adolescents engaged in more community service than average across the study reported fewer messages of caution on average ($\beta = -.22, p < .01$). Adolescents' substance use behavior and attitudes were not significant.

School Context

Compassion. Predictors in school context models constituted transitions to middle school, transitions to high school, and experiences of being bullied. The within-person effect of being bullied was a significant predictor of mothers' compassion messages. Specifically, the within-person effect indicated that on occasions which adolescents reported experiences with being bullied, mothers reported lower messages of compassion ($\beta = -.03, p = .04$). A marginal between-

person effect of experiencing being bullied was observed in the opposite direction: mothers whose adolescents reported more experiences with being bullied on average reported slightly greater messages of compassion on average ($\beta = .07, p = .08$). Transitions to middle school and high school were not significant predictors of mothers' compassion.

Caution. None of the school context variables – transitions to middle school, transitions to high school, and experiences of being bullied – were significantly associated with levels of or changes over time in mothers' messages of caution.

Family Context

Compassion. Predictors for family context models included between-person and within-person effects for knowledge of friends, mothers' concerns for the child, and family religiosity. Results indicated that mothers reporting more knowledge than average tended to have greater reports of compassion messages ($\beta = .16, p < .001$). Also, mothers with greater concerns reported greater compassion messages, on average ($\beta = .06, p = .03$). Furthermore, as predicted, mothers in more religious families reported greater messages of compassion ($\beta = .06, p = .03$). Within-person effects for these variables were not significant.

Caution. Mothers' concerns significantly predicted mothers' caution messages. As expected, between-person effects for concerns indicated that caution messages were higher on average for mothers who were more concerned about their child's future, on average ($\beta = .33, p < .001$). Moreover, a significant within-person effect indicated that as mothers' concerns increased, their caution messages showed a corresponding increase ($\beta = .05, p = .03$). Mothers' knowledge and family religiosity were not significant predictors of caution messages.

Neighborhood Context

Compassion. Neighborhood context was measured by adolescents' reports of neighborhood cohesion and mothers' reports of ease of attaining illegal substances in the community. The between-person effect of neighborhood cohesion positively predicted mothers' compassion messages ($\beta = .08, p < .001$): Mothers whose adolescents perceived the neighborhood

as being a positive and cohesive place reported greater messages of compassion. Other neighborhood effects were not significant.

Caution. Neighborhood cohesion negatively predicted mothers' caution messages: mothers whose adolescents reported greater neighborhood cohesion on average also reported less emphasis on caution ($\beta = -.07, p < .001$). Ease of attaining substances predicted mothers' caution messages, but between-person and within-person effects were in opposite directions. That is, mothers who reported substances as easier to obtain on average also reported fewer caution messages ($\beta = -.04, p = .02$). However, when mothers' perceptions of ease of substance attainment increased, caution messages correspondingly increased ($\beta = .02, p = .04$).

Full Models

In the final analysis step, all predictors were included into single models for mothers' compassion and caution messages, respectively. Full models illustrated the unique variability accounted for by each predictor, and thus demonstrated the robustness of effects. Several variables were no longer statistically significant predictors in the full models, yet most variables remained significant with effects in the same direction. Indicators that were not significant in *either* of the two final models were subsequently pruned to simplify models. Variables in the leisure attitudes and behaviors category – i.e., adolescent substance use, substance use attitudes, and community service – were pruned as were variables associated with transitions to middle school and high school. Final models are presented in Table 1-4.

Compassion. In the full model, mothers' compassion messages decreased between wave 1 and waves 2 and 3. In addition, experiences of being bullied remained a significant within-person predictor: When adolescents' reports of experiencing bullying increased, mothers' messages of compassion correspondingly decreased. All three indicators of family context remained significant predictors of mothers' compassion messages. Thus, mothers with greater knowledge of their child's friends, greater concerns for their child's future, and who reported family religiosity also reported greater messages of compassion. Finally, neighborhood cohesion

remained a statistically significant predictor of mothers' compassion messages, with higher neighborhood cohesion related to more emphasis on compassion. Several effects became non-significant in the full model, including marital status, adolescents' community service, and adolescents' substance use attitudes.

Caution. In the full model, mothers' messages of caution increased at wave 2, yet the linear age-related decline was no longer significant. Mother characteristics remained significant predictors of caution messages: Mothers who were less educated, Black, and unmarried tended to reported communicating greater messages of caution to their children. Mothers of daughters also reported more emphasis on caution. Mothers' concerns remained a significant within-person and between-person predictor of caution messages: mothers with greater concerns on average also reported greater emphasis on caution, and increases in mothers' concerns corresponded with increases in caution messages. Regarding neighborhood context, increases in mothers' reports of ease of attaining substances corresponded with increases in caution messages. The between-person effects for ease of substance attainment and neighborhood cohesion were no longer significant in predicting caution messages.

Discussion

Complex longitudinal models with multiple predictors and multiple reporters were tested to understand the role of various correlates in explaining mothers' value socialization messages. This study contributes novel empirical insights to the scientific study of parenting in context. Unique sets of predictors emerged for mothers' value messages of compassion and caution, respectively: The family context was a source of unique predictors for compassion messages, whereas messages of caution were predicted primarily by mothers' demographic characteristics. In addition, unexpected longitudinal patterns emerged for both types of messages that emphasized period effects. In this discussion, I highlight the ways in which this study helps us to better understand dynamic socialization processes and the lives of mothers and adolescents.

Advancements in Socialization Research

This study charted new territory by examining longitudinal correlates of mothers' value messages of compassion and caution. An understanding of value socialization is enhanced by my consideration of socialization messages as endogenous variables of substantive interest, examination of these messages in context, and content-specific analysis of socialization.

My focus on mothers' reports of verbal value socialization messages adds specificity to previous empirical work. The majority of past research on values has generally assumed that an association between parents' personal values and adolescents' values is a proxy for socialization (e.g., Boehnke, 2001; Roest, Dubas, & Gerris, 2010; Whitbeck & Gecas, 1988; but see Knafo, 2003). Thus, current empirical understanding of value development lags behind both theoretical conceptualizations of value socialization (e.g., Kuczynski & Grusec, 1997) and empirical examination of socialization strategies in other domains such as racial socialization (Hughes et al., 2006; Tyler et al., 2008). By exploring verbal value messages, this study starts to unlock some of the mystery about when and why parents communicate certain value messages to adolescents. A range of correlates of these messages were tested and findings revealed between-person differences in mothers' compassion messages that were predicted by mothers' knowledge of friends, family religiosity, mothers' concerns, and adolescent reports of neighborhood climate. Mothers' caution varied by socioeconomic background, family structure, race/ethnicity, adolescent gender, and mothers' concerns. Described more fully below, these results provide insights into some of the origins of individual differences in value socialization messages.

This study also rigorously tested the idea of flexibility in mothers' value socialization messages, using a range of within-person predictors. Several effects suggested that mothers adapt value messages over time in a dynamic way: For example, compassion messages changed in concert with adolescents' experiences of being bullied, and caution messages varied in relation to changes in mothers' concerns and ease of obtaining illegal substances in the community. The dynamic relationships found for compassion messages were particularly intriguing: Few *a priori*

predictions were made regarding changes in mothers' compassion messages, given the argument that parental socialization of moral development is likely inflexible (Kuczynski & Grusec, 1997; Smetana, 1997). Also, dynamic correlates of compassion messages were found despite the potential social desirability of this construct. Various scholars argue that parenting is most effective when flexible (Dix, 1992; Grusec & Goodnow, 1994), and in this study, tests of within-person predictors give insights into correlates of flexibility. Yet examining the *effectiveness* of parental flexibility, by linking changes in socialization to changes in adolescent outcomes, for example, was beyond the scope of this study. A key next step for future research is to examine how messages of compassion and caution work in concert to influence the development of adolescents' value orientations. Furthermore, it is possible that parental flexibility happens in moment-to-moment interactions (Dix, 2000) and would be better captured in a longitudinal design with a shorter time frame than annual waves. For example, a more intensive repeated measures design with weekly assessments across a challenging transition, such as the transition to middle school, may elucidate more specifically what kinds of child experiences pull for adaptations in mothers' socialization strategies.

Compassion and caution represent two fundamental messages regarding how to treat others. As demonstrated in this study by the positive correlation between the two, these messages are not necessarily mutually exclusive. Both represent important content areas that parents use to guide their adolescents' interactions with others (Flanagan, 2003a; Goodnow, 1997; Pratt et al., 2004), and compassion as well as some caution are both clearly needed to effectively navigate interactions with others. By and large, a different set of factors predicted compassion and caution, respectively. Though this study certainly did not test an exhaustive list of the value messages conveyed by parents, a tentative, broad conclusion is that socialization may be content-specific: Parents may place emphasis on certain values based on their own backgrounds, their child's characteristics, and the broader social context. This idea is supported by other scholarship documenting differences in parenting practices within and across social class and racial-ethnic

groups (e.g., Crouter, Baril, Davis, & McHale, 2008; McHale et al., 2006). In further investigations of value socialization, a content-specific approach would be useful for uncovering important differences based on ideographic individual and family experiences.

Period, Not Age

The tests of age, period, and cohort effects were undertaken based on a substantive interest in understanding change in mothers' messages related to adolescent age. These kinds of rigorous tests are highly advised for longitudinal, accelerated cohort designs (Raudenbush & Chan, 1992). Despite some reasons to expect age-related declines in messages of compassion and caution (described in the introduction), this study did not provide evidence for age-related adaptations in mothers' socialization messages. Instead, I concluded based on careful analyses that period effects, compared to age and cohort, accounted for the most variance in the longitudinal changes in mothers' messages. In other words, value messages changed in the same way over time for mothers in the sample regardless of their adolescents' age. Compassion and caution messages showed distinct patterns of change across waves, such that compassion decreased at the two later waves and caution increased at wave 2 and then returned to original levels. These patterns could reflect measurement artifacts such as regression to the mean or practice effects (Shadish, Cook, & Campbell, 2002). If so, based on the differential patterns of change over time for the two types of messages and a unidirectional pattern expected due to these measurement artifacts, it may be the case that compassion messages were more affected by measurement variance than were caution messages.

Beyond measurement error, what might account for these unexpected effects? Period effects call for contemplating the historical milieu: Survey data for this study were collected from Spring 2002 to Spring 2004, beginning shortly after the U.S. terrorist attack of September 11th, 2001 and covering a period where the U.S. engaged in war with Afghanistan (since October 7, 2001) and Iraq (since March 20, 2003). Compassion patterns fit with scholarship documenting strong prosocial reactions in response to 9/11 such as increases in volunteering in crisis-relief

organizations and a wide range of other charities in response to 9/11, which subsequently tapered off (e.g., Penner, Brannick, Webb, & Connell, 2005). Likewise, compassion messages were highest at wave one in this study (2002) and subsequently declined. Both compassion towards others as well as caution and mistrust have been documented as common themes in parents' qualitative reports of socialization after 9/11 (Stoppa, Syvertsen, Wray-Lake, & Flanagan, under review). The temporary increase in mothers' caution messages at wave 2 may have coincided with the beginning of the Iraq war in spring 2003. Of course, these explanations are only speculations difficult to test empirically and generated *post hoc*, given that I did not anticipate period effects.

This study utilized a relatively straightforward method of examining the confounding factors of age, period, and cohort to isolate the most parsimonious explanation for change over time. This approach should give pause to developmental scientists interested in uncovering age-related longitudinal patterns, especially when using accelerated cohort designs (Raudenbush & Chan, 1992). Period and/or cohort effects may be masquerading as documented age effects in the developmental literature. Sophisticated developmental science should not rest on the assumption that any change over time is due to age, but instead should continue the sociological tradition of carefully partitioning these effects (Glenn, 2005).

Mother Characteristics

Education, marital status, and race-ethnicity were examined as demographic characteristics of mothers that may predict value messages. No differences in compassion messages were expected in relation to these characteristics, and indeed, no evidence was found. Accepting the null hypothesis never offers definitive support for an idea, yet this study suggests that compassion may be equally emphasized across families in the sample regardless of social background. Similar to arguments made for moral development (Kuczynski & Grusec, 1997; Smetana, 1997), compassion may be a prosocial quality valued across social groups. On the other hand, all three of these characteristics predicted level differences in mothers' caution messages.

Greater caution messages may be espoused by groups that are more vulnerable, given that these messages were more emphasized among mothers who were less educated, not married, and Black or African American.

I used mothers' education as a proxy for socioeconomic status, and results supported hypotheses that mothers of lower SES emphasize more caution. Two distinct yet co-existing mechanisms may be responsible for this association. The link could be explained by parenting style, as parents of lower SES tend to be more authoritarian (cf. Conger & Dogan, 2007), and lower parental education has also been associated with valuing obedience for children (Kohn, 1995). Parental strictness and desire for obedience conceptually overlap to some degree with cautious messages to be wary of others and stay away from the wrong crowd. In addition, the link between mothers' low education and caution could be attributed to greater perceived environmental risk for children. Greater wariness may be warranted in high-risk neighborhoods, which are more likely living spaces for lower SES families (cf. Parke & Buriel, 2006). This explanation is consistent with my finding that caution messages are higher when illegal substances are perceived as easier to obtain. Interestingly, however, the effect of mothers' education remained even after accounting for the role of neighborhood context. Examining other dimensions of social background and socioeconomic risk would help us further understand this association (Conger & Dogan, 2007).

Family structure has been relatively unexamined in relation to value socialization, thus no *a priori* hypotheses were made. Non-married mothers reported greater messages of caution, and this category in the sample included those divorced, separated, single, and widowed. Various studies have suggested that children of non-married mothers may be more vulnerable (cf. Amato, 2001), yet negative effects may be temporary and mitigated by protective factors (Demo & Cox, 2000). Mothers without spousal support may feel a greater need to communicate strategies to adolescents to pre-arm or cocoon them from harm (Goodnow, 1997). Also, adolescents in single-parent homes may spend less time with parents due to constraints of employment or joint-custody

(Turtiainen, Karvonen, & Rahkonen, 2007), which may prompt mothers to heighten messages of protection and wariness. More focused and nuanced examinations of diverse family types are needed, however, to fully understand the role of family structure on value socialization processes.

In line with theory and empirical work on racial socialization (Hughes & Chen, 1997; Hughes et al., 2006; Demo & Hughes, 1990), Black mothers in this study reported greater messages of caution. By definition, a component of racial socialization includes parents promoting mistrust of the majority group and preparing them for bias from others (Demo & Hughes, 1990; Hughes & Chen, 1997), a construct that is conceptually similar to the caution messages in this study and to the socialization strategies of cocooning and pre-arming relevant to families across cultural contexts (Goodnow, 1997). Scholars should strive to connect value socialization literature with the disparate literatures on racial socialization in ethnic minority (primarily African American) families (e.g., Hughes et al., 2006; McHale et al., 2006) and socialization in immigrant families that fits within the study of acculturation (Knight, Bernal, Cota, Garza, & Ocampo, 1993). These lines of research have identified culturally-specific content in value socialization messages and highlighted processes by which values are socialized; these concepts could be usefully extended to understand the family origins of values in broader and culturally diverse samples of families. For examples of studies that are starting to make these linkages, see Tyler et al. (2008) and Knafo, Assor, Schwartz, and David (2009).

Gender

The present study did not offer support for the hypothesis that mothers of daughters would espouse greater messages of compassion than mothers of sons. The prosocial development literature has found such associations, however, and socialization is an oft-cited explanation for gender differences in care orientations (Eisenberg & Morris, 2004; Kochanska & Thompson, 1997). Yet, mothers in this study made no distinction. Gender effects in socialization are perhaps more accurately examined using a within-family sibling design because comparisons control for

parental characteristics and other shared environmental influences (e.g., Crouter, Whiteman, McHale, & Osgood, 2007).

Hypothesized gender differences were supported for caution messages, as mothers with daughters reported greater caution messages than mothers with sons. Mothers may have greater worries about daughters' safety and thus offer more verbal strategies for protection to daughters. This idea fits well with some literature showing that parents are more restrictive of daughters (Madsen, 2008; Seydlitz, 1991).

Being Bullied

One of this study's most striking findings was that adolescent reports of themselves or a friend being bullied predicted within-person change in mothers' messages of compassion. Mothers may back off in communicating compassion when adolescents experience run-ins with a bully. Thus, *quid pro quo* messages, to only act nicely if nice behavior is received, may trump the golden rule, to treat others as one wants to be treated, in this sample. Moreover, this finding intriguingly suggests that certain experiences of adolescents can prompt their mothers to decrease messages of compassion. I expected that adolescents' experiences of being bullied would prompt greater caution messages, as being bullied seems like a logical trigger for messages to heighten wariness of others in an effort to avoid future victimization; however, this effect was not significant. Caution may not be associated with being bullied, because being wary of others may not necessarily help one avoid bullies; evidence on social withdrawal suggests that social fear is related to increased victimization (Rubin, Coplan, & Bowker, 2009).

Family Context

Results fit my expectations in that mothers with greater knowledge of their child's friends reported greater compassion messages and fewer caution messages. Thus, mothers' familiarity with their adolescents' friends seemed to facilitate messages of compassion and a less guarded stance toward others. Parental knowledge has been extensively studied as an aspect of parenting with wide-ranging implications for adolescent outcomes (e.g., Crouter et al., 2005; Kerr &

Stattin, 2000), yet few empirical studies have examined the role of knowledge in value socialization. Grusec (2002) argued that knowledge facilitates adolescents' internalization of parental socialization strategies, particularly when children disclose information about relationships and activities, as child disclosure is a marker of a positive parent-child relationship.

Mothers' concerns were positively related to both compassion and caution messages. This study's construct of concerns captured a range of worries and anxieties that parents may have for children, such as concerns for the future (e.g., steady work, college attendance) and risks during adolescence (e.g., wrong crowd, drugs in community) and reflected general goals mothers hold for their children. Concerns about risk and vulnerability may prompt messages from mothers to be wary of others, an idea supported by the within- and between-person effects of concerns on caution messages in this study. Yet, value messages about *both* compassion and caution offer a way of preparing children for interactions with others in the outside world, and it seems plausible that communication of these messages would be heightened for mothers with greater concerns about their children's futures. High scores on concerns may be tapping into overprotection or be part of what defines an "anxious mother" (Spokas & Heimberg, 2009). Highly concerned mothers may communicate more value messages to their adolescents, as this study suggests, or alternatively, maternal concerns could prompt greater communication within families more broadly. These concerns could also reflect the anxieties of the adolescents themselves, who may initiate conversations about values by communicating various concerns to mothers (see Parke & Buriel, 2006). Future research should further examine parental concerns, their origins, and the mechanisms by which they impact family dynamics.

As expected, family religiosity was positively associated with messages of compassion. Messages of compassion may be bolstered by religious teachings, as compassion is an evident value across world religions (Dalai Lama, 2001). Drawing from a social capital perspective (Coleman, 1988; Putnam, 2000), religious connections may also offer a supportive network and positive bonds with others that encourage mothers to view humanity positively and thus

communicate value messages of compassion. No relationship was expected for religion and caution messages, and none was found.

Neighborhood Context

The social capital perspective was also supported in that neighborhood cohesion was related to greater messages of compassion, a finding strengthened by the use of adolescent reports. Positive bonds with others may engender feelings of trust and connectedness that lead to feelings of reciprocity and civic contribution (Coleman, 1988; Putnam, 2000); thus, neighborhood cohesion in this study is an important marker of social capital. This finding suggests that a potential mediating step in the link between social capital and adolescents' prosocial behavior or civic contribution may be mothers' value messages. Furthermore, changes in mothers' messages may be based on shifting perceptions of neighborhood risk; this conclusion was suggested by the within-person association between ease of attaining illegal substances in the community and mothers' caution messages. When illegal substances are perceived as easier for adolescents to access, mothers may respond by heightening warnings to be cautious of others in order to protect their adolescents from this risk. More broadly, the present study adds new empirical findings to the important work demonstrating that family processes and parenting are situated within neighborhood context (e.g., Garbarino, Bradshaw, & Kostelny, 2005).

Non-Significant Results

This discussion concentrated on explaining results in final models, as these effects were the most robust. Several correlates had no unique variance associated with mothers' messages after other factors were taken into account: adolescent substance use, substance use attitudes, community service, and school transitions. Using adolescent reports of their own behaviors offered a stringent test of the effects of adolescents on parenting because using multiple reporters eliminated any shared method variance. Investigations of transactional family processes represent a promising area of study (Crouter & Booth, 2003; Kuczynski et al., 1997), and future research is needed to further understand which adolescent behaviors trigger changes in parenting. The null

finding for adolescent substance use and mother caution messages was counter to hypotheses, yet studies on reciprocal relations between parenting and substance use show varying effects and point to complex and heterogeneous processes within families (e.g., Coley et al., 2008; Stice & Barrera, 1995).

Limitations and Future Directions

This study undertook a comprehensive and rigorous longitudinal examination of the correlates of mothers' value messages of compassion and caution, yet several limitations are noteworthy. A major limitation is the lack of fathers in the study, leaving unknown whether fathers' value messages are determined by the same kinds of demographic and contextual factors. Besides lacking father reports, other key correlates of mothers' value messages may have been unmeasured in this study. Potentially important correlates include mothers' own values and parenting style (Grusec & Goodnow, 1994), which were unavailable for inclusion in these models. Furthermore, although effects of within-person variables give us some insights into the co-occurrence of factors, this study did not test causal determinants of mothers' value messages. Mothers may have heterogeneous responses to adolescent behaviors, experiences at school, and neighborhood contexts; these varying reactions are not captured by the unidimensional effects examined here. These remaining issues reflect excellent questions to be addressed in future research. To determine the relevance of mothers' value messages, another important next step for future research would involve examining how these value messages predict adolescents' value orientations.

Implications

I charted new territory by treating mothers' socialization messages as substantive variables of interest and documenting correlates across domains. The study offered new empirical information about the characteristics marking individual differences in value messages between mothers, and also added insight into adolescent experiences and contexts that correspond with dynamic change in value messages over time. Thus, I empirically advance contextual

perspectives on parenting and transactional approaches to value socialization (Dix et al., 2004; Grusec et al., 2000; Kuczynski et al., 1997). We now have some clues as to how various characteristics, experiences, and contexts might influence parenting, but developmental scientists have only reached the tip of the iceberg in studying the exciting theme of bidirectional, transactional developmental processes.

The conclusions reached about the two types of value messages were not entirely obvious at the outset. Although this study certainly does not refute the idea that compassion is a universal value, mothers' value messages of compassion may be more locally embedded than expected. For example, mothers' compassion may be rooted in knowledge of friends and positive neighborhood interactions, and can be downwardly adjusted based on adolescents' negative experiences with others such as being bullied (or likewise, upwardly adjusted based on decreased experiences with bullies). On the other hand, given that messages of caution were predicted by several demographic factors, these messages of protection and safety may be rooted more deeply in social structure than anticipated. Perhaps certain value messages are socially constructed within social and cultural groups, and thus may be part of a broader phenomenon of cultural transmission (see Cavalli-Sforza et al., 1982).

Parental value messages likely prepare adolescents to interact with others in their proximal environment and may also get them ready to begin the transition to adulthood. Being more sensitive to and aware of adolescents' experiences may help parents to better tailor messages to the child and the given situation. Further examining contextual influences on socialization messages may help us gain important new insights into cultural variations in parenting and adolescent development.

References

- Ahmed, E., & Braithwaite, V. (2004). Bullying and victimization: Cause for concern for both families and schools. *School Psychology of Education, 7*, 35-54.
- Ainsworth, M. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Amato, P. R. (2001). Children of divorce in the 1990s; An update on the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology, 15*, 355-371.
- Ambert, A. (2001). *The effect of children on parents. 2nd edition*. Philadelphia, PA: Hayworth Press.
- Bachman J.G., Johnston L.D., O'Malley P.M. (1998) Explaining recent increases in students' marijuana use: impacts of perceived risks and disapproval, 1976–1996. *American Journal of Public Health, 88*, 887–892.
- Barber, B. K., & Olsen, J. A. (2004). Assessing the transition to middle and high school. *Journal of Adolescent Research, 19*, 3-30.
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monograph, 4*(1, Pt. 2).
- Bell, R. Q., & Chapman, M. (1986). Child effects in studies using experimental or brief longitudinal approaches to socialization. *Developmental Psychology, 22*, 595-603.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development, 55*, 83-96.
- Bengtson, V. L., Biblarz, T. J., & Roberts, R. E. L. (2002). *How families still matter*. Cambridge, MA: Cambridge University Press.
- Boehnke, K. (2001). Parent-offspring value transmission in a societal context: Suggestions for a utopian research design with empirical underpinnings. *Journal of Cross-Cultural Psychology, 32*, 241-255.
- Bugental, D. B., & Goodnow, J. J. (1998). Socialization processes. In W. Damon (Ed.) and N. Eisenberg (Volume Editor), *Handbook of child psychology, Volume 3: Social, emotional and personality development* (pp. 389-462). New York: John Wiley & Sons, Inc.
- Caughlin, J. P., & Malis, R. S. (2004). Demand/withdraw communication between parents and adolescents: Connections with self-esteem and substance use. *Journal of Social and Personal Relationships, 21*, 125-148.
- Cavalli-Sforza, L. L., Feldman, M. W., Chen, K. H., & Dornbusch, S. M. (1982). Theory and observation in cultural transmission. *Science, 218*, 19-27.
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*, S95-S120.
- Coley, R. L., Votruba-Drzal, E., & Schindler, H. S. (2008). Trajectories of parenting processes and adolescent substance use: Reciprocal effects. *Journal of Abnormal Child Psychology, 36*, 613-625.
- Collins, W. A., Gleason, T., & Sesma, A. (1997). Internalization, autonomy, and relationships: Development during adolescence. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 78-99). New York: John Wiley & Sons, Inc.
- Conger, R. D., & Dogan, S. J. (2007). Social class and socialization in families. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* (pp. 433-460). New York: Guilford Press.
- Crouter, A. C., Baril, M. E., Davis, K. D., & McHale, S. M. (2008). Processes linking social class and racial socialization in African American dual-earner families. *Journal of Marriage and Family, 70*, 1311-1325.
- Crouter, A. C., & Booth, A. (Eds.) (2003). *Children's influence on family dynamics: The neglected side of family relationships*. Mahwah, NJ: Lawrence Erlbaum.

- Crouter, A. C., Bumpus, M. F., Davis, K. D., & McHale, S. M. (2005). How do parents learn about adolescents' experiences? Implications for parental knowledge and adolescent risk behavior. *Child Development, 76*, 869-882.
- Crouter, A. C., Whiteman, S. D., McHale, S. M., & Osgood, D. W. (2007). Development of gender attitude traditionality across middle childhood and adolescence. *Child Development, 78*, 911-926.
- Dalai Lama (2001). *Ethics for the new millennium*. New York: The Berkeley Publishing Group.
- Demo, D. H., & Cox, M. J. (2000). Families with young children: A review of research in the 1990s. *Journal of Marriage and the Family, 62*, 876-895.
- Demo, D. H., & Hughes, M. (1990). Socialization and racial identity among Black Americans. *Social Psychology Quarterly, 53*, 364-374.
- Dishion, T. J., Nelson, S. E., & Bullock, B. M. (2004). Premature adolescent autonomy: Parent disengagement and deviant peer process in the amplification of problem behaviour. *Journal of Adolescence, 27*, 515-530.
- Dix, T. (1992). Parenting on behalf of the child: Empathic goals in the regulation of responsive parenting. In I. Sigel, A. V. McGillicuddy-Delisi, & J. J. Goodnow (Eds.), *Parental belief systems: The psychological consequences for children* (2nd ed., pp. 319-346). Hillsdale, NJ: Erlbaum.
- Dix, T. (2000). What motivates sensitive parenting? *Psychological Inquiry, 11*, 94-97.
- Dix, T., Gershoff, E. T., Meunier, L. N., & Miller, P. C. (2004). The affective structure of supportive parenting: Depressive symptoms, immediate emotions, and child-oriented motivation. *Developmental Psychology, 40*, 1212-1227.
- Duchesne, S., Larose, S., Guay, F., Vitaro, F., & Tremblay, R. E. (2005). The transition from elementary to high school: The pivotal role of mother and child characteristics in explaining trajectories of academic functioning. *International Journal of Behavioral Development, 29*, 409-417.
- Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. In C. Ames & R. Ames (Eds.), *Research in motivation in education: Vol. 3. Goals and cognitions* (pp.13-44). New York: Academic.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on adolescents' experiences in schools and families. *American Psychologist, 48*, 90- 101.
- Eisenberg, N., & Morris, A. S. (2004). Moral cognitions and prosocial responding in adolescence. In R. M. Lerner & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 155-188). Hoboken, NJ: John Wiley & Sons, Inc.
- Flanagan, C. A. (2003a). Developmental roots of political engagement. *PS: Political Science and Politics, 36*, 257-261.
- Flanagan, C. A. (2003b). Trust, identity, and civic hope. *Applied Developmental Science, 7*, 165-171.
- Flanagan, C. A. (2004). Volunteerism, leadership, political socialization, and civic engagement. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 721-745). Hoboken, NJ: John Wiley & Sons, Inc.
- Flanagan, C. A., & Tucker, C. J. (1999). Adolescents' explanations for political issues: Concordance with their views of self and society. *Developmental Psychology, 35*, 1198 – 1209.
- Fletcher, A. C., Steinberg, L., & Williams-Wheeler, M. (2004). Parental influences on adolescent problem behavior: Revisiting Stattin and Kerr. *Child Development, 75*, 781-796.
- Fulgini, A. J., & Eccles, J. (1993). Perceived parent-child relationships and early adolescents' orientations toward peers. *Developmental Psychology, 29*, 622-632.
- Gilligan, C. (1982). New maps of development: New visions of morality. *American Journal of Orthopsychiatry, 52*, 199-212.

- Glenn, N. (2005). *Cohort analysis (second edition)*. Thousand Oaks, CA: Sage.
- Goodnow, J. J. (1997). Parenting and the transmission and internalization of values: From social-cultural perspectives to within-family analyses. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.333-361). New York: John Wiley & Sons, Inc.
- Graham N. (1996). The influence of predictors on adolescent substance use: an examination of individual effects. *Youth and Society*, 28, 215–226.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60, 6.1-6.28.
- Graham, J. W., Cumsille, P. E., & Elek-Fisk, E. (2003). Methods for handling missing data. In J. A. Schinka & W.F. Velicer (Eds.). *Research Methods in Psychology* (pp. 87-114). *Volume 2 of Handbook of Psychology* (I. B. Weiner, Editor-in-Chief). New York: John Wiley & Sons.
- Graham, J.W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, 8, 206-213.
- Graham, J. W., Rohrbach, L., Hansen, W. B., Flay, B. R., & Johnson, C. A. (1989). Convergent and discriminant validity for assessment of skill in resisting a role play alcohol offer. *Behavioral Assessment*, 11, 353-379.
- Grusec, J. E. (2002). Parental socialization and children's acquisition of values. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5: Practical issues in parenting* (2nd edition) (pp. 143-167). Mahwah, NJ: Erlbaum Associates.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, 30, 4-19.
- Grusec, J. E., Goodnow, J. J., & Kuczynski, L. (2000). New directions in analyses of parenting contributions to children's acquisition of values. *Child Development*, 71, 205-211.
- Haapasalo, J., & Tremblay, R. E. (1994). Physically aggressive boys from ages 6 to 12: Family background, parenting behavior, and prediction of delinquency. *Journal of Consulting & Clinical Psychology*, 62, 1044–1052.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H. Brookes Publishing.
- Hastings, P. D., & Grusec, J. E. (1998). Parenting goals as organizers of responses to parent-child disagreement. *Developmental Psychology*, 34, 465-479.
- Hawkins, D. N., Amato, P. R., & King, V. (2007). Nonresident father involvement and adolescent well-being: Father effects or child effects? *American Sociological Review*, 72, 990-1010.
- Hoff, E., Laursen, B., & Tardif, T. (2002). Socioeconomic status and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Volume 2: Biology and ecology of parenting* (2nd Edition), (pp. 231-252).
- Hoffman, M. L. (1977). Moral internalization: Current theory and research. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 86-135). New York: Academic Press.
- Holden, G. W., & Edwards, L. A. (1989). Parental attitudes toward child rearing: Instruments, issues, and implications. *Psychological Bulletin*, 106, 29-58.
- Hughes, D., & Chen, L. (1997). When and what parents tell children about race: An examination of race-related socialization among African American families. *Applied Developmental Science*, 1, 200–214.
- Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. B., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, 42, 747-770.

- Jennings, K. M., & Stoker, L. (2004). Social trust and civic engagement across time and generations. *Acta Politica*, 39, 342-379.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2007). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2006* (NIH Publication No. 07-6202). Bethesda, MD: National Institute on Drug Abuse.
- Kaltaila-Heino, R., Marttunen, M., Rantanen, P., & Rimpelä, M. (2003). Early puberty is associated with mental health problems in middle adolescence. *Social Science & Medicine*, 57, 1055-1064.
- Kasser, T., Koestner, R., & Lekes, N. (2002). Early family experiences and adult values: A 26-year, prospective longitudinal study. *Personality and Social Psychology Bulletin*, 28, 826-835.
- Katz, I., & Hass, R. G. (1987). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55, 895-905.
- Kerr, M., & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36, 366-380.
- Kerr, M., & Stattin, H. (2003). Parenting of adolescents: Action or reaction? In A. C. Crouter & A. Booth (Eds.), *Children's influence on family dynamics: The neglected side of family relationships* (pp. 121-151). Mahwah, NJ: Lawrence Erlbaum.
- Knafo, A., Assor, A., Schwartz, S. H., & David, L. (2009). Culture, migration, and family-value socialization: A theoretical model and empirical investigation with Russian-immigrant youth in Israel. In U. Schönplflug (Ed.), *Cultural transmission: Psychological, developmental, social, and methodological aspects. Culture and Psychology* (pp. 269-296). New York: Cambridge.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development*, 74, 595-611.
- Knight, G. P., Bernal, M. E., Garza, C. A., Cota, M. K., & Ocampo, K. A. (1993). Family socialization and the ethnic identity of Mexican-American children. *Journal of Cross-Cultural Psychology*, 24, 99-114.
- Kochanska, G., & Thompson, R. A. (1997). The emergence and development of conscience in toddlerhood and early childhood. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 53-77). New York: John Wiley & Sons, Inc.
- Kohn, M. L. (1995). Social structure and personality through time and space. In P. Moen, G.H. Elder, & K. Luscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 141-168). Washington, DC: American Psychological Association.
- Kohn, M. L., Slomczynski, K. M., & Schoenbach, C. S. (1986). Social stratification and the transmission of values in the family: A cross-national assessment. *Sociological Forum*, 1, 73-102.
- Kuczynski, L., & Grusec, J. E. (1997). Future directions for a theory of parental socialization. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 399-414). New York: John Wiley & Sons, Inc.
- Kuczynski, L., & Hildebrandt, N. (1997). Models of conformity and resistance in socialization theory. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.23-50). New York: John Wiley & Sons, Inc.
- Kuczynski, L., Marshall, S., & Schell, K. (1997). Value socialization in a bidirectional context. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.23-50). New York: John Wiley & Sons, Inc.

- Larson, R. W. (2001). How U.S. children and adolescents spend time: What it does (and doesn't) tell us about their development. *Current Directions in Psychological Science, 10*, 160-164.
- Larson, R., Richards, M., Moneta, G., Holmbeck, G., & Duckett, E. (1996). Changes in adolescents' daily interactions with their families from ages 10 to 18: Disengagement and transformation. *Developmental Psychology, 32*, 744-754.
- Lareau, A. (2003). *Unequal Childhoods: Class, Race, and Family Life*. Berkeley, CA: University of California Press.
- Lollis, S., & Kuczynski, K. (1997). Beyond one hand clapping: Seeing bidirectionality in parent-child relations. *Journal of Social and Personal Relationships, 14*, 441-461.
- Lord, S. E., Eccles, J. S., & McCarthy, K. A. (1994). Surviving the junior high school transition: Family processes and self-perceptions as protective and risk factors. *Journal of Early Adolescence, 14*, 162-199.
- Lynne, S. D., Graber, J. A., Nichols, T. R., Brooks-Gunn, J., & Botvin, G. J. (2007). Links between pubertal timing, peer influences, and externalizing behaviors among urban students followed through middle school. *Journal of Adolescent Health, 40*, 181.e7-181.e13.
- Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology, 28*, 1006-1017.
- Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), *Mussen manual of child psychology* (Vol. 44th ed., pp. 1-102). New York: Wiley.
- Madsen, S. D. (2008). Parents' management of adolescents' romantic relationships through dating rules: Gender variations and correlates of relationship qualities. *Journal of Youth and Adolescence, 37*, 1044-1058.
- Maggs, J. L., & Galambos, N. L. (1993). Alternative structural models for understanding adolescent problem behavior in two-earner families. *The Journal of Early Adolescence, 13*, 79-101.
- Mattis, J., Jagers, R., Hatcher, C., Lawhon, G., Murphy, E., & Murray, Y. (2000). Religiosity, volunteerism, and community involvement among African American men: An exploratory analysis. *Journal of Community Psychology, 28*, 391-406.
- McHale, S. M., Crouter, A. C., Kim, J., Burton, L. M., Davis, K. D., Dotterer, A. M., & Swanson, D. P. (2006). Mothers' and fathers' racial socialization in African American families: Implications for youth. *Child Development, 77*, 1387-1402.
- Moffitt, T. E. (1993). Adolescence-limited and life-course persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, 285*, 2094-2100.
- Newman, B. M., Newman, P. R., Griffen, S., O'Conner, K., & Spas, J. (2007). The relationship of social support to depressive symptoms during the transition to high school. *Adolescence, 42*, 441-459.
- Otis, N., Grouzet, F. M. E., & Pelletier, L. G. (2005). Latent motivational change in an academic setting: A 3-year longitudinal study. *Journal of Educational Psychology, 97*, 170-183.
- Pardini, D. A. (2008). Novel insights into longstanding theories of bidirectional parent-child interactions: Introduction to the special section. *Journal of Abnormal Child Psychology, 36*, 627-631.
- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg, W. Damon, & R. Lerner (Eds.), *Handbook of child*

- psychology: Vol. 3: Social, emotional, and personality development* (6th ed., pp. 429-504). New York: Wiley.
- Pellegrini, A. D., & Long, J. D. (2002). A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. *British Journal of Developmental Psychology, 20*, 259-280.
- Penner, L., Brannick, M. T., Webb, S., & Connell, P. (2005). Effects on volunteering of the September 11, 2001 attacks: An archival analysis. *Journal of Applied Social Psychology, 35*, 1333-1360.
- Pettit, G. S., & Lollis, S. (1997). Introduction to special issue: Reciprocity and bidirectionality in parent-child relationships: New approaches to the study of enduring issues. *Journal of Social and Personal Relationships, 14*, 435-440.
- Pinquart, M., & Silbereisen, R. K. (2004). Transmission of values from adolescents to their parents: The role of value content and authoritative parenting. *Adolescence, 39*, 83-100.
- Pratt, M. W., Hunsberger, B., Pancer, M., & Alisat, S. (2003). A longitudinal analysis of personal values socialization: Correlates of a moral self-ideal in late adolescence. *Social Development, 12*, 563-585.
- Pratt, M. W., Skoe, E. E., & Arnold, M. L. (2004). Care reasoning development and family socialisation patterns in later adolescence: A longitudinal analysis. *International Journal of Behavioral Development, 28*, 139-147.
- Putnam, R. D. (2000). *Bowling alone*. New York: Simon & Schuster, Inc.
- Raudenbush, S. W., & Chan, W. (1992). Growth curve analysis in accelerated longitudinal designs. *Journal of Research on Crime and Delinquency, 29*, 387-411.
- Roest, A. M. C., Dubas, J. S., & Gerris, J. R. M. (2010). Value transmission between parents and children: Gender and developmental phase as transmission belts. *Journal of Adolescence, 33*, 21-31.
- Rubin, K. H., Coplan, R. J., & Bowker, J. C. (2009). Social withdrawal in childhood. *Annual Review of Psychology, 60*, 141-171.
- Rudolph, K. D., Lambert, S. F., Clark, A. G., & Kurlakowsky, K. D. (2001). Negotiating the transition to middle school: The role of self-regulatory processes. *Child Development, 72*, 929-946.
- Scarr, S. & McCartney, K. (1983). How people make their own environments: A theory of genotype → environment effects. *Child Development, 54*, 424-435.
- Schafer, J. L. (1997). *Analysis of incomplete multivariate data*. New York: Chapman & Hall.
- Sears, R. R., Maccoby, E. E., & Levin, H. (1957). *Patterns of child rearing*. Oxford, England: Row, Peterson, and Co.
- Seidman, E., Allen, L., Aber, J. L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-esteem and perceived social context of poor urban youth. *Child Development, 65*, 507-522.
- Seligman, M. E. (1975). *Helplessness: On depression, development, and death*. Oxford, England: W. H. Freeman.
- Seydlitz, R. (1991). The effects of age and gender on parental control and delinquency. *Youth and Society, 23*, 175-201.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton-Mifflin Press.
- Simmons, R. G., & Blyth, D. A. (1987). Moving into adolescence: The impact of pubertal change and school context. Hawthorn, NY: Aldine de Gruyter.
- Smetana, J. G. (1997). Parenting and the development of social knowledge reconceptualized: A social domain analysis. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.162-192). New York: John Wiley & Sons, Inc.

- Smetana, J. G., & Metzger, A. (2005). Family and religious antecedents of civic involvement in middle class African American late adolescents. *Journal of Research on Adolescence, 15*, 325-352.
- Spokas, M., & Heimberg, R. G. (2009). Overprotective parenting, social anxiety, and external locus of control: Cross-sectional and longitudinal relationships. *Cognitive Therapy and Research, 33*, 543-551.
- Spoth, R., Redmond, C., & Lepper, H. (1999). Alcohol initiation outcomes of universal family-focused interventions: One- and two-year follow-ups of a controlled study. *Journal of Studies on Alcohol, Supplement No. 13*, 103-111.
- Sprecher, S., & Fehr, B. (2005). Compassionate love for close others and humanity. *Journal of Social and Personal Relationships, 22*, 629-651.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*, 1072-1085.
- Stice, E., & Barrera, M. (1995). A longitudinal examination of the reciprocal relationships between perceived parenting and adolescents' substance use and externalizing behaviors. *Developmental Psychology, 31*, 322-334.
- Straus, M. A., & Stewart, J. H. (1999). Corporal punishment by American parents: National data on prevalence, chronicity, severity, and duration, in relation to child and family characteristics. *Clinical Child and Family Psychology Review, 2*, 55-70.
- Stoppa, T., Syvertsen, A. K., Wray-Lake, L., & Flanagan, C. A. (under review). *Defining a moment in history: Parental communication with children about September 11th, 2001*.
- Taylor, K. M., Dillihunt, M. L., Boykin, A. W., Scott, D. M., Hurley, E. A., Tyler, C. M. B., & Coleman, S. T. (2008). Examining cultural socialization within African American and European households. *Cultural Diversity and Ethnic Minority Psychology, 14*, 201-204.
- Turtiainen, P., Karvonen, S., & Rahkonen, O. (2007). All in the family? The structure and meaning of family life among young people. *Journal of Youth Studies, 10*, 477-493.
- Van der Vorst, H., Engels, R. C. M. E., Meeus, W., Dekovic, M., & Vermulst, A. (2006). Parental attachment, parental control, and early development of alcohol use: A longitudinal study. *Psychology of Addictive Behaviors, 20*(2), 107-116.
- Veenstra, R., Lindenberg, S., Oldehinkel, A. J., De Winter, A. F., Verhulst, F. C., & Ormel, J. (2005). Bullying and victimization in elementary schools: A comparison of bullies, victims, bully/victims, and uninvolved preadolescents. *Developmental Psychology, 41*, 672-682.
- Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family, 50*, 829-840.
- Wigfield, A., Eccles, J. S., Mac Iver, D., Reuman, D. A., & Midgley, C. (1991). Transitions during early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental Psychology, 27*, 552-565.
- Youniss, J., McLellan, J. A., & Yates, M. (1999). Religion, community service, and identity in American youth. *Journal of Adolescence, 22*, 243-253.

Table 1-1.

Patterns of Missingness

	Wave			Frequency	Percent
	1	2	3		
1	0	0		474	28.9
0	1	0		363	22.2
0	1	1		276	16.8
1	1	1		258	15.8
1	1	0		111	6.8
0	0	1		87	5.3
1	0	1		69	4.2
				1638	100

Note. '0' represents wave non-response or attrition. '1' represents wave participation, yet the *n* may be further reduced by item non-response.

Table 1-2.

Contrasts and Means for Polynomials

AGE	Linear	Quadratic	Cubic
10	-4	11	-44
11	-3	4	-12
12	-2	-1	2
13	-1	-4	4
14	0	-5	0
15	1	-4	-4
16	2	-1	-2
17	3	4	12
18	4	11	44
19	5	20	100
20	6	31	186
COHORT	Linear	Quadratic	Cubic
<i>Mean(SD)</i>	0.13(2.02)	-0.21(5.00)	4.70(20.62)
PERIOD	Wave 1	Wave 2	Wave 3
Spring 2003 ^a	0	1	0
Spring 2004 ^a	0	0	1

Note. Correlations among linear, quadratic, and cubic age trends ranged from .36 to .66.

^aSpring 2002 (Wave 1) was the reference group.

Table 1-3.

Models of Change Over Time for Mothers' Compassion and Caution Messages

	<u>Model 1:</u>		<u>Model 2:</u>		<u>Model 3:</u>		<u>Final Trimmed Models</u>	
	Age and Cohort Effects		Age and Period Effects		Cohort and Period Effects		Compassion: Period Only	Caution: Age/Period
	Compassion	Caution	Compassion	Caution	Compassion	Caution		
Intercept	4.26***	3.89***	4.35***	3.85***	4.36***	3.89***		3.88***
<i>Age</i>								
Linear	-.09***	-.03*	-.01 [†]	-.01*	----	----	----	-.01*
Quadratic	.002	.0001	.001	.003 [†]	----	----	----	----
Cubic	-.0001	.00002	-.0001	-.0002	----	----	----	----
Wald F	38.35***	2.41 [†]	.87	1.43	----	----	----	----
<i>Cohort</i>								
Linear	.08***	.02	----	----	-.01	-.01	----	----
Quadratic	-.0001	.002	----	----	.002	.002	----	----
Cubic	-.0001	-.0004	----	----	-.0003	-.0004	----	----
Wald F	27.34***	.67	----	----	1.05	1.77	----	----
<i>Period</i>								
Wave 2	----	----	-.12***	.07***	-.13***	.04 [†]	-.13***	.05*
Wave 3	----	----	-.16***	.001	-.18***	-.05**	-.18***	-.03
Wald F	----	----	37.82***	8.22***	65.40***	10.10***	65.40***	8.18***

[†] $p < .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Table 1-4.

Full Multilevel Models of Correlates for Mothers' Messages of Compassion and Caution

Fixed Effects	Mothers' Value Messages	
	Compassion	Caution
Intercept	4.31(.03)***	3.93(.04)***
<i>Period: L2^a</i>		
Wave 2 (Spring 2003) ^b	-.13(.02)***	.04(.02)*
Wave 3 (Spring 2004) ^b	-.19(.02)***	-.05(.02) [†]
<i>Adolescent Age: L1^c</i>		
Age Linear	----	-.01(.007)
<i>Mother Characteristics: L2</i>		
Education	-.005(.01)	-.05(.01)***
Married (Yes=1, No=0)	.02(.02)	-.07(.03)**
Race: Black ^d	-.01(.04)	.14(.04)***
Race: Other ^d	-.02(.05)	.02(.05)
<i>Adolescent Gender: L2</i>		
(Male=1, Female=0)	-.03(.02)	-.05(.02)*
<i>School Context</i>		
Experienced Being Bullied: L1	-.03(.02)*	-.02(.02)
Experienced Being Bullied: L2	.07(.04) [†]	.04(.05)
<i>Family Context</i>		
Knowledge of Friends: L1	.02(.02)	-.003(.03)
Knowledge of Friends: L2	.14(.03)***	-.003(.04)
Mothers' Concerns: L1	.02(.02)	.06(.03)*
Mothers' Concerns: L2	.07(.03)*	.28(.04)***
Family Religiosity: L2	.05(.03)*	.01(.03)
<i>Neighborhood Context</i>		
Neighborhood Cohesion: L1	.003(.01)	-.01(.02)
Neighborhood Cohesion: L2	.06(.02)***	-.02(.02)
Ease of Attaining Substances: L1	-.001(.01)	.02(.01)*
Ease of Attaining Substances: L2	-.001(.01)	-.02(.02)

Note. Linear age centered at age 14.

^aL2=Level 2 Effects. ^bReference = Wave 1. ^cL1=Level 1 Effects. ^dReference=White.

[†] $p < .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Figure 1-1.

Mothers' Messages of Compassion: Raw Means Plotted by Age and Age Cohort

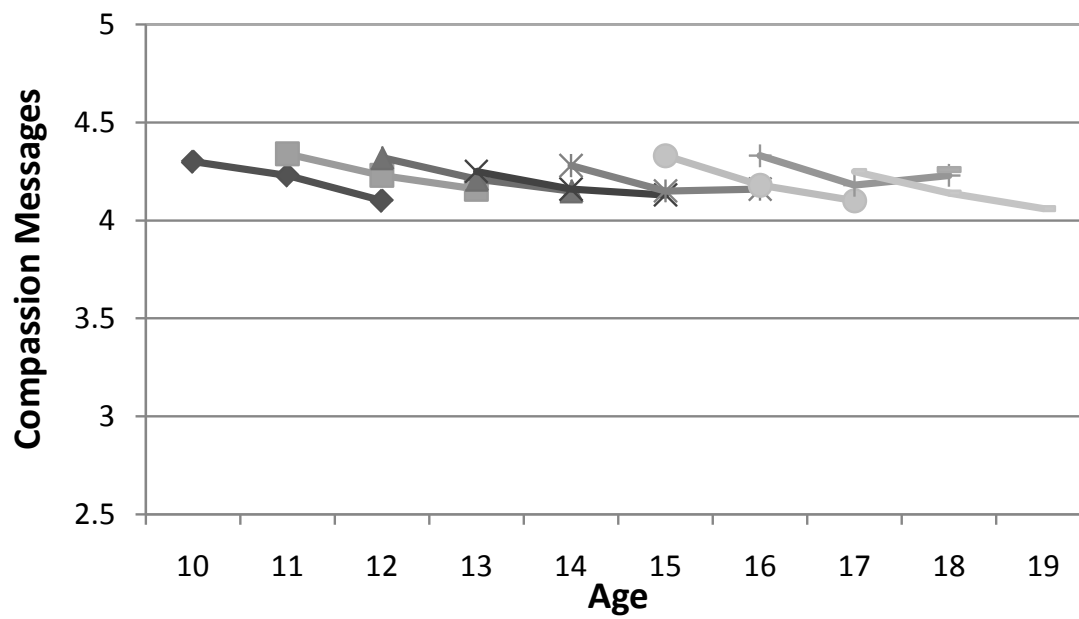
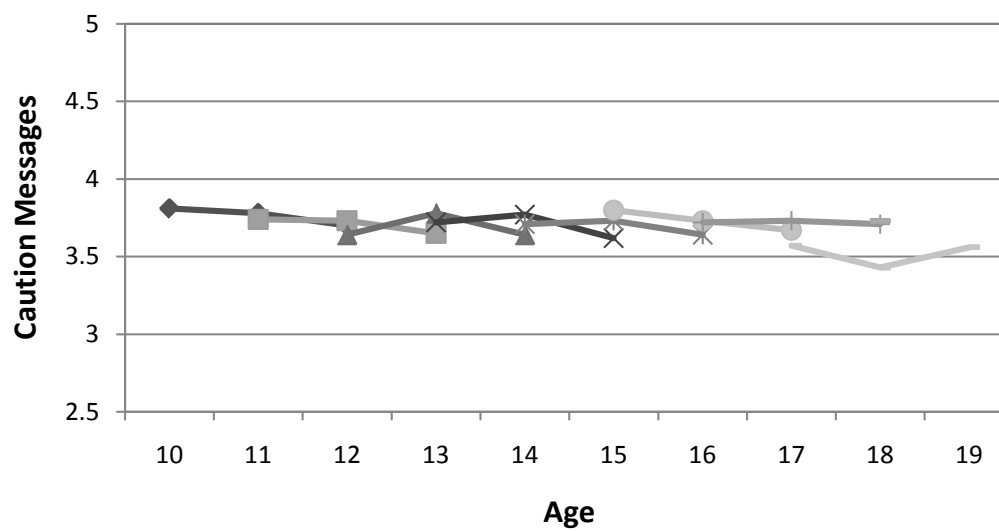


Figure 1-2.

Mothers' Messages of Caution: Raw Means Plotted by Age and Age Cohort



STUDY 2

Communicating Compassion and Caution: Parental Value Messages as Correlates of Adolescents' Self-Interest and Public-Interest Orientations

Adolescence is a ripe developmental context in which values take shape (Flanagan, 2003). For instance, identity formation is a central developmental task that includes the exploration of moral and ideological commitments (Côté, 2009; Erikson, 1968). Cognitive capacities for thinking abstractly and perspective-taking are also developing (Piaget, 1952; Steinberg, 2008), and these growing abilities and interests set the stage for value formation. Focusing on values during adolescence, this study examined correlates of self-interest and public-interest orientations. The former is a set of values and beliefs prioritizing individual rights and personal achievements, whereas the latter refers to a diverse set of values and beliefs focused on looking out for the greater good of society. These value orientations are not necessarily mutually exclusive, yet investing in one tends to occur at the expense of the other (e.g., Schwartz, 1992). Both orientations have important implications for various life domains such as equitable interactions with others (Boehnke, Hagan, & Hefler, 1998), career aspirations (Johnson, 2001), civic actions (Bardi & Schwartz, 2003), and health (Flanagan, Stout, & Gallay, 2008). Given that values may crystallize in early adulthood (Jennings, 1989), a goal of this study was to advance empirical scholarship on the potential origins of these value orientations during adolescence.

In particular, parents are considered primary value socialization agents (Bengtson, Biblarz, & Roberts, 2002; Collins & Laursen, 2004; Grusec, Goodnow, & Kuczynski, 2000; Parke & Buriel, 2006). Thus, this study seeks to specify the role played by parental value socialization messages in shaping adolescents' self-interest and public-interest orientations. I examined the unique and interactive effects of parental value messages of compassion (e.g., looking out for the good of others) and caution (e.g., looking out for oneself), and I also considered the role of

democratic parenting and demographic factors of age, gender, social class, and race/ethnicity in predicting adolescents' value orientations.

Adolescents' Value Orientations

Value theorists note a distinction between self-focused and other-oriented values (Inglehart, 1997; Schwartz, 1992; 1994; Triandis, 1995). Schwartz's cross-culturally validated model of values has demonstrated that self-enhancement values that emphasize achievement, competition, power, and materialism tend to oppose self-transcendent values that emphasize justice, equality, benevolence towards others, and the public good. These two orientations are thought to represent two ends of a continuum at the population level. In addition, self-direction comprises a value dimension that is orthogonal to self-enhancement and self-transcendent values in Schwartz's (1992; 1994) model. These values prioritize freedom, independence, and individual rights, and are typically opposed to values of conformity and obedience.

Adolescence is an important time to study values because they take shape during this developmental period (Flanagan, 2004; Pratt, Pancer, & Alisat, 2003; Vollebergh, Iedema, & Raajmakers, 2001), before potentially crystallizing in adulthood (Jennings, 1989). Historical analyses of cohort and period effects offer compelling reasons to examine self-enhancement, self-transcendence, and self-direction among adolescents. Specifically, several studies have pointed to a rise in materialism among younger generations (e.g., Kasser, 2002; Pew Research Center, 2006), and scholars have bemoaned declines among young people in the civic orientation of social trust, connections to community, and civic involvement (e.g., Jennings & Stoker, 2004; Putnam, 2000). Research on self-direction, although dated, has found that cohorts of parents increasingly placed higher value on self-direction and autonomy for children (Alwin, 1990) and that successive generations of college students were increasingly focused on personal freedom (Hoge, Luna, & Miller, 1981). Generational replacement theory is commonly invoked to explain these trends, with the argument being that societal shifts in values occur as younger generations with unique formative experiences and worldviews replace their elders (Alwin & McCammon, 2002; Delli Carpini, 2006).

Thus, younger generations garner substantial attention from scholars as well as from the media for their values, yet these values are understudied developmentally.

A few studies have offered insights into age-related changes in values of self-direction or self-determination rights during adolescence. With more autonomy, adolescents also increasingly value self-direction including freedom, self-expression, and individual rights (Ruck, Keating, Abramovitch, & Koegl, 1998). Values of individual rights increase between early and late adolescence (Smetana, 2002), and may be most strongly endorsed in middle adolescence compared to early or late adolescence (Horn, 2003; Killen, Lee-Kim, McGlothlin, Strangor, 2002). Flanagan and colleagues (2008) found that adolescent endorsements of individual rights to engage in health-risk behaviors, or private health beliefs, increased during early and middle adolescence yet remained stable thereafter, whereas endorsements of health as an issue of public concern, or public health beliefs, were lowest in middle adolescence. Thus, there is some evidence for age-related increases in self-interest orientations, particularly those that focus on self-direction, and for age-related declines in public health beliefs. These findings specifically pointed to curvilinear age patterns. Accordingly, this study examined the relationship between adolescent age and self-interest and public-interest orientations.

In summary, adolescents' value orientations have a broad array of political, social, and health-related implications. Despite the importance of value orientations for a range of attitudes and behaviors, however, little attention has been given to how adolescents adopt them. The present study examined correlates of adolescents' self-interest orientations as measured by self-enhancement values, private health beliefs (a self-direction orientation), and public-interest orientations as measured by self-transcendent values, social responsibility beliefs, and public health beliefs. As described in the following section, parents may play a role in socializing these orientations by emphasizing different types of value content within the family: messages of compassion emphasize concern for others whereas messages of caution emphasize guardedness and self-preservation (Flanagan, 2003).

Value Socialization

Parents are considered primary value socialization agents, meaning that individuals' values are thought to originate largely from communication with their parents (Bengtson et al., 2002; Collins & Laursen, 2004; Grusec, Goodnow, & Kuczynski, 2000; Parke & Buriel, 2006). Parents are best situated to set the tone for acquisition of values and behaviors as they "have been given primary power by evolution and by society to socialize" (Kuczynski & Grusec, 1997, p. 402). Three recent theoretical advancements in value socialization theory are: an explicit focus on socialization strategies rather than inferring socialization from parents' own values (Grusec & Goodnow, 1994), identification of adolescents' perceptions of parental value messages as a crucial component of value internalization (Grusec & Goodnow, 1994), and a recognition of the need to investigate content-specific socialization processes (Kuczynski & Grusec, 1997). This study incorporated these three recent theoretical tenets by examining adolescents' perceptions of parental value messages of compassion and caution as correlates of adolescents' value orientations.

Value messages. Literature abounds that examines value or attitude similarity between adolescents and their parents, concluding that similarity is low on average (e.g., Acock & Bengtson, 1978; Whitbeck & Gecas, 1988). More recent developments in value socialization theory, however, go beyond establishment of simple agreement between parents and children on values, arguing that parental communication of value messages, rather than parents' own values, represents a more proximal indicator of the socialization process (Grusec & Goodnow, 1994). Values communication is important because parents' goals may not be to instill the same values they hold for themselves (Goodnow, 1997), and values that are not communicated to children are not likely to be passed on. While many parents communicate values through verbal messages, family cultural practices, traditions, and routines can also communicate powerful non-verbal messages about values to children (Grusec et al., 2000; Parke & Buriel, 2006). The current study examined parental messages as a

proximal indicator of value socialization; the messages were operationalized in a way that implied but did not specify verbal communication.

Adolescent perceptions. Regardless of how parental messages are communicated, adolescents must accurately perceive parental value messages as a first step towards internalizing them (Grusec & Goodnow, 1994). Internalization of values is an inherently cognitive process, with adolescents acting as active agents in their own socialization. Parents can often communicate inconsistent messages in which verbal messages contradict behavioral examples, known as “word-deed (in)consistency” (Knafo & Schwartz, 2003). Moreover, adolescents actively interpret interactions with parents based on their perceptions of the appropriateness of parental messages, and these perceptions inform adolescents’ ideas and behaviors (Padilla-Walker & Carlo, 2004). Thus, adolescent reports of parental messages are arguably more important than parents’ own reports of the messages, because adolescents’ perceptions signal their interpretation of the messages and thus their perceptions are key to their subsequent internalization of values.

The role of value content. Some value socialization theorists also argue that it is important to consider the content of the values being communicated (Boehnke, 2001; Phalet & Schönplflug, 2001; Pinquart & Silbereisen, 2004; Rohan & Zanna, 1996; Smetana, 1997). This recognition departs from traditional socialization perspectives in which conceptions of socialization were devoid of value content and little attempt was made to specify which value orientations children might prioritize as a result of parental socialization (cf. Kuczynski & Grusec, 1997). More recent work suggests that parents and children are more likely to report similarity on certain values than on others (Boehnke, 2001; McBroom, Reed, Burns, Hargraves, & Trankel, 1985). For example, Boehnke found that adolescents’ value rankings were most aligned with their mothers’ and fathers’ rankings for values of power, hedonism, and tradition, whereas self-transcendence and openness to change showed low similarity among dyads on average. In another study, Pinquart and Silbereisen (2004) examined bidirectional predictions of parents’ and adolescents’ values and found bidirectional transmission effects on values of religion and technology, yet found unidirectional parent to child pathways for

other values, such as the importance of work and national defense. Value content is particularly important when researchers want to examine the link between value socialization and adolescents' own values, attitudes, beliefs, and behaviors (McBroom et al., 1985). These examples illustrate the importance of specifying value content in value socialization studies, especially when attempting to predict specific value orientations.

A goal of this paper was to understand adolescents' orientations toward self interest and public interest, and in this endeavor, parental communication of compassion and caution is particularly important (Flanagan, 2003). These value messages emphasize relationships with and views of others that should play a role in socializing orientations towards self interest and public interest. As noted above, self-transcendent value orientations emphasize social responsibility, universalism, and benevolence (Schwartz, 1992). These orientations may stem in part from the socialization of compassion. Efforts within the family to socialize compassion and sensitize children to the needs and concerns of others have been associated with adolescents' development of prosocial behavior (Eisenberg & Morris, 2004), moral reasoning (Pratt, Skoe, & Arnold, 2004), and social views about others (Flanagan & Tucker, 1999). For example, Flanagan and Tucker found that adolescents whose parents emphasized compassion tended to view social issues such as homelessness and unemployment as the responsibility of society rather than the individual.

Also as noted above, self-enhancement values emphasize personal achievement, competition, power, and materialism (Schwartz, 1992). Parents' efforts to socialize caution may play a role in the development of self-interest orientations. Value messages of caution entail looking out for oneself and being wary of others (Flanagan, 2003). These messages stem from socialization strategies of 'cocooning' and 'pre-arming' in which parents attempt to shield children from the negative influences of others and teach them defensive strategies to stick up for themselves (Goodnow, 1997). In their studies of young people's views of the social contract – the relationship between individuals and society – Flanagan and colleagues have found that adolescents whose families emphasized caution were more likely to hold individuals rather than society accountable for problems such as

homelessness and unemployment and to define democracy through a lens of individual rights (Flanagan, 2003; Flanagan & Tucker, 1999). Thus, the extant literature suggests that parental messages of caution or wariness toward others may predict adolescents' self-interest orientations.

The associations between family communication of compassion and caution and adolescents' self-interest versus public-interest orientations, however, are not likely to be as straightforward as they seem. Some parents are likely to emphasize *both* compassion and caution. The two sets of messages are solidly rooted in the American traditions of civic republicanism (equality, justice, and community) and liberalism (individual rights, freedoms, and liberties), and solutions to society's problems tend to reflect a tension between the two (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1986; Flanagan, 2003; Ruck, et al., 1998; Sandel, 1996). Based on an anthropological study, Bellah et al. (1986) argued that individualism and an overemphasis on achievement without connection to and value of community can lead to isolation in American culture and can be problematic for community spirit and democracy. In the lives of individuals, striking a balance between self-enhancement and an emphasis on caring for others may be important for well-being (Kasser, 2002). Extending the idea of harmonizing value systems to family socialization, finding a balance between emphasizing messages of compassion and caution may lead to socializing more balanced views of others.

With this idea in mind, the present study examined the interactive effect of compassion and caution messages in predicting adolescents' self-interest and public-interest orientations. Specifically, I predicted that only in families where caution messages are untempered by messages of compassion should adolescents hold higher self-interest orientations. In other words, high caution messages coupled with low compassion messages should predict higher self-enhancement values. For public-interest orientations, a main effect was expected such that higher compassion messages, regardless of caution messages, would predict higher public-interest orientations.

Democratic Parenting

A strong test of the relationship between parental value messages and adolescents' value orientations would control for family climate. A democratic family climate, meaning warm, respectful

relationships that facilitate autonomy, may play a role in shaping adolescents' values. In other words, instead of or in addition to specific value messages, democratic parenting may have a direct influence on adolescents' values. Parents who establish a democratic relationship with their adolescents are directly modeling social responsibility and a concern for others (Collins & Laursen, 2004; Collins, Gleason, & Sesma, 1997; Flanagan, 2004; Turiel, 1998). In this way, shared discourse in the family provides vital lessons about values and morality (Kochanska & Thompson, 1997). This direct pathway fits with social learning theory (e.g., Bandura, 1977). Moreover, a mutually respectful parent-adolescent relationship may promote value socialization by strengthening an emotional bond that leads adolescents to want to identify with and emulate parents' values (Baumrind, 1998; Collins & Laursen, 2004; Darling & Steinberg, 1993; Grusec & Goodnow, 1994).

Several studies support a direct link between parenting style and self-transcendent as well as self-direction values (Flouri, 2004; Gunnoe, Hetherington, & Riese, 1999; Kasser, Koestner, & Lekes, 2002; Kasser, Ryan, Zax, & Sameroff, 1995). For instance, Flouri (2004) and Kasser et al. (2002) found that mothers who exhibited high levels of positivity early in their child's life were likely to have children who reported greater environmentalism and higher values of self-direction, respectively. Interestingly, Mikulincer et al. (2003) reported experimental findings that increasing the salience of the notion of a secure attachment in college students produced greater endorsements of values of self-transcendence. Thus, there is evidence suggesting that a warm and open family climate facilitates adolescents' public-interest orientations, and more limited evidence that this kind of democratic climate predicts values of self-direction. The present study examined adolescents' reports of democratic parenting as a predictor of adolescents' value orientations.

Demographic Correlates

In addition to testing curvilinear age differences in self-interest and public-interest orientations, as described above, I included a series of known demographic correlates of adolescents' self-interest and public-interest orientations as controls in regression models, namely gender, social class, and race/ethnicity.

Regarding gender, studies have documented that compared to males, females report higher levels of self-transcendent values including compassion, collectivism, humanism, equality, and religiosity (Beutel & Marini, 1995; Hardy & Carlo, 2005; Ovadia, 2001; Roberts & Bengtson, 1999; Schwartz & Rubel, 2005). Males on average report higher values of materialism, individualism, and other values that indicate self-enhancement (Beutel & Marini; Johnson, 2005; Roberts & Bengtson), as well as higher self-direction values (Schwartz & Rubel, 2005). Thus, gender is a consistent correlate of value orientations.

Regarding social class, youth from less advantaged backgrounds tend to report higher values of self-enhancement including materialism (Cohen & Cohen, 1996; Flanagan & Tucker, 1999; Kasser et al., 1995). This link may be explained by “deprivation theory” arguing that people value most what they do not possess (Ovadia, 2001). A long line of research has linked higher social class to higher values of self-direction (e.g., Kohn et al., 1986), and thus it is possible that mothers’ education, the indicator of social class in the present study, would be positively linked to adolescents’ private health beliefs. There was no reason to expect social class to be related to public-interest orientations, that is, their endorsements of self-transcendent values, social responsibility beliefs, and public health beliefs. However, it was important to control for social class when examining the role of value socialization messages and democratic parenting on adolescents’ value orientations, as parents with higher socioeconomic status tend to be more communicative and authoritative (e.g., Parke & Buriel, 2006; Straus & Stewart, 1999).

Studies are more limited that examine race/ethnicity in relation to values, yet a few findings have emerged. Minorities seem to have a greater, and earlier developing, awareness of injustice (Turiel, 1998); similarly, values of equality are ranked higher for Black compared to White individuals, even when the two groups are matched on socioeconomic status (Rokeach, 1973). This association has not yet been demonstrated with a broader measure of self-transcendent values. Although African American youth have reported higher values of materialism compared to White youth, this is arguably a result of class, rather than race,

differences (Flanagan & Tucker, 1999). Thus, race/ethnicity was included as a control in the models, yet without strong *a priori* hypotheses.

Hypotheses

In summary, this study hypothesized that parental value messages of compassion would positively predict adolescents' public-interest orientations, and also that value messages of caution would positively predict adolescents' self-interest orientations, particularly when combined with low compassion messages. Drawing from value socialization theory, I utilized adolescents' perceptions of parental value messages. I also examined an additional hypothesis that democratic parenting would directly and positively predict adolescents' public-interest orientations. Several strategies were employed to strengthen tests of primary hypotheses: First, multiple measures of public-interest orientations were used to examine consistency of results across self-transcendent values, social responsibility beliefs, and public health beliefs. Second, key demographic correlates of age, gender, race/ethnicity, and social class were included as controls in the models. Third, hypotheses were tested concurrently at waves 1 and 2 to examine replication of associations at two different time points. Fourth, wave 1 variables were used to predict wave 2 outcomes to test the durability of associations one year later.

Method

Procedure

The Social Responsibility and Prevention Project was a three-wave longitudinal study with the broad goal of understanding adolescents' social responsibility and inclinations to intervene in friends' alcohol, tobacco, and other drug use. U.S. adolescents were recruited from 5th through 12th grade classrooms from eight school districts in a northeastern and a midwestern state that represented urban, semi-urban, and rural areas. Surveys were administered during school hours. Active consent was sought from parents and adolescents for adolescent participation, resulting in a wave 1 response rate of 79% for adolescents ($N = 2516$).

At wave 2, researchers surveyed adolescents who participated in the first wave and were still in the school system, and new students were recruited through social studies classrooms (as in wave 1), resulting in a wave 2 response rate of 54%. The current study utilized adolescents who were in wave 1 only and those who completed the first two waves ($n = 1164$). Adolescents ranged in age from 10 to 18 years at wave 1 ($M = 13.67$, $SD = 2.25$), and 56% were female. In addition, 75% of adolescents were White, 14% Black, 6% Hispanic, and 5% of another ethnicity.

Missing Data

To reduce biases to inferences due to missing data, analyses used multiple imputation of data. Using SAS PROC MI, 40 datasets were imputed as recommended by Graham and colleagues to avoid power fall-off (Graham, Olchowski, & Gilreath, 2007). The imputation analysis included 96 variables, representing all items across all waves that were included in models as well as several additional auxiliary variables that were correlated with the variables of interest. A ridge prior was included in the model, due to the relatively small proportion (< 46%) of complete cases. This command was like adding 0.75% ($n = 19$) cases to the bottom of the dataset during imputation such that all variables were uncorrelated. These cases suppressed correlations and thus stabilized the model (Graham, Cumsille, & Elek, 2003; Schafer, 1997). Data were set to impute after 159 iterations, based on convergence of the EM model. The multiple imputation model converged in 37 iterations, based on EM posterior mode. Diagnostic plots of each variance, covariance, and autocorrelation indicated normality in data augmentation. Relative efficiency estimates for all multilevel models were above 99%, demonstrating the acceptability of the imputation.

Whereas multiply imputed datasets were used in conducting multiple regressions, descriptive statistics reported from here forward were derived from an expectation maximization (EM) dataset. The EM algorithm provides excellent maximum likelihood estimates for descriptive parameters (e.g., means, alphas) where hypothesis testing is not used, i.e., estimates

that do not have associated p -values (Graham et al., 2003). Unless noted, Cronbach's alphas, factor analyses, and means come from wave 1.

Measures

Value messages and parenting. First, a factor analysis was conducted to ascertain whether parental communication and climate measures fell into the three factors of compassion value messages, caution value messages, and democratic parenting. The 13 items were entered into a maximum likelihood factor analysis with varimax rotation, and three clear factors emerged, as predicted.

Items for family value messages of *compassion* were adapted from Katz and Hass' (1988) Humanitarian-Egalitarianism scale and have been used in previous studies (see Flanagan & Tucker, 1999). Five items at waves 1 and 2 measured parental value messages of compassion from adolescents' perspectives ($\alpha = .76$). Items began with "My parents tell me...", and content included: "respect people no matter who they are," "not to judge people before you get to know them," "treat everyone equally," "stand up for others, not just yourself," and "be helpful to others, especially the less fortunate". Response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). The five items were averaged, $M = 4.19$, $SD = .62$. The median factor loading was .54 (range .31 to .80); this factor accounted for 16% of the variance in the three-factor solution.

Four items at waves 1 and 2 measured adolescents' reports of value messages of *caution* ($\alpha = .64$). Also adapted from Katz and Hass (1988), items again began with "My parents tell me" and content of the messages included "people sometimes take advantage of you," "you can't always trust people," "stay away from the wrong crowd," and "stick up for my rights if someone pushes me around." Responses options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). The four items were averaged, $M = 4.26$, $SD = .62$. The median factor loading was .51 (range .36 to .66), and this factor accounted for 16% of the variance in the three-factor solution.

Democratic parenting was measured at waves 1 and 2 by adolescents' responses to four items ($\alpha = .68$) adapted from Fuligni and Eccles (1993). Items included: "I can talk to my parents

about what is bothering me,” “My parents let me have a say, even if they disagree”, “My parents respect my opinions”, and “My parents trust me to do what they expect without checking up on me.” Responses ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). The four items were averaged, $M = 3.71$, $SD = .90$. The median factor loading was .59 (range .56 to .77), and this factor accounted for 11% of the variance in the three-factor solution.

Value orientations. A factor analysis was conducted that included 12 self-transcendent values and 4 generalized social responsibility beliefs. Using maximum likelihood factor analysis with varimax rotation, items loaded onto a single dimension at wave 1. At wave 2, two distinct factors emerged, as expected, that differentiated between personal values and beliefs. It is likely that adolescents increasingly differentiated between values and beliefs with age (Werner, 1957). The two dimensions were analyzed separately in analyses for parsimony, and the two-factor solution is presented below.

Adolescents' *self-transcendent values* were measured by 6 items ($\alpha = .87$) at waves 1 and 2 that were written and adapted from the work of Schwartz (1992) and Whitbeck, Simons, Conger, and Lorenz (1989). Adolescents endorsed the personal importance of each item using response options that ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). Content included the importance of helping the less fortunate, helping people in the community, serving the country, helping society, helping other students in school, and making new students feel welcome. The latter two items were written specifically for the broader study, which emphasized school climate. The six items were averaged, $M = 3.87$, $SD = .74$. The median factor loading was .60 (range = .43 to .87) and the solution accounted for 28% of the variance in the orthogonal two-factor solution at wave 2.

Adolescents' *social responsibility* measured generalized beliefs that “it is important for students to look out for one another,” “everyone should volunteer some time for the good of their community,” “people should help one another without expecting to get paid or rewarded for it,” and “it is important for students to work together to make their school a better place.” These four

items were adapted from the Youth Social Responsibility scale ($\alpha = .74$; Pancer, Pratt, Hunsberger, & Alisat, 2007). Response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5), and items were averaged, $M = 3.90$, $SD = .74$. The median factor loading was .78 (range = .68 to .80) and the solution accounted for 35% of the variance in the orthogonal two-factor solution at wave 2.

Self-enhancement values were measured by two items ($\alpha = .63$) that were adapted from Boehnke et al. (1998). Adolescents endorsed the personal importance “to be first in whatever I do,” and “to make a lot of money.” Response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5), and items were averaged, $M = 3.20$, $SD = 1.01$.

Six items measured adolescents’ beliefs about rights concerning health (Flanagan et al., 2008), and response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). Private health beliefs were measured at both waves, yet the three items reflecting public health beliefs were only measured at wave 2. Maximum likelihood factor analysis with varimax rotation revealed two factors at wave 2, accounting for 26 and 19% of variance, respectively. The first factor measured *private health beliefs* ($\alpha = .74$) with three items (“It’s my body, I can do what I want with it”; “If I want to smoke or drink, it’s my choice”; and “People have a right to smoke, they are only hurting themselves”), $M = 3.33$, $SD = 1.09$. The median factor loading at wave 2 was .68 (range = .54 to .90). Given the emphasis on rights and individual choices, private health beliefs reflect an orientation toward self-direction or self-determination. The second factor measured *public health beliefs* ($\alpha = .63$) with three items (“If something is bad for your health, the government should tell you to avoid it”; “The government should make laws to protect society against drunk driving”; and “Smokers need to be responsible about their habit and not smoke when little kids are around”), $M = 3.89$, $SD = .84$. The median factor loading was .56 (range = .55 to .71).

Demographic correlates. Demographic variables included adolescents’ *age* at wave 1, and a quadratic age term was also constructed. Age was centered at 14, near the sample mean at

wave 1. Demographics also included *gender* (*female* = 1, *male* = 0), and *race/ethnicity* (dummy coded into *Black*, *Other Minority*; Reference Group = *White*). Given the relatively low proportions of Hispanic and Asian adolescents, it was necessary to combine non-Black ethnic minorities into a single category. The focus of race comparisons was on Black versus White adolescents. Other minorities were included into a single dummy variable to facilitate this comparison. Adolescents reported their *mother's education levels* using a three-point scale: *Did Not Finish High School* (1), *Finished High School or Got a GED* (2), and *At Least Some Training after High School* (3). The average was 2.52, $SD = .58$, which represented slightly more than a high school education.

Plan of Analysis

A series of multiple regression models were conducted to test hypotheses. Predictors included compassion messages, caution messages, the Compassion X Caution interaction, democratic parenting, and demographic correlates. All predictors were entered simultaneously to assess the unique variance accounted for by each predictor on the outcomes. Continuous predictors were centered at their mean values. Separate models were tested for each of the five outcomes. Models were estimated concurrently (i.e., predictors and outcomes taken from the same wave) at wave 1 and at wave 2 in order to examine whether relationships were replicated across time points. An additional set of models were estimated where wave 1 variables predicted wave 2 outcomes in order to test whether associations extended across one year. Marginal effects ($.05 < p < .10$) were reported in tables but were not interpreted or discussed. Significant interactions were probed using the strategies recommended by Holmbeck (2002).

Results

Correlations among Constructs

A correlation matrix of continuous study variables is presented in Table 2-1. Public-interest orientations were measured by three distinct scales: self-transcendent values, social responsibility beliefs, and public health beliefs. Self-interest orientations were measured by two scales: self-

enhancement values and private health beliefs. Compassion and caution messages were both positively associated with public-interest orientations. Compassion messages were negatively associated with wave 1 self-enhancement values and private health beliefs; caution messages showed weak relationships overall with self-interest orientations. Correlations indicated that the three public-interest orientation scales were positively correlated with each other, as were the two self-interest orientation scales. As expected, self-transcendent values and social responsibility beliefs were negatively correlated with self-enhancement values and private health beliefs. Interestingly, public and private health beliefs were not correlated.

Public-Interest Orientations

Predictor models for adolescents' public-interest orientations are presented in Table 2-2.

Concurrent prediction. As hypothesized, parental compassion messages (as reported by adolescents) positively predicted adolescents' self-transcendent values and social responsibility beliefs concurrently at both waves 1 and 2. Furthermore, compassion messages positively predicted public health beliefs concurrently at wave 2. When compassion messages were held constant at average levels, caution messages were also positively associated with public-interest orientations. This association was unexpected, yet consistent with correlational patterns and statistically significant across all concurrent public-interest orientation models.

At wave 1, there was a significant interaction between compassion and caution messages in predicting self-transcendent values. Probes indicated significant slopes for both high compassion (1 *SD* above the mean; $t = 5.73, p < .001$) and low compassion (1 *SD* below the mean; $t = 4.71, p < .001$), and patterns suggested that self-transcendent values were highest when both compassion and caution levels were higher than average. As shown in Figure 2-1, the slope for high compassion was slightly steeper than the slope for low compassion, suggesting that high caution messages slightly enhanced the prediction of high compassion messages on adolescents' self-transcendent values.

Democratic parenting strongly and positively predicted self-transcendent values and social responsibility beliefs: Adolescents who endorsed higher democratic parenting also reported higher

self-transcendent values and higher social responsibility beliefs. Democratic parenting was not uniquely associated with public health beliefs.

Longitudinal prediction. Compassion messages were positively associated with self-transcendent values, social responsibility beliefs, and public health beliefs in models where measurement was separated by one year. Caution was not associated with self-transcendent values or social responsibility beliefs, and longitudinally and positively predicted public health beliefs only. Democratic parenting remained a strong positive predictor of self-transcendent values and social responsibility beliefs one year later. Compassion and caution messages did not interactively predict public-interest orientations in longitudinal models.

Demographic controls. Linear and quadratic terms for adolescent age were significantly associated with self-transcendent values in all models. The age terms were also associated with social responsibility beliefs concurrently at wave 1 and there was a quadratic only effect in the longitudinal model. Age differences showed the same general pattern across these public-interest orientations, and Figure 2-2 illustrates an example pattern from the concurrent wave 1 model for self-transcendent values. Overall, these results indicated an age-related decline in public-interest orientations and a curvilinear pattern such that youth in late adolescence showed higher levels of public interest than youth in middle adolescence. Gender and race differences were generally consistent across measures and waves, and as predicted, indicated that boys and Black adolescents reported lower public-interest orientations than did girls and White adolescents, respectively. Other minority groups were not significantly different from White adolescents on public-interest orientations. Mothers' education was not associated with adolescents' self-transcendent values. Although no differences were expected, mothers' education at wave 1 positively predicted wave 2 social responsibility and public health beliefs.

Self-Interest Orientations

Predictor models are presented in Table 2-3 for adolescents' self-interest orientations.

Concurrent prediction. As hypothesized, caution messages positively predicted adolescents' self-enhancement values at wave 1. Compassion messages were negatively associated with self-enhancement values at wave 1. These main effects were qualified by a significant Compassion X Caution interaction (see Table 2-3 and Figure 2-3). Results revealed a non-significant slope for high compassion messages (1 *SD* above the mean, $t = 0.28, p = .78$) and a significant positive slope for low compassion messages ($t = 3.68, p < .001$). The interaction indicated that, as predicted, adolescents reporting that their parents communicated high caution and low compassion messages had the highest levels of self-enhancement values. The interaction effect was not replicated in concurrent wave 2 models.

Compassion messages had a negative concurrent association with private health beliefs at both waves 1 and 2. Neither caution messages nor the interaction term was significant in predicting private health beliefs.

There was only one significant effect for democratic parenting in self-interest orientation models: democratic parenting negatively predicted private health beliefs at wave 1. That is, adolescents who reported high democratic parenting in their families also tended to report low private health beliefs.

Longitudinal prediction. Compassion messages negatively predicted private health beliefs one year later. None of the substantive variables (i.e., compassion, caution, democratic parenting) were significant longitudinal predictors of self-enhancement values.

Demographic controls. Linear and quadratic age terms were associated with self-interest orientations values at both waves. The pattern was generally the same across models and showed the opposite pattern from public-interest orientations. Overall and as shown in the Figure 2-4 example, self-interest orientations were positively related to age, yet this effect tapered off in late adolescence. Gender was also positively related to self-enhancement values at both waves and private health beliefs at wave 1 only: boys reported higher self-interest orientations than girls. Race/ethnicity only predicted self-enhancement values at wave 1: Ethnic minorities (Black adolescents and other minorities)

reported higher self-enhancement values than White adolescents. Mothers' education levels were not uniquely associated with adolescents' self-interest orientations.

Discussion

The primary goal of this study was to examine empirical evidence for associations between adolescents' perceptions of parental value messages and their self-interest and public-interest orientations. Results contribute to the literature by indicating that adolescents' reports of parental messages of compassion were positively linked to adolescents' public-interest orientations and negatively linked to self-interest orientations; this finding held across multiple measures and waves. Messages of caution – alone and in combination with low compassion messages – predicted higher self-enhancement values. Yet caution messages unexpectedly seemed to enhance adolescents' public-interest orientations, alone and in combination with high compassion messages. In addition, democratic parenting was consistently and positively related to adolescents' public-interest orientations. This study also built on previous literature by documenting age differences in adolescents' value orientations. After discussing each finding in turn, I conclude with a focus on future directions and implications.

Compassion and Caution Messages

Informed by the tenets of value socialization theory, this study examined socialization messages, and in particular adolescents' perceptions of parental messages invoking compassion and caution. The interactive effects of compassion and caution messages along with the positive bivariate correlations between the two types of messages were novel findings of this study. There seems to be a complex interplay between these different socialization messages, as parental messages of compassion and caution were not mutually exclusive. Both operated as important strategies parents may use to communicate values to adolescents, and likewise, both are fundamental messages regarding how to approach interactions with other people. Distinct value orientations are likely to result when adolescents perceive high compassion messages (e.g., self-transcendent values) versus low compassion messages (e.g., self-enhancement values). Indeed, compassion messages seem

particularly important for socializing both public-interest and self-interest orientations. Furthermore, adolescents seem to interpret caution messages differently in relation to their values depending on the extent to which they perceive that compassion messages are also being communicated. When caution is coupled with compassion, self-transcendent values are enhanced, yet when caution messages are emphasized without compassion, self-enhancement values are more likely to result.

As hypothesized, adolescent reports of parental compassion messages uniquely predicted their self-transcendent values, social responsibility beliefs, and public health beliefs. This finding complements a small but growing body of literature showing that socializing compassion and making children aware of the needs of others can facilitate prosocial, moral, and political development (Eisenberg & Morris, 2004; Flanagan & Tucker, 1999; Pratt et al., 2004). The association between compassion messages and public-interest orientations consistently held up in longitudinal models, giving further evidence for the potential importance of these messages in socializing a prosocial orientation. Importantly, however, hearing compassion from parents is likely only one of many socialization influences on adolescents' public-interest orientations.

Indeed, and somewhat paradoxically, adolescents' perceptions of caution messages were positively associated with *both* public-interest and self-interest orientations. Parental messages of caution are likely a vital and common component of socialization strategies in families with adolescents. For example, given the increased autonomy that adolescents enjoy and the real dangers that exist in the contexts of adolescents' experiences at school, work, and in the neighborhood, parents likely urge their adolescents to be careful in their interactions with others. Although the concept of parental caution has been discussed theoretically (Flanagan, 2003; Goodnow, 1997) and has been studied in the context of racial socialization (e.g., Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006), parental warnings to be wary of others generally lack empirical specification in relation to adolescents' value development. The findings from the current study suggest that caution messages are perhaps best understood in the context of other socialization messages, such as those emphasizing compassion. This study revealed that high parental caution messages may positively enhance

adolescents' self-transcendent values when they are paired with an emphasis on compassion. In the context of parental communication of compassion, messages of caution may help adolescents understand how to care for others more effectively by also recognizing the dangers that can exist when individuals seek to take advantage of others.

Messages to look out for one's own interests and be wary of others may facilitate socialization of a self-focused orientation, measured in this study as the importance of being first and making a lot of money. This relationship was particularly true in the current study for adolescents who perceived low compassion messages from parents. Families emphasizing caution over compassion may be comprised of those who have reoccurring, negative interactions with others. Similarly, the racial socialization literature gives some insights into the origins of caution messages with findings suggesting that parental promotion of mistrust, the dimension emphasizing wariness towards others, arises out of experiences of discrimination (cf. Hughes et al., 2006). Another relevant study of caution showed that adolescents who hear messages of caution from parents tend to have individualistic political views, being more likely to believe that individuals are the cause of their own problems (Flanagan & Tucker, 1999). The current study extended this work by finding that parental caution messages were positively linked to adolescents' self-enhancement values. In families where caution messages are strongly communicated without accompanying messages of compassion, the context may set the stage for adolescents' development of self-enhancement values.

In general, findings were noticeably weaker in the longitudinal models, and the interactive effects of value messages on adolescents' value orientations were no longer evident after one year. The intent behind conducting these models was to get an idea of whether associations between parental value messages and adolescents' value orientations were static and more enduring over time. Interestingly, compassion messages remained a strong predictor of public-interest orientations over time. It is possible that warnings to be cautious are more situation-specific and thus vary more frequently than messages to care for others. Thus, the weaker longitudinal results do not necessarily dilute the importance of this study's findings, but may suggest that socialization within families, and

particularly the complex interplay between different socialization messages, is better captured on a shorter time-interval. Indeed, some perspectives on family processes argue that parenting is adapted in moment-to-moment interactions (Dix, 2000); such variability cannot be adequately captured with annual survey data. Future research should endeavor to capture socialization processes at a micro-level by using shorter intervals such as monthly, weekly, or even daily measurements.

Democratic Parenting

Given the relevance of the parent-child relationship context for a range of adolescent outcomes (Laursen & Collins, 2009), democratic parenting was an important control in order to rigorously examine the effects of parental value messages on adolescents' value orientations. In addition, findings supported the hypothesis that democratic parenting directly and positively linked to adolescents' public-interest orientations. Similar to the findings for compassion messages, the positive effect of democratic parenting was strong and consistent for adolescents' self-transcendent values and social responsibility beliefs in both concurrent and lagged models. Other empirical work uncovered a similar association. Most notably, Flouri (2004) found a positive relationship between mothers' non-authoritarian child rearing attitudes, measured at child's age 5, and children's values of anti-racism and environmentalism at age 30; this association held after controlling for a number of confounding factors including social background and maternal values.

As noted above, several mechanisms may explain the link between democratic parenting and public-interest values. An argument from social learning theory suggests that parents are directly modeling concern for others, and thus are modeling public-interest orientations, by respecting adolescents' opinions, valuing their contributions to family discussions, and extending trust (e.g., Baumrind, 1998; Collins & Laursen, 2004; Flanagan, 2004). A more indirect pathway may also be at work, such that a positive and respectful family climate may strengthen emotional bonds that, in turn, increase adolescents' desire to emulate the value orientations of their parents (Grusec & Goodnow, 1994). For the indirect pathway to be at work here, this would mean assuming that parents' values are largely self-transcendent rather than self-enhancing; democratic parenting was positively related to

adolescents' public-interest orientations and was negatively linked to adolescents' private health beliefs at wave 1. Moreover, democratic parenting may moderate the link between value socialization and adolescents' values, as positive relationships may facilitate adolescents' acceptance of their parents' value messages (Grusec & Goodnow, 1994). Further studies are needed to determine whether one or more of these mechanisms are at play.

Age

Consistent age differences were found in public-interest and self-interest orientations. Of course these cross-sectional age effects would need to be confirmed in longitudinal within-person analyses, but findings suggested a potential curvilinear developmental pattern for value orientations, such that public-interest orientations showed lower levels with increasing age yet leveled off in late adolescence and self-interest orientations showed higher levels with increasing age and also leveled off in late adolescence. We know that autonomy increases across adolescence and particularly in late adolescence (Wray-Lake, Crouter, & McHale, 2010); this pattern of increasing autonomy may correspond with a focus on personal achievements and individual rights. In line with the curvilinear patterns, Flanagan and colleagues (2008) reported that private health beliefs increased longitudinally across middle and late adolescence compared to early adolescence, and youth in middle adolescence reported the lowest levels of public health beliefs. Several other studies have also documented higher individual rights beliefs during middle adolescence (Horn, 2003; Killen et al., 2002; Ruck et al., 1998; Smetana, 2002). Middle adolescence is a time of incredible changes across biological, cognitive, and social domains that may culminate in a heightened focus on the self and correspond to a pursuit of autonomy and one's own rights (Eccles et al., 1993; Ruck et al., 1998; Smetana, 2002).

Demographic Correlates

This study examined gender differences in values during adolescence, whereas most other studies have relied on adult samples. Gender findings were consistent with a large body of work finding that females endorse higher self-transcendent values than males, and that males report higher values of self-enhancement values than females (e.g., Schwartz & Rubel, 2005). To explain these

patterns, both evolutionary and gender socialization perspectives have been invoked, although these results can also be interpreted in terms of prosociality being more fundamental to females' self-image than males (Eisenberg & Fabes, 1998).

Although I made no *a priori* predictions regarding race/ethnicity and value orientations, I found that, compared to White adolescents, Black adolescents in the sample reported lower public-interest orientations across measures and waves and endorsed higher self-enhancement values at wave 1. Contrary to my findings, several scholars have suggested that African American individuals more highly value equality and justice (Rokeach, 1973; Turiel, 1998), but these values are much more specific manifestations of self-transcendent values than were those measured in the current study, which may explain the differing results. Racial socialization messages include promotion of mistrust, which is conceptually similar to caution messages (Hughes et al., 2006; Hughes & Chen, 1997), and it is possible that Black families in this sample urged caution in a broader way than I were measuring, which may explain the association with race and higher self-enhancement values that held after controlling for caution messages. Other work has found higher materialist values in Black as compared to White adolescents (Flanagan & Tucker, 1999), although in interpreting this finding, the authors suggested that the relationship was likely explained by class rather than race. In this study, I had a relatively small proportion of Black youth, and they were likely not representative of the national population of Black adolescents; furthermore, race differences could reflect spurious findings due to some other third variable (e.g., neighborhood context, experiences of discrimination). I did control for social class in the form of mothers' education, yet mothers' education was not associated with self-interest orientation and likewise few effects for mothers' education were found for public-interest orientations. Before drawing firm conclusions, future studies are needed that examine value orientations by race and social class in nationally representative samples and that more carefully control for potential confounding factors.

Future Directions

This study moves science forward by documenting findings that improve our understanding of value socialization processes and the development of adolescents' value orientations. In addition, the study opens the door to several potentially fruitful avenues for further research. First, as noted above, weak findings were found in lagged predictor models, and this may suggest that the interplay between parental value messages and adolescents' value orientations is dynamic. Changes in parental messages and corresponding changes in adolescents' values may occur on a shorter time frame (e.g., days, weeks, or months) instead of the lag of one year assessed in this study. Examining micro-level processes between family socialization efforts and adolescents' value development would be an exciting avenue for future research, as it may illuminate the specific mechanisms by which value socialization occurs.

Second, a potential limitation of this study is the use of adolescent reports of both parental value messages and personal value orientations. The use of adolescent reports is theoretically defensible because value socialization is conceptualized as a cognitive process where adolescents are active agents in interpreting and internalizing (or not) parental value messages (Grusec & Goodnow, 1994; Padilla-Walker & Carlo, 2004). The nature of the process necessitates understanding the messages adolescents take away from family interactions. Shared method variance, however, is an alternative explanation for associations between adolescents' reports of parental messages and their own values. Future research could use multiple methods to complement data from adolescent perceptions and capture socialization processes more richly, such as observational assessments of socialization within family dyads and qualitative assessments of adolescents' understandings of parental communication about values.

Third, the complex interplay between compassion and caution messages in relation to adolescents' value orientations suggests an important next step for research, which involves exploring other types of socialization strategies. Greater specification of parental socialization strategies is needed, which may go beyond verbal communication of values to also include non-verbal expressions

and measures of word-deed consistency (Grusec et al., 2000; Knafo & Schwartz, 2003). The results with democratic parenting suggest that this line of research could be very fruitful. To more fully understand adolescents' value orientations, future work should also consider socialization forces related to the development of values that extend beyond the family: potential influences on values may stem from various contexts, such as peers, romantic relationships, school, and neighborhood. Moreover, as time trends with adolescents have indicated, the specific historical moment in which adolescents come of age seems to powerfully and uniquely shape the values, attitudes, and behaviors of adolescent cohorts (e.g., Wray-Lake, Flanagan, & Osgood, 2010; Wray-Lake, Syvertsen, Briddell, Osgood, & Flanagan, in press). This study's sample of adolescents were surveyed during 2002 to 2004, a time of heightened national security in the United States, which may have impacted adolescents' perceptions of parental value messages and/or adolescents' value orientations.

Finally, this study was purposeful in broadly conceiving of adolescents' public-interest and self-interest orientations, and analyses included measures of values, general beliefs, and beliefs specific to health. Whereas the negative correlations supported Schwartz's (1992; 1994) theory and empirical findings that self-enhancing and self-transcendent values are opposing, a question still remains as to whether these value orientations are mutually exclusive. There are likely adolescents who hold both orientations, yet the family socialization context for these adolescents remains unspecified. In addition, private health beliefs were conceived of as a measure of self-direction based on the orientation towards independence and individual rights. Among adolescents in this sample, this orientation was positively correlated with self-enhancement values, although the Schwartz model predicts an orthogonal relationship. In factor analyses, adolescents at wave 1 did not distinguish between self-transcendent values and social responsibility beliefs. My measures evinced acceptable statistical properties, yet they were not necessarily equivalent to Schwartz's measures, and thus should not be taken as contradicting Schwartz's value theory. A theoretical developmental argument may parsimoniously explain these results in that models of values for adolescents may be somewhat distinct from models validated for adults. More specifically, adolescents' formulation of their values

may reflect the orthogenetic principle of development (Werner, 1957) in becoming increasingly differentiated and hierarchically integrated with age. In other words, adolescents may not yet recognize the complex and abstract cognitive distinctions between self-enhancement and self-direction; also, adolescents may increasingly gain the capacity to differentiate between values and beliefs. Our understanding of value development would be greatly enhanced by longitudinal investigations of these questions.

Implications

Self-interest and public-interest value orientations are valuable for helping us understand young people's views of the relation between self and society (Flanagan & Campbell, 2003), and these orientations have wide-ranging implications for adolescents' social relationships and behaviors. Self-enhancement, self-transcendent, and self-direction values have been associated with adolescents' conceptions of the ties that bind individuals and polities together and understandings of the rights and responsibilities of citizenship including beliefs about others in society, social trust, civic participation, and socially responsible actions (Bardi & Schwartz, 2003; Bekkers, 2005; Flanagan, 2003; Flanagan et al., 2008; Flanagan & Tucker, 1999; Hitlin, 2003; Rahn & Transue, 1998; Schwartz & Bardi, 2001). For example, college students' self-transcendent values have been positively linked to volunteering (Hitlin, 2003). Everyone pursues self-enhancement goals to some degree; for example, academic achievement is an important and positive motivation for adolescents (Eccles, 2007). In the extreme, however, particularly when not balanced with concerns for others, self-enhancement values are associated with prejudices and stereotypes as well as personal anxiety, depression, and problems with intimacy (Boehnke et al., 1998; Kasser, 2002; Katz & Hass, 1988). Self-enhancement without concern for others can weaken social bonds in communities and be a detriment to democracy (Bellah et al., 1986; Sandel, 1996).

Health is another domain in which self- and other-orientations reflect one's views of the relationship between self and society. Individuals can hold private health beliefs in which they take an individual rights perspective that health decisions constitute personal choices with only personal

consequences (i.e., private health beliefs), or individuals can hold public health beliefs that include the perspective that health is a public issue for which individuals as members of society have a shared responsibility. These orientations have implications for adolescents' health-risk behaviors: For example, adolescents endorsing private health beliefs were less inclined to intervene in a friend's risky behavior whereas those endorsing public health beliefs were more inclined to intervene to prevent a friend's health risk (Flanagan et al., 2008).

Finally, this study has implications for helping scholars, practitioners, and parents further understand how values are socialized. Several key findings emerged from this study that can have direct and practical application for families: Compassion messages seem to be quite instrumental in socializing adolescents' public-interest as well as their self-interest orientations. Creating a democratic family climate also appears central to facilitating public-interest orientations. Parents should carefully consider the balance of emphasizing compassion and caution messages. Caution messages are involved in socializing both orientations, but this socialization strategy can function in different ways and likely varies based on parents' goals. Of course, parents have different value orientations and thus have different socialization goals for their children (Goodnow, 1997). This study starts to flesh out the ways in which different strategies are linked to different value orientations. Importantly, this study relied on adolescents' own perceptions of family climate and socialization messages, and thus is aligned with theory arguing that adolescents' perceptions of parental socialization are of paramount importance to the process of value internalization (Grusec & Goodnow, 1994). The implication is that parental strategies will only be successful in socializing values to the extent that adolescents first clearly understand and perceive the message being imparted. Even after the message is clearly communicated, adolescents are agentic and can choose to incorporate this message into their orientation or reject it (Grusec & Goodnow, 1994). Thus, open family dialogue with clear, concise communication about values seems necessary for socializing values within the family.

References

- Acock, A. C., & Bengtson, V. (1978). On the relative influence of mothers and fathers: A covariance analysis of political and religious socialization. *Journal of Marriage and the Family, 40*, 519-530.
- Alwin, D. F. (1990). Cohort replacement and changes in parental socialization values. *Journal of Marriage & Family, 52*, 347-360.
- Alwin, D. F., & McCammon, R. J. (2003). Generations, cohorts, and social change. In J. T. Mortimer, & M. Shanahan (Eds.), *Handbook of the life course* (pp. 23-49). New York: Kluwer Academic/ Plenum Publishers.
- Bandura, A. (1977). *Social learning theory*. Upper Saddle River, NJ: Prentice Hall.
- Bardi, A. M., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin, 29*, 1207-1220.
- Baumrind, D. (1998). Reflections on character and competence. In A. Colby, J. James, & D. Hart, (Eds.), *Character and competence throughout life*, (pp. 1-28). Chicago, IL: University of Chicago Press.
- Bellah, R. N., Madsen, R., Sullivan, W. M., Swidler, A., & Tipton, S. M. (1986). *Habits of the heart: Individualism and commitment in American life*. Berkeley, CA: University of California Press.
- Beutel, A. M., & Marini, M. M. (1995). Gender and values. *American Sociological Review, 40*, 358-371.
- Bekkers, R. (2005). Participation in voluntary associations: Relations with resources, personality, and political values. *Political Psychology, 26*, 439-454.
- Bengtson, V. L., Biblarz, T. J., & Roberts, R. E. L. (2002). *How families still matter*. Cambridge, MA: Cambridge University Press.
- Boehnke, K. (2001). Parent-offspring value transmission in a societal context: Suggestions for a utopian research design with empirical underpinnings. *Journal of Cross-Cultural Psychology, 32*, 241-255.
- Boehnke, K., Hagan, J., & Hefler, G. (1998). On the development of xenophobia in Germany: The adolescent years. *Journal of Social Issues, 54*, 585-602.
- Cohen, P., & Cohen, J. (1996). *Life values and adolescent mental health*. Mahwah, NJ: Lawrence Erlbaum.
- Collins, W. A., & Laursen, B. (2004). Parent-adolescent relationships and influences. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 331-361). Hoboken, NJ: John Wiley & Sons, Inc.
- Collins, W. A., Gleason, T., & Sesma, A. (1997). Internalization, autonomy, and relationships: Development during adolescence. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 78-99). New York: John Wiley & Sons, Inc.
- Côté, J. E. (2009). Identity formation and self-development in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Vol. 1: Individual bases of adolescent development* (3rd edition, pp. 266-304). Hoboken, NJ: John Wiley & Sons, Inc.
- Darling, N., & Steinberg, L. (1993). Parenting style as a context: An integrative model. *Psychological Bulletin, 113*, 487-496.
- Delli Carpini, M. (2006). Generational replacement. In L. Sherrod, C. A. Flanagan, R. Kassimir, & A. K. Syvertsen (Eds.), *Youth activism: An international encyclopedia* (pp. 282-284). Westport, CT: Greenwood.
- Dix, T. (2000). What motivates sensitive parenting? *Psychological Inquiry, 11*, 94-97.
- Eccles, J. (2007). Families, schools, and developing achievement-related motivations and engagement. In J. E. Grusec & P.D. Hastings (Eds.), *Handbook of socialization: Theory*

- and research* (pp.665-691). New York: Guilford Press.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on adolescents' experiences in schools and families. *American Psychologist*, *48*, 90-101.
- Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Volume 3: Social, emotional, and personality development* (5th edition, pp. 701-778). New York: Wiley.
- Eisenberg, N., & Morris, A. S. (2004). Moral cognitions and prosocial responding in adolescence. In R. M. Lerner & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 155-188). Hoboken, NJ: John Wiley & Sons, Inc.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York: W. W. Norton.
- Flanagan, C. A. (2003). Developmental roots of political engagement. *PS: Political Science and Politics*, *36*, 257-261.
- Flanagan, C. A. (2004). Volunteerism, leadership, political socialization, and civic engagement. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 721-745). Hoboken, NJ: John Wiley & Sons, Inc.
- Flanagan, C. A., & Campbell, B. (with L. Botcheva, J. Bowes, B. Csapo, P. Macek, & E. Sheblanova). (2003). Social class and adolescents' beliefs about justice in different social orders. *Journal of Social Issues*, *59*, 711-732.
- Flanagan, C., Stout, M., & Gallay, L. (2008). Health as a public or private issue: Adolescents' perceptions of rights and responsibilities. *Journal of Social Issues*, *64*, 815-834.
- Flanagan, C. A., & Tucker, C. J. (1999). Adolescents' explanations for political issues: Concordance with their views of self and society. *Developmental Psychology*, *35*, 1198 – 1209.
- Flouri, E. (2004). Mothers' nonauthoritarian child-rearing attitudes in early childhood and children's adult values. *European Psychologist*, *9*, 154-162.
- Goodnow, J. J. (1997). Parenting and the transmission and internalization of values: From social-cultural perspectives to within-family analyses. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.333-361). New York: John Wiley & Sons, Inc.
- Gunnoe, M. L., Hetherington, E. M., & Reiss, D. (1999). Parental religiosity, parenting style, and adolescent social responsibility. *The Journal of Early Adolescence*, *19*, 199-225.
- Graham, J. W., Cumsille, P. E., & Elek-Fisk, E. (2003). Methods for handling missing data. In J. Schinka & W. F. Velicer (Eds.). *Research Methods in Psychology* (pp. 87-114). Volume 2 of *Handbook of Psychology* (I. B. Weiner, Editor-in-Chief). New York: John Wiley & Sons.
- Graham, J.W., Olchowski, A. E., & Gilreath, T. D. (2007). How many imputations are really needed? Some practical clarifications of multiple imputation theory. *Prevention Science*, *8*, 206-213.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, *30*, 4-19.
- Grusec, J. E., Goodnow, J. J., & Kuczynski, L. (2000). New directions in analyses of parenting contributions to children's acquisition of values. *Child Development*, *71*, 205-211.
- Hardy, S. A. & Carlo, G. (2005). Religiosity and prosocial behaviours in adolescence: The mediating role of prosocial values. *Journal of Moral Education*, *34*, 231-249.
- Hitlin, S. (2003). Values as the core of personal identity: Drawing links between two theories of self. *Social Psychology Quarterly*, *66*, 118-137.
- Hoge, D. R., Luna, C. L., & Miller, D. K. (1981). Trends in college students' values between 1952 and 1979: A return of the fifties? *Sociology of Education*, *54*, 263-274.

- Holmbeck G. N. (2002) Post-hoc probing of significant moderational and mediational effects in studies of pediatric populations. *Journal of Pediatric Psychology*, 27:87–96.
- Horn, S. (2003). Adolescents' reasoning about exclusion from social groups. *Developmental Psychology*, 39(1), 71 – 84.
- Hughes, D., & Chen, L. (1997). When and what parents tell children about race: An examination of race-related socialization among African American families. *Applied Developmental Science*, 1, 200–214.
- Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. B., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, 42, 747-770.
- Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic and political change in 43 societies*. Princeton, NJ: Princeton University Press.
- Jennings, M. K. (1989). The crystallization of orientations. In M.K. Jennings and J. van Deth (Eds.), *Continuities in political action*, (pp. 313-348). Berlin, Germany, DeGruyter.
- Jennings, K. M., & Stoker, L. (2004). Social trust and civic engagement across time and generations. *Acta Politica*, 39, 342-379.
- Johnson, M. K. (2001). Job values in the young adult transition: Change and stability with age. *Social Psychology Quarterly*, 64, 297-317.
- Kasser, T. (2002). *The high price of materialism*. Boston, MA: The MIT Press.
- Kasser, T., Koestner, R., & Lekes, N. (2002). Early family experiences and adult values: A 26-year, prospective longitudinal study. *Personality and Social Psychology Bulletin*, 28, 826-835.
- Kasser, T., Ryan, R. M., Zax, M., & Sameroff, A. J. (1995). The relations of maternal and social environments in late adolescents' materialistic and prosocial aspirations. *Developmental Psychology*, 31, 907-914.
- Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55,895-905.
- Killen, M., Lee-Kim, J., McGlothlin, H., & Strangor, C. (2002). How children and adolescents evaluate gender and racial exclusion. *Monographs for the Society for Research in Child Development*. Serial No. 271, Vol. 67, No. 4. Oxford, UK: Blackwell Publishers.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development*, 74, 595-611.
- Kochanska, G., & Thompson, R. A. (1997). The emergence and development of conscience in toddlerhood and early childhood. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 53-77). New York: John Wiley & Sons, Inc.
- Kuczynski, L., & Grusec, J. E. (1997). Future directions for a theory of parental socialization. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 399-414). New York: John Wiley & Sons, Inc.
- Laursen, B., & Collins, W. A. (2009). Parent-child relationships during adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Volume 2: Contextual influences on adolescent development (3rd edition)* (pp. 3-42). Hoboken, NJ: John Wiley & Sons, Inc.
- McBroom, W.,H., Reed, F. W., Burns, C. E., Hargraves, J. L., & Trankel, M. A. (1985). Intergenerational transmission of values: A data-based reassessment. *Social Psychology Quarterly*, 48, 150-163.
- Mikulincer, M., Gillath, O., Sapir-Lavid, Y., Yaakobi, E., Arias, K., Tal-Aloni, L., & Bor, G. (2003). Attachment theory and concern for others' welfare: Evidence that activation of the sense of secure base promotes endorsement of self-transcendence values. *Basic and Applied Social Psychology*, 25, 299-312.

- Ovadia, S. (2001). Race, class, and gender differences in high school seniors' values: Applying intersection theory in empirical analysis. *Social Science Quarterly*, 82, 340-356.
- Padilla-Walker, L. M., & Carlo, G. (2004). "It's not fair!": Adolescents' constructions of appropriateness of parental reactions. *Journal of Youth and Adolescence*, 33, 389-401.
- Pancer, S. M., Pratt, M., Hunsberger, B., & Alisat, S. (2007). Community and political involvement in adolescence: What distinguishes the activists from the uninvolved? *Journal of Community Psychology*, 35, 741-759.
- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg, W. Damon, & R. Lerner (Eds.), *Handbook of child psychology: Vol. 3: Social, emotional, and personality development* (6th ed., pp. 429-504). New York: Wiley.
- Pew Research Center. (2006). Luxury or necessity? Things we can't live without: The list has grown in the past decade. Retrieved on January 21, 2007, from <http://pewresearch.org>
- Phalet, K., & Schönplflug, U. (2001). Intergenerational transmission in Turkish immigrant families: Parental collectivism, achievement values, and gender differences. *Journal of Comparative Family Studies*, 32, 489-504.
- Piaget, J. (1932). *The moral judgment of the child*. London: Routledge & Kegan Paul.
- Pinquart, M., & Silbereisen, R. K. (2004). Transmission of values from adolescents to their parents: The role of value content and authoritative parenting. *Adolescence*, 39, 83-100.
- Pratt, M. W., Hunsberger, B., Pancer, M., & Alisat, S. (2003). A longitudinal analysis of personal values socialization: Correlates of a moral self-ideal in late adolescence. *Social Development*, 12, 563-585.
- Pratt, M. W., Skoe, E. E., & Arnold, M. L. (2004). Care reasoning and development and family socialisation patterns in late adolescence: A longitudinal analysis. *International Journal of Behavioral Development*, 28, 139-147.
- Putnam, R. D. (2000). *Bowling alone*. New York: Simon & Schuster, Inc.
- Rahn, W. M., & Transue, J. E. (1998). Social trust and value change: The decline of social capital in American youth, 1976-1995. *Political Psychology*, 19, 545-565.
- Roberts, R. E. L., & Bengtson, V. L. (1999). The social psychology of values: Effects of individual development, social change, and family transmission over the life span. In C. D. Ryff & V. W. Marshall, (Eds.), *The self and society in aging processes*, (pp. 453-482). New York: Springer.
- Rohan, M. J., & Zanna, M. P. (1996). Value transmission in families. In C. Seligman, J. M. Olson, & M. P. Zanna (Eds.), *The psychology of values: The Ontario symposium, volume 8* (pp. 253-276). Mahwah, NJ: Lawrence Erlbaum.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Ruck, M. D., Keating, D. P., Abramovitch, R., & Koegl, C. J. (1998). Children's and adolescents' understanding of rights: Balancing nurturance and self-determination. *Child Development*, 64, 404-417.
- Sandel, M. J. (1996). *Democracy's discontent: America in search of a public philosophy*. Cambridge, MA: Belknap Press of Harvard University Press.
- Schafer, J. L. (1997). *Analysis of incomplete multivariate data*. New York: Chapman & Hall.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1-65.
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues*, 50, 19-45.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268-290.
- Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multimethod studies. *Journal of Personality and Social Psychology*, 89, 1010-1028.

- Smetana, J. G. (1997). Parenting and the development of social knowledge reconceptualized: A social domain analysis. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp.162-192). New York: John Wiley & Sons, Inc.
- Smetana, J. G. (2002). Culture, autonomy, and personal jurisdiction in adolescent-parent relationships. In H. Reese & R. Kail (Eds.), *Advances in child development and behavior* (Vol. 29, pp. 51 – 87). New York: Academic Press.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.
- Straus, M. A., & Stewart, J. H. (1999). Corporal punishment by American parents: National data on prevalence, chronicity, severity, and duration, in relation to child and family characteristics. *Clinical Child and Family Psychology Review*, 2, 55-70.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.
- Turiel, E. (1998). The development of morality. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology, Vol. 3: Social, emotional, and personality development*, (5th ed., pp. 863-962). New York: Wiley.
- Werner, H. (1957). The concept of development from a comparative and organismic point of view. In D. B. Harris (Ed.), *The concept of development* (pp. 125-148). Minneapolis: University of Minnesota Press.
- Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family*, 50, 829-840.
- Whitbeck, L. B., Simons, R. L., Conger, R. D., & Lorenz, F. O. (1989). Value socialization and peer group affiliation among early adolescents. *Journal of Early Adolescence*, 9, 436-453.
- Wray-Lake, L., Crouter, A. C., & McHale, S. M. (2010). Developmental patterns of decision-making autonomy across middle childhood and adolescence: European American parents' perspectives. *Child Development*, 81, 636-651.
- Wray-Lake, L., Flanagan, C. A., & Osgood, D. W. (2010). Examining trends in adolescent environmental attitudes, beliefs, and behaviors across three decades. *Environment and Behavior*, 42, 61-85.
- Wray-Lake, L., Syvertsen, A. K., Briddell, L., Osgood, D. W., & Flanagan, C. A. (in press). Exploring the changing meaning of work for American high school seniors from 1976 to 2005. *Youth & Society*.

Table 2-1.

Correlations among Value Socialization Messages, Democratic Parenting, and Adolescents' Self-Interest and Public-Interest Orientations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Compassion W1 ^a	–													
2. Compassion W2 ^b	.48***	–												
3. Caution W1	.47***	.28***	–											
4. Caution W2	.29***	.52***	.39***	–										
5. Democratic W1	.44***	.31***	.39***	.27***	–									
6. Democratic W2	.24***	.48***	.17***	.43***	.49***	–								
7. ST ^c Values W1	.46***	.33***	.32***	.24***	.33***	.12***	–							
8. ST Values W2	.33***	.53***	.18***	.32***	.25***	.31***	.45***	–						
9. Social Res W1	.43***	.33***	.33***	.26***	.33***	.19***	.67***	.38***	–					
10. Social Res W2	.29***	.51***	.15***	.33***	.27***	.34***	.36***	.69***	.36***	–				
11. SE ^d Values W1	-.10***	-.12***	.002	-.01	-.06**	-.08***	-.16***	-.09***	-.16***	-.11***	–			
12. SE Values W2	-.03	-.02	.03	-.0001	-.03	-.04 [†]	.01	.12***	-.05*	.01	.33***	–		
13. Private H ^e W1	-.16***	-.07***	-.07***	-.07***	-.16***	-.07**	-.23***	-.13***	-.19***	-.11***	.16***	.07***	–	
14. Private H W2	-.09***	-.08***	-.01	.01	-.06**	-.06**	-.12***	-.15***	-.13***	-.13***	.07***	.09***	.32***	–
15. Public H W2	.17***	.35***	.13***	.24***	.12***	.15***	.22***	.36***	.23***	.40***	-.05**	-.03 [†]	-.15***	.02

Note. Correlations derived from EM dataset. ^aW1 = Wave 1. ^bW2 = Wave 2. ^cST = Self-Transcendent Values. ^dSE = Self-Enhancement Values. ^eH = Health Beliefs.

Table 2-2.

Regression Models Predicting Adolescents' Public-Interest Orientations

	Self-Transcendent Values			Social Responsibility Beliefs			Public-Health Beliefs	
	Concurrent Wave 1	Concurrent Wave 2	Wave 1 to Wave 2	Concurrent Wave 1	Concurrent Wave 2	Wave 1 to Wave 2	Concurrent Wave 2	Wave 1 to Wave 2
<i>Value Messages</i>								
Compassion	.33***	.37***	.22***	.30***	.34***	.14***	.30***	.12***
Caution	.12***	.09***	.02 [†]	.16***	.07***	.02	.12***	.10**
Compassion X Caution	.04*	-.004	.03	.03 [†]	-.01	.04	-.003	-.02
<i>Parenting</i>								
Democratic Parenting	.11***	.15***	.13***	.12***	.15***	.19***	.01	.03
<i>Demographic Controls</i>								
Age Linear	-.24***	-.18***	-.17***	-.04*	-.03	-.02	-.08	-.08
Age Quadratic	.10***	.05**	.07***	.10***	.06 [†]	.08*	.01	.03
Male	-.08***	-.05*	-.08**	-.10***	-.12***	-.16***	-.03	-.06*
Mothers' Education	.02	-.0004	.02	.02	.04 [†]	.08**	.08*	.09**
Race: Black ^a	-.04**	-.06*	-.10***	-.04*	-.10***	-.13***	-.04	-.07*
Other ^a	.002	.04	.01	-.01	-.02	-.04 [†]	-.04	-.07 [†]
<i>R² Total</i>	.32	.32	.17	.25	.30	.16	.17	.08

Note. Standardized regression coefficients are reported. Standardized coefficients and R^2 for models derived from an EM dataset.

^aReference Group = White. [†] $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Table 2-3.

Regression Models Predicting Adolescents' Self-Interest Orientations

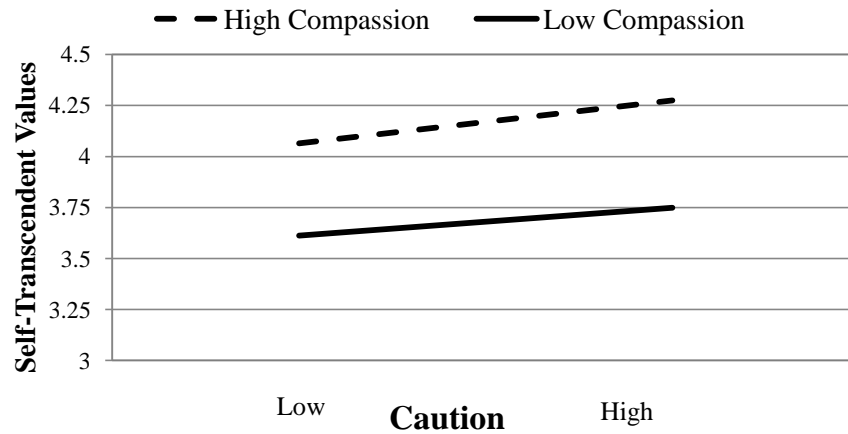
	Self-Enhancement Values			Private-Health Beliefs		
	Concurrent Wave 1	Concurrent Wave 2	Wave 1 to Wave 2	Concurrent Wave 1	Concurrent Wave 2	Wave 1 to Wave 2
<i>Value Messages</i>						
Compassion	-.08***	-.03	-.01	-.11***	-.16**	-.09*
Caution	.05*	.07	.04	.04	.08	.05
Compassion X Caution	-.06**	-.01	-.03	-.01	.01	-.06
<i>Parenting</i>						
Democratic Parenting	-.003	-.01	-.02	-.11***	-.04	-.05
<i>Demographic Controls</i>						
Age Linear	.21***	.19***	.19***	.19***	.17***	.17***
Age Quadratic	-.12***	-.07*	-.07**	.003	-.03*	-.03*
Male	.21***	.20***	.20***	.06**	.01	.01
Mothers' Education	.03	.05	.05	-.001	-.02	-.03
Race: Black ^a	.13***	.01	.02	.01	-.01	.01
Other ^a	.05*	.04	.04	-.01	.02	.03
<i>R² Total</i>	.13	.08	.08	.08	.06	.05

Note. Standardized regression coefficients are reported. Standardized coefficients and R^2 for models derived from an EM dataset.

^aReference Group = White. [†] $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$.

Figure 2-1.

Wave 1 Compassion X Caution Interaction for Self-Transcendent Values



Note. High (low) values for compassion and caution messages were calculated as 1 SD above (below) the mean.

Figure 2-2.

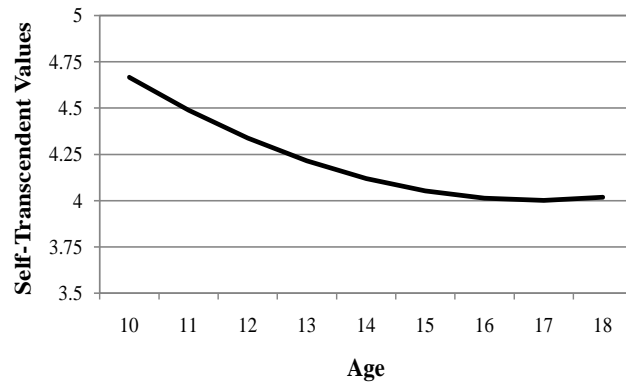
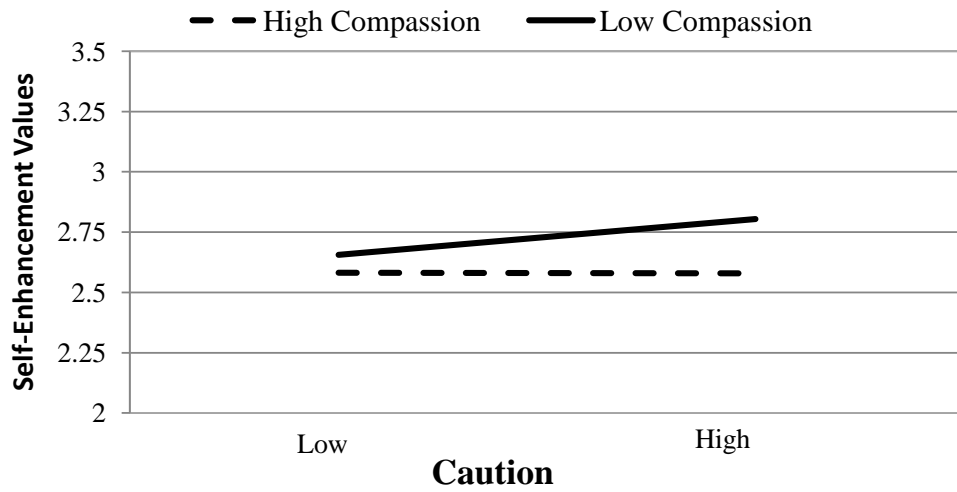
Quadratic Age Pattern for Wave 1 Self-Transcendent Values

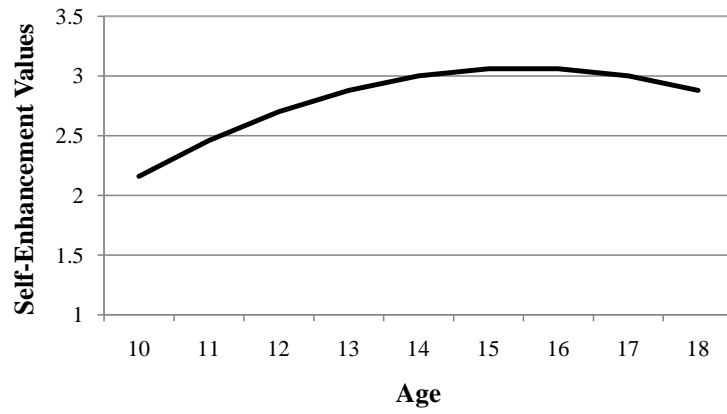
Figure 2-3.

Compassion by Caution Interaction for Self-Enhancement Values

Note. High (low) values for compassion and caution messages were calculated as 1 SD above (below) the mean.

Figure 2-4.

Quadratic Age Pattern for Wave 1 Self-Enhancement Values



STUDY 3

Examination of a Process Model Linking Maternal Value Socialization and Adolescent Substance Use in a Social Responsibility Framework

The prevalence and consequences of alcohol, tobacco, and other drug use represent serious public health issues (Centers for Disease Control & Prevention (CDC), 2008; Steinberg, 2008). Indeed, these adolescent health-risk behaviors are associated with the leading causes of death in adolescence – motor-vehicle crashes, other accidents, homicide, and suicide – all of which are preventable; substance use is also associated with cardiovascular disease and cancer, the two leading causes of death in adults 25 and older (CDC, 2008). Many prevention strategies are focused at the individual level and are designed to persuade individuals to reduce their own health-risk behaviors (e.g., Larimer & Cronce, 2007). Individual-focused strategies represent only one component of effective interventions for substance use, however, and other programs recognize that preventing adolescent substance use is a shared responsibility among families, friends, and communities (Saltz, 2004/2005; Spoth, Greenberg, & Turrise, 2008). Values of social responsibility, which in turn motivate individuals to intervene in friends' substance use, may be a viable yet overlooked target of intervention (Goff & Goddard, 1999; Roberts & Bogg, 2004). Despite being underemphasized, strategies designed to enhance collective efforts to prevent the health-risk behaviors of others hold promise for reducing adolescent health-risk behaviors.

Using a longitudinal sample of adolescents and their mothers, this study tested a process model to examine the associations between maternal value socialization, adolescents' personal values of social responsibility, and adolescents' socially responsible health behaviors. The study conceived of adolescents' substance use from a social responsibility perspective, arguing that social responsibility is captured by adolescents' intentions to intervene in the substance use of their friends as well as their low personal substance use. The study had three specific aims. First, I tested a value-behavior link, hypothesizing that greater willingness to intervene with friends and

low personal substance use (both socially responsible behaviors) would be predicted by adolescents' high personal values of social responsibility. Second, as parents are considered primary value socialization agents (Parke & Buriel, 2006), the present study hypothesized that adolescents' personal values of social responsibility would be predicted by a sequential process of value socialization that starts with mothers' communication of social responsibility value messages. Third, the study tested homogeneity in the hypothesized process by examining differences in proposed pathways by various subgroups. The overarching goal of this study was to enhance understanding of the developmental processes that facilitate adolescents' socially responsible actions in the context of substance use. Thus, findings have potentially important implications for the prevention of adolescent substance use.

Socially Responsible Behaviors

Social responsibility is defined as a duty or obligation that an individual has to society, which can be rooted in the welfare of those in one's close network or extended to concerns for the good of the broader community (Berman, 1997; Gallay, 2006; Kohlberg & Candee, 1984; Rossi, 2005). Thus, socially responsible behaviors consist of altruistic or prosocial actions aimed at helping and benefiting others. Yet, Gallay (2006) has argued that social responsibility also consists of personal behaviors that can benefit the self yet constitute being a responsible member of society. This study examined two types of adolescent behaviors that fit Gallay's nuanced definition of social responsibility: intentions to intervene in the substance use of friends and low personal substance use.

Intervening with friends. Negative peer influence is a major focus of universal and selected prevention programs aimed at reducing child and adolescent problem behaviors (Andrews, Tildesley, & Hops, 2002; Dishion, McCord, & Poulin, 1999; Dodge, Dishion, & Lansford, 2006; Jaccard, Blanton, & Dodge, 2005; Paxton, Schutz, Wertheim, & Muir, 1999; Prinstein, Boergers, & Spirito, 2001; Thornberry & Krohn, 1997). Though the peer literature focuses on peers as primarily negative influences, the friendship literature largely highlights the

positive side of peers (Berndt, 2002). There is growing evidence that adolescent friends can and do serve as positive influences on one another (Barry & Wentzel, 2006; Berndt, Hawkins, & Jiao, 1999; Berndt & Keefe, 1995; Brown, 1990; Hartup & Stevens, 1997; Maxwell, 2002; Prinstein et al., 2001; Youniss & Smoller, 1985). For example, adolescents with high-quality friendships show better adjustment across the transition to junior high school (Berndt et al., 1999) and greater involvement in classroom activities (Berndt & Keefe, 1995). Barry and Wentzel's (2006) findings suggested that adolescents' pursuit of prosocial goals is in part motivated by friends' prosocial behavior (i.e., helping, sharing, and cooperating). More broadly, high-quality friendships are associated with well-being across the lifespan (Hartup & Stevens, 1997). Thus, friends can be instrumental in promoting adolescents' school adjustment, prosocial behaviors, and well-being.

Adolescent friendships also appear to be influential in the prevention of substance use and other health-risk behaviors. In one study, adolescents who reported having friends who exhibited prosocial behaviors were less likely themselves to engage in violence and cigarette smoking (Prinstein et al., 2001). In other work, adolescents whose friends did not drink alcohol or chew tobacco were more likely to stop using these substances over time (Maxwell, 2002). One potential explanation for these findings is that peers may be able to protect their friends from substance use, for example, by creating and enforcing social norms that substance use is not acceptable behavior in the peer group.

On the other hand, adolescent substance use typically occurs in the presence of friends (Gardner & Steinberg, 2005; Steinberg, 2003), and many studies document that adolescents can act as negative influences, pressuring each other to use alcohol and other drugs (e.g., Andrews et al., 2002; Dodge et al., 2006; Thornberry & Krohn, 1997). However, a sole focus on resisting negative influences of peers, such as the "Just Say No" campaign embodied in the once-popular Drug Abuse Resistance Education (D.A.R.E.) programs, does not seem to be effective (Perry et al., 2003), and such programs also do not capitalize on the positive ways that friends can encourage and protect one another. Moreover, interventions for deviant adolescents and their

peers can sometimes lead to increased health-risk behavior (Dodge et al., 2006). Instead, cultivating an atmosphere where adolescents look out for their friends may be a common-sense, teen-accepted, and effective strategy for preventing substance-use related risks and health consequences; this idea is captured in the popular “Friends Don’t Let Friends...” campaign (Flanagan, Elek-Fisk, & Gallay, 2004; National Youth Anti-Drug Media Campaign, 2004). Such a prevention strategy would focus on harnessing the positive influences of friends and the natural inclination of adolescents to help and care for their friends.

Building on the work cited above, Flanagan and colleagues (Flanagan et al., 2004; Flanagan, Stout, & Gallay, 2008; Syvertsen, Flanagan, & Stout, 2009) examined adolescents’ willingness to intervene in their friends’ substance use and other deviant behaviors. Through several hypothetical vignettes, Flanagan et al. (2004) studied the substance use-related situations of a friend’s smoking, drug use, driving after alcohol use, and attendance of a party with alcohol and drugs. Adolescents were asked to indicate their likelihood of engaging in a range of intervening (e.g., talk to the friend, talk to an adult) and ignoring (e.g., ignore because you might lose the friend, ignore because it’s none of your business) behaviors. In general, adolescents reported greater willingness to take action to help their friend than to ignore the behavior. Importantly, talking to the friend directly was one of the most common intervention strategies adolescents endorsed (Flanagan et al., 2004; Syvertsen et al., 2009). Greater willingness to intervene was found for younger adolescents, girls, and youth with positive perceptions of their school climate. Furthermore, adolescents who endorsed beliefs that health is a public issue were more likely to believe they had a right to intervene in a friend’s risky choices, whereas adolescents who believed health was an individual rights issue were less likely to endorse their own rights to intervene (Flanagan et al., 2008).

Beyond the study of intentions to intervene by Flanagan and colleagues (2004; 2008), few studies are available to determine how commonly adolescents intervene in the substance use of friends. The bullying literature, however, has also investigated peer intervening, and finds

intervening behaviors to be uncommon: One study of adolescents in middle school found that peers were present in 85% of bullying episodes, yet intervened only 10% of the time (Atlas & Pepler, 1998). Perhaps peer intervening among adolescents is not common due to social norms about health, as many adolescents view health as an individual rights issue rather than a public issue. Furthermore, even when willing, adolescents may have a limited repertoire of practical strategies for stopping a friend's risky behavior (Flanagan et al., 2008). Willingness to intervene in friends' substance use is a socially responsible behavioral intention that is congruent with a public health approach to prevention. Due to the centrality of peers in substance use situations, adolescents' interventions to prevent friends' substance use could be an untapped strategy for reducing adolescents' substance use and related health risks. As discussed below, intervening could be made more explicit and normative for adolescents and their friends by socializing adolescents' personal values of social responsibility.

Substance use. Risk behavior in multiple domains is prevalent during adolescence. Many explanations for the age-limited increase in risk behaviors have been proposed, including increases in neurological development, decision-making processes, autonomy, and social pressures (Arnett, 1992; Hayford & Furstenburg, 2008; Jessor, 1992; Reyna & Rivers, 2008; Schulenberg, Maggs, & Hurrelmann, 1997; Steinberg, 2008). In 2006, Monitoring the Future's nationally representative study of adolescents documented high lifetime prevalence rates of alcohol (73%, 62%, and 41%), cigarette (47%, 36%, and 25%), and illicit drug use (48%, 36%, and 21%, with marijuana use the most common) in 12th, 10th, and 8th graders, respectively (Johnston, O'Malley, Bachman, & Schulenberg, 2007). Engaging in substance use during adolescence is a personal risk as using alcohol, tobacco, and other drugs can harm adjustment and health in adolescence and adulthood (Brown et al., 2008; Chassin, Hussong, Barrera, Brooke, Trim, & Ritter, 2004; Newcomb & Bentler, 1988). Given the prevalence rates as well as the personal and social consequences of these behaviors, adolescent substance use is an important

social and public health issue. The consequences associated with adolescent substance use for individuals and the public are highlighted below.

Adolescents who engage in substance use, particularly if it is heavy and sustained, are likely to experience short- and long-term health consequences. Short-term effects of alcohol and other drug use in adolescence can be serious (e.g., alcohol poisoning) as well as minor (e.g., hangovers), and also include impairments in judgments and performance that may increase the likelihood of sexual risk taking, impaired driving, and accidents (cf. Chassin et al., 2004).

Adolescents' use of alcohol, tobacco, and marijuana can operate as a gateway to the use of other drugs that are even more dangerous and addictive (Kandel, Yamaguchi, & Chen, 1992).

Adolescent substance use also has personal consequences that persist into adulthood (Bachman, Wadsworth, O'Malley, Johnston, & Schulenberg, 1997; Maggs, Frome, Eccles, & Barber, 1997; Merline, Jager, & Schulenberg, 2008; Newcomb & Bentler, 1988; Staff, Patrick, Loken, & Maggs, 2008; Wittchen et al., 2007). For example, adolescent alcohol use has been associated with alcohol disorders in adulthood (Merline et al., 2008), and sustained alcohol consumption increases the risk for a wide range of chronic diseases (Rehm, Room, Graham, Monteiro, Gmel, & Sempos, 2003) and mortality (Power, Rodgers, & Hope, 1998). Some scholars suggest that long-term negative health effects result primarily from average-to-heavy, rather than light-to-moderate, alcohol consumption (Jessor, Donovan, & Costa, 1991; Newcomb & Bentler, 1988; Rehm et al., 2003), yet this area of investigation deserves greater research attention. Adolescent tobacco use has been associated with anxiety and emotional distress in adulthood, as well as lower personal income and education, even after controlling for a variety of childhood correlates (Georgiades & Boyle, 2007; Johnson, Cohen, Pine, Klein, Kasen, & Brooke, 2000; Newcomb & Bentler, 1988). Sustained smoking is also known to cause a range of respiratory diseases, including lung cancer (Patel, Ryu, & Vassallo, 2008). Moreover, illicit drug use in adolescence and adulthood has been associated with physical and psychological consequences including cardiovascular disease, emotional distress, depression, and suicide (Darke, Kaye, McKetin, &

Duflou, 2008; Newcomb & Bentler, 1988). Adolescent marijuana use, in particular, has been associated with lower educational achievement, mental illness, and delinquency in adulthood (Brook et al., 1998; Fergusson, Horwood, & Beautrais, 2003; Georgiades & Boyle, 2007; Wittchen et al., 2007). Although causality cannot be determined in the majority of these studies, evidence overwhelmingly points to long-term negative correlates of adolescents' heavy and sustained use of alcohol, tobacco, and other drugs.

Beyond these vast personal consequences, substance use carries significant costs to others. For example, drunk driving was implicated in 39% of traffic fatalities in 2005 (National Highway Traffic Safety Association, 2006). Furthermore, it has long been recognized that second-hand smoke carries carcinogenic risks for non-smokers (cf. Husgafvel-Pursiainen, 2004). Many studies have linked illicit drug use such as marijuana, cocaine, and heroin to greater participation in criminal activities (e.g., French, McGeary, Chitwood, McCoy, Inciardi, & McBride, 2000; Kouri, Pope, Powell, Oliva, & Campbell, 1997). Although the relationship between drugs and crime is complex (Simpson, 2003), there are nonetheless clearly negative repercussions for victims and costs to society. The National Institute on Drug Abuse estimated that alcohol, tobacco, and other drug use costs society an estimated \$247.5 billion per year; this figure includes costs related to treatment, prevention, health care, lost employment earnings, and crime, and nearly half of the costs are shouldered by taxpayers (National Institute on Drug Abuse, 2008).

Given the potential individual and public implications of substance use, abstaining from substance use during adolescence could be considered a socially responsible act. In light of the high prevalence of frequent, heavy alcohol use during adolescence (Johnston et al., 2007), low substance use among adolescents would also be more socially responsible than heavy use (though still illegal), as low use is less likely to lead to morbidity and long-term disease and addiction (e.g., Rehm et al., 2003). Thus, an ethic of social responsibility, especially when made explicit in terms of individual and public interests, should encourage adolescents to refrain from high

substance use in order to avoid the long-term personal consequences of these behaviors as well as to look out for the health and well-being of others.

Adolescents vary in the degree to which they consider substance use a personal matter versus a domain falling social control (Flanagan et al., 2008; Nucci, Guerra, & Lee, 1991). Heavy users are more likely to view substance use as personal issue and are less likely to view it as having social implications, compared to abstainers or light users (Haemmerlie, Montgomery, & Cowell, 1999; Nucci et al., 1991; Slicker, 1997; Smetana, 1988). Adolescents' views of individual rights to engage in substance use may depend on how harmful they perceive the substance: Killen, Leviton, and Cahil (1991) found that adolescents were more likely to endorse an individual's rights to use substances that they perceived as less harmful (e.g., cigarettes), and were less likely to endorse an individual's right to use those substances they perceived as more harmful (e.g., cocaine).

Thus, a view of personal choice in the context of collective welfare may not naturally be at the forefront of adolescents' thinking regarding substance use. Moreover, as noted, adolescents who use alcohol, cigarettes, or marijuana heavily perceive their own substance use as having more personal than social consequences. The present study argues that adolescents' personal values of social responsibility could motivate them to reduce or abstain from personal substance use for the benefit of their own health and the health of others.

Personal Values

Adolescence is characterized by exploration of moral and ideological commitments and views about the world (Damon, 2001; Flanagan, 2004; Jennings, 1989) in conjunction with explorations of identity (Erikson, 1968) and relationships with others (Collins, Gleason, & Sesma, 1997). Values are general principles that guide behaviors and vary in importance across individuals (Rokeach, 1973), and they take shape as adolescents engage in these types of exploration. Personal values of social responsibility reflect one's fundamental views of contributions to others and society, and are likely to motivate socially responsible actions (Hitlin, 2003). Likewise,

the present study argues that adolescents who highly endorse social responsibility values will be more willing to intervene in friends' substance use and will report lower personal substance use.

Values and intervening with friends. Social responsibility values may predict one's willingness to intervene in friends' risky substance use because *values* reflecting concern for others are central to *behaviors* that involve helping others and contributing to society (Flanagan, 2003; 2004). Indeed, several studies demonstrate a positive connection between other-oriented values and adolescents' prosocial behaviors (i.e., helping and caring for others) and civic attitudes and behaviors (i.e., exercising rights and responsibilities of citizenship). Specifically, values emphasizing concern for others and society have been positively associated with volunteering and community service (Hitlin, 2003; Pratt, Hunsberger, Pancer, & Alisat, 2003), membership in community organizations (Bekkers, 2005), pro-environmental behaviors (Verplanken & Holland, 2002), voting (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006), and political activism (Mayton & Furnham, 1994). Other-oriented values predict a wide range of helping behaviors and civic actions across samples and cultures.

Few studies have extended the literature on other-oriented values such as social responsibility to understanding behavioral intentions of intervening with friends. The bystander intervention literature in social psychology has long investigated the likelihood of a bystander intervening when someone is in danger, and Darley and Latané (1968) discussed the characteristic of responsibility as a key factor to intervening, but the majority of this work has focused on situational factors rather than individuals' personal qualities such as values (Banyard, 2008). Intervening in the risky behavior of friends is a socially responsible behavior as it entails adolescents considering the welfare of one another and protecting each other from harm (Flanagan et al., 2004). However, as noted, not all adolescents view substance use as potentially harmful, particularly as exposure to and experimentation with substance use increase during adolescence and are part of adolescents' normative experience (Chassin et al., 2004; Flanagan et al., 2004; Maggs & Schulenberg, 2006). Also as noted above, when adolescents hold a more

benevolent view towards others, they are more likely to help those in need (Hitlin, 2003; Pratt et al., 2003). Just as social responsibility values predict other socially responsible behaviors such as volunteering, so too should values of social responsibility predict adolescents' willingness to intervene when a friend is at risk for harm due to substance use.

Values and substance use. Prominent approaches to prevention such as problem behavior and social attachment theories suggest that youth who are integrally connected to social institutions (e.g., family, school, community), and the conventional norms and values they promote, are less likely to engage in problem behaviors such as heavy substance use and delinquency (Allen, Leadbeater, & Aber, 1990; Braithwaite & Braithwaite, 1981; Catalano & Hawkins, 1996; Garnier & Stein, 1998; Jessor & Jessor, 1977; Petraitis, Flay, & Miller, 1995). Among adolescents, empirical work shows that connections to others are associated with lower substance use (Neumark-Sztainer, Story, French, & Resnick, 1997; Roth, Brooks-Gunn, Murray, & Foster, 1998; Scheier, Botvin, & Baker, 1997). Social bonds may be linked to lower problem behavior through internalization of other-oriented values: Extant literature has shown that valuing spirituality (Ritt-Olson et al., 2004; Wills, Yaeger, & Sandy, 2003), valuing friendship and family (Piko, 2005; Unger, Ritt-Olson, Teran, Huang, Hoffman, & Palmer, 2002), and valuing warm relationships with others (Goff & Goddard, 1999) predicted lower substance use in adolescents.

Several studies have specifically examined social responsibility in relation to health-risk behaviors, including alcohol (Fisher, Fried, & Anushko, 2007); alcohol, tobacco, and marijuana (Roberts & Bogg, 2004); high-risk sexual behaviors (Latka et al., 2007); and interpersonal violence (Banyard, Cross, & Modecki, 2006). For example, college freshmen who endorsed the belief that drinking can negatively affect others reported drinking less per week, on average (Fisher et al., 2007). Longitudinally, Roberts and Bogg (2004) found that women with higher social responsibility at age 21 reported lower alcohol, tobacco, and marijuana use at age 43. Overall, extant evidence suggests that greater endorsements of other-oriented values – values that

reflect social responsibility and commitments to others – should predict lower individual substance use.

Parental Value Socialization

The majority of empirical studies on the family's role in adolescent substance use focus on the importance of parents as relational companions, models, monitors, and disciplinarians (e.g., Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Baumrind, 1991; Dishion, Nelson, & Kavanagh, 2003; Hawkins, Catalano, & Miller, 1992). However, parents also serve as instructors to their children, communicating value messages about how to behave and how to view the world (Parke & Buriel, 2006). Parents are primary value socialization agents (Collins & Laursen, 2004; Parke & Buriel, 2006), meaning that parents "have been given primary power by evolution and by society to socialize" (Kuczynski & Grusec, 1997, p. 402). Communication of prosocial values within the family has been cited as an important protective factor for adolescent problem behaviors such as substance use (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999; Kumpfer & Alvarado, 2003). The present study focuses on a specific type of family communication: parental value messages of social responsibility.

According to Grusec and Goodnow's (1994) model of value socialization, children's internalization of their parents' values is a two-step process: First, children must accurately perceive the value message imparted by parents, and second, children can choose to either accept or reject parents' values. Previous studies have examined parent and family characteristics associated with adolescents' accurate perceptions of parental values (Cashmore & Goodnow, 1985; Knafo & Schwartz, 2001; 2003) and parent-child value similarity (Hoge, Petrillo, & Smith, 1982; Whitbeck & Gecas, 1988). Empirically specifying the process of value internalization, however, is lacking in the literature as it requires sequentially linking parents' values or value messages, children's perceptions of these messages, children's own values, and children's behaviors that should be influenced by their values (Grusec & Goodnow, 1994; McBroom, Reed, Burnes, Hargraves, & Trankel, 1985). Linking parents' value messages to adolescents'

perceptions of these messages, the first step, is important because it is not always clear that adolescents accurately hear what parents communicate. Second, linking adolescents' perceptions of parents' value messages to their own values is a way to operationalize acceptance of the values parents have imparted. Finally, when values are truly internalized, they are more likely to be reflected in behavior (Flor & Knapp, 2001).

Using a sample of adolescents and their mothers, the current study sought to specify the two-step model of maternal value socialization and the logical third step. Hypotheses were that successful value socialization would occur when: mothers' value messages of social responsibility were first accurately perceived by their adolescents, then accepted as adolescents' own personal values of social responsibility, and finally reflected in adolescents' socially responsible behaviors.

Potential Heterogeneity in Processes

Bronfenbrenner (1979) suggested that in ecological research, "the principal main effects are likely to be interactions" (p. 38). In this vein, this study examined whether the hypothesized socialization processes and value-behavior links described above were the same for various subgroups of individuals. Specifically, potential differences were explored for adolescent age, gender, race, mothers' education, family structure, and democratic parenting.

Age. Although empirical evidence is inconclusive as to whether value socialization processes differ based on child's age, scholars of parenting converge on the idea that parenting and socialization processes change in response to children's cognitive development and autonomy concerns (Grusec & Goodnow, 1994; Kerr & Stattin, 2003; Maccoby, 1992). Parents' influence may decrease as children grow older due to children's exposure to increasingly diverse environmental influences (Scarr & McCartney, 1983). On the other hand, adolescents may internalize values through a gradual and cumulative process (Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982), suggesting that late adolescence may represent the height of parent-adolescent congruence on value messages. Given the importance of understanding whether value

socialization processes vary for adolescents of different ages, this study examined differences in predicted paths across early, middle, and late adolescence.

Gender. Gender differences may exist in value socialization processes. Parents tend to emphasize prosocial behaviors more in daughters than in sons (Eisenberg & Morris, 2004). Furthermore, some have argued that girls are easier to socialize than boys because they feel more pressure to conform to adult standards and values (Harter, 1998) and more accurately perceive family and cultural norms and values (Boehnke, 2001). Thus, it is conceivable that associations would be stronger for daughters than for sons, yet there was limited evidence for this prediction.

Race. Racial socialization is commonly studied in ethnic and racial minority families (e.g., Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006), and this literature explores specific messages that racial and ethnic minority parents communicate to children regarding preparation for bias and wariness of others. Yet research on racial socialization does not offer predictions regarding a differentiated process of socializing social responsibility among adolescence. A higher and earlier developing awareness of injustice and equality has been documented for ethnic minorities (Turiel, 1998). Thus, there may be level differences in social responsibility across racial and ethnic groups of adolescence. However, there were no strong reasons to expect that mothers' socialization of social responsibility would work differently for different racial groups or that values would relate in a different way to behaviors for these subgroups. Race/ethnicity differences in pathways were tested with the expectation that processes operate the same way across groups.

Mothers' education. A long line of theoretical and empirical work argues that socioeconomic status (SES), or social class, plays an important role in parenting behaviors and strategies (e.g., Sears, Maccoby, & Levin, 1957; cf. Conger & Dogan, 2007; Parke & Buriel, 2006). SES differences have been found in parenting styles and practices, such that higher SES parents tend to be more authoritative and communicative (Hart & Risley, 1995; Hoff, Laursen, & Tardif, 2002; Parke & Buriel, 2006; Straus & Stewart, 1999), suggesting that verbal

communication strategies may be more enhanced. Furthermore, higher SES parents may value concerted cultivation more than lower SES parents, meaning that they offer more consistent structure to children (Lareau, 2003). Thus, links between mothers' and adolescents' value messages of compassion may be stronger in higher SES families. The literature on social class and value socialization suggests that parents socialize certain types of values depending on their own experiences (Boehnke, 2001; Kasser, Koestner, & Lekes, 2002; Kohn, Slomczynski, & Schoenbach, 1986). Such studies, however, have not been conducted on social responsibility values. In the present study, mothers' education was used as a proxy for SES; parental education has been considered to be one of the most influential facets of SES in terms of socialization strategies (Bradley & Corwyn, 2002).

Family structure. Family forms are increasingly diverse (Cherlin, 2005), yet the developmental literature tends to find that two-parent families are beneficial for a range of child outcomes (e.g., Amato, 2000; Robson, 2010). When mothers' and fathers' values are more similar to one another, value socialization efforts may be more successful (Boehnke, 2001; Cavalli-Sforza, Feldman, Chen, & Dornbusch, 1982; Parke & Buriel, 2006). Thus, I examined whether socialization paths were stronger for two-parent families than for families with other types of structures.

Democratic parenting. Democratic parenting, a term perhaps first used by Baldwin (1948), is characterized by parent behaviors that foster a climate of mutual respect and open communication, challenging moral discussions, and a sense of cooperation and mutuality (Collins et al., 1997; Fallon & Bowles, 2001; Maccoby & Martin, 1983; Noller & Callan, 1991). Key elements of family democracy include parents' respect of adolescent opinions and input into decisions (Fallon & Bowles, 2001; Flanagan, 2003). Parental socialization strategies can be more effective in the context of a positive parent-child relationship (Darling & Steinberg, 1993). Parental responsiveness in terms of high warmth and low conflict has been related to greater accuracy in perceptions of parents' values (Knafo & Schwartz, 2003) and greater value similarity between parents and children (Mortimer & Kumka, 1982). A mutually respectful parent-adolescent

relationship, fostered by democratic parenting, may promote value socialization by strengthening emotional bonds that lead children to identify with and want to emulate parents' values (Collins & Laursen, 2004; Darling & Steinberg, 1993). Indeed, acceptance of parents' values is an active choice on the part of adolescents made more likely if adolescents want to emulate parents and parents are sensitive to children's autonomy concerns (Grusec & Goodnow, 1994). Thus, I expected that democratic parenting would facilitate adolescents' acceptance of mothers' value messages.

Study Goals

In sum, the present study tested the hypothesized links between parental socialization of social responsibility and two socially responsible behaviors: high intentions to intervene with friends and low personal substance use. The first part of the model tested a two-step process of value socialization, hypothesizing that mothers' greater messages of social responsibility would predict corresponding adolescent perceptions of these messages, which in turn would predict adolescents' high personal values of social responsibility. Regarding the second part of the model, hypotheses were that adolescents' high values of social responsibility would predict greater intentions to intervene in the substance use of friends and lower personal substance use. The proposed model tested one way that adolescents' social responsibility develops. The study also tested whether this developmental process was similar for various subgroups: age, sex, race, mothers' education, family structure, and democratic parenting. Process models were best tested using longitudinal data, as longitudinal models show associations among constructs over time and better mirror the sequence of expected causal relations (Schoppe-Sullivan, Schermerhorn, & Cummings, 2007). Although causality cannot be determined with correlational designs, stronger evidence for the consistency of observed data with hypothesized process models is obtained using longitudinal data. The expected process was one that begins with mothers' messages and adolescents' perceptions of them (wave 1), then leads to potential internalization of values (wave 2), which should ultimately predict adolescents' socially responsible behaviors (wave 3).

Method

Data came from the three-year longitudinal Social Responsibility and Prevention project. Adolescents were recruited in 5th through 12th grade classrooms in six school districts in two northeastern states representing urban, semi-urban, and rural areas. Active consent was sought from adolescents and their parents, resulting in a wave 1 response rate of 51% for adolescents (Flanagan et al., 2004). At wave 2, researchers surveyed adolescents who participated in the first wave and were still in the school system, and new students were also recruited through social studies classrooms as in wave 1. At wave 3, only students who had participated in a previous wave and were in the school system were sought for the study. Data collection took place in spring of 2002, 2003, and 2004. There were 4228 youth surveyed at three years, 2069 youth surveyed across at least two years, and 838 youth with three waves of data. Attrition analyses compared adolescents in wave 1 to adolescents with all three waves of data on demographic factors using multiple logistic regression. Analyses revealed that gender was not a significant predictor of attrition, but for every year older at the beginning of the study, adolescents had a 20% lower odds of remaining in the study, both White and Black adolescents had a greater likelihood of remaining in the study compared to adolescents of other racial-ethnic backgrounds, and, for every increased unit of cigarette and alcohol use, adolescents reported 40% and 25% lower odds of remaining in the study, respectively.

Requests for parent participation were sent only to the homes of adolescents who participated in the study. Each parent was compensated \$20 for returning a survey. The wave 1 response rate for one parent per family was 40%, and mothers were much more likely to respond than fathers.

Current analyses included adolescents with data for at least one wave who had a parent in the study ($N = 1870$). Adolescents' ages were distributed in expected ways across grades, and grade in school was highly correlated at .96 with age across waves, p 's < .001. However, several cases were deleted for adolescents who were 19 ($n = 8$) and 20 ($n = 3$) at wave 1, because they were much older than the average high school senior. At wave 1, adolescents ranged in age from

10 to 18 years ($M = 13.13$, $SD = 2.01$), and 55% were female. In addition, 78% of adolescents reported being White, 11% Black, 7% Hispanic, 3% Asian, and 1% of another ethnicity.

Measures

Table 3-1 presents the mean and standard deviations, or frequencies where relevant, for study variables.

Intervention intentions. Four hypothetical scenarios at wave 3 were used to measure adolescents' intentions to intervene in friends' substance use. Each scenario introduced a unique situation related to a friend's substance use: a friend who started smoking, a friend who drove another friend to a party and got drunk, a friend who started taking drugs, and a friend who was invited to a party with alcohol and drugs (for a full description and detailed analysis of the measure, see Flanagan et al., 2004). For each scenario, adolescents rated their likelihood of intervening in a variety of ways using a response scale from *Very Unlikely* (1) to *Very Likely* (5). Options for intervening tapped various ways adolescents might intervene directly with a friend regarding smoking ($n = 3$), driving drunk ($n = 3$), taking drugs ($n = 2$), and going to a party with alcohol and drugs ($n = 1$); these options were usually specific to the situation. In addition, across all four scenarios, adolescents rated the likelihood that they would "tell some other friends and ask for help," and across three scenarios, adolescents rated their willingness to "tell parents and ask for help," and "talk to an adult." In total, 19 items across the four scenarios measured intentions to intervene in friends' substance use-related behaviors. Scenarios and intervention responses were derived from focus groups with high school students to be relevant to adolescents' life experiences, assessed for reading level by teachers, and pilot-tested with a sample of early adolescents for comprehension. Previous analyses of these items indicated that intervening was more likely among younger adolescents and females (Flanagan et al., 2004).

Substance use. Measures of adolescents' substance use were taken from wave 3. Three items measured how often adolescents had ever smoked cigarettes; drank beer, wine or liquor; and used marijuana, with the following response scale: *Never* (1), *Quit – Don't do it anymore* (2),

Once or twice ever (3), *Once or twice in the last month* (4), *Once or twice in the last week* (5), and *More than twice a week* (6). Three additional items measured binge drinking (“drank 4 or 5 alcoholic beverages in a row”), riding in a car with a drunk driver, and going to a party with lots of drinking on a 4-point scale: *Never* (1), *Rarely* (2), *Sometimes* (3), and *Often* (4). Items were adapted from the Adolescent Alcohol Prevention Trial (Graham, Rohrbach, Hansen, Flay, & Johnson, 1989) and the Alcohol Initiation Index (Spoth, Redmond, & Lepper, 1999). Given the different response scales, items were standardized for analyses in structural equation models. To illustrate levels of drinking in Table 3-1, response options on the 6-point scale were collapsed to the 4-point scale, such that *Never* and *Quit* = *Never* (1), *Once or twice ever* = *Rarely* (2), *Once or twice in the last month* = *Sometimes* (3), and *Once or twice in the last week* and *More than twice a week* = *Often* (4). As the mean and standard deviation in Table 3-1 indicate, adolescents’ substance use was positively skewed.

Adolescents’ personal values of social responsibility. Six items from wave 2 measured adolescents’ personal values of social responsibility and were based on work by Schwartz (1992) and Whitbeck, Simon, Conger, and Lorenz (1989). All items began with “It is important to me” and content was: help those who are less fortunate, help people in my community, help my society, serve my country, help other students in my school, and make new students feel welcome. Response options ranged from *Strongly Disagree* (1) to *Strongly Agree* (5).

Value messages of compassion. At wave 1, five items measured mothers’ value messages of social responsibility and compassion from mothers’ and adolescents’ perspectives. Content emphasized being helpful to others and especially the less fortunate, respecting people no matter who they are, treating everyone equally, not judging people before you get to know them, and standing up for others. Items were adapted from Katz and Hass (1987) and have been used in previous studies (Flanagan & Tucker, 1999). Mothers’ reports began with “I tell my children...” and thus represent the value messages they believed they told their adolescent; adolescents’

reports began with “My parents tell me...” and represent value messages they reported hearing from their parents. Response options were *Strongly Disagree* (1) to *Strongly Agree* (5).

Demographic variables. Multigroup models were tested with gender (female versus male), adolescent race (white versus nonwhite), adolescent age group, and mothers’ education as moderators. Age groups were created for early (9 – 11, $n = 510$), middle (12 – 13, $n = 595$), and late adolescence (14 – 18, $n = 758$), based on age at wave 1. Mothers reported their education levels using a 5-point scale: *Did Not Finish High School* (1), *Finished High School or Got a GED* (2), *Some Training after High School/Community College* (3), *Bachelor’s (4-year) Degree* (4), and *Master’s, Ph.D., or Professional Degree* (5). Mothers’ education was dichotomized into low education (high school diploma or less) and high education (at least some college).

Democratic parenting. Democratic parenting was also used in a multigroup model as a moderator, and was measured at wave 1 by adolescents’ responses to four items: “My parents let me have a say even if they disagree,” “My parents respect my opinions,” “I can talk to my parents about what is bothering me,” and “My parents trust me to do what they expect without checking up on me” (Fulgini & Eccles, 1993). Responses ranged from *Strongly Disagree* (1) to *Strongly Agree* (5). To facilitate analysis in a multigroup framework, responses were dichotomized such that averages of four or higher were coded as high democratic parenting (42.3% of the sample) and lower than four were coded as low democratic parenting (57.7% of the sample). Grouping variables for multigroup analyses were aggregated across waves to minimize missing data.

Analyses

Structural Equation Modeling

Structural equation modeling (SEM) using LISREL 8.72 (Jöreskog & Sörbom, 1996) was used to test the hypothesized model. See Figure 3-1 for structural model. In addition to the standard chi square index of fit, which has been shown to be biased in large samples (over 200; Hu & Bentler, 1998), three indices of practical fit – the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), the Comparative Fit Index (CFI; Bentler, 1990), and the Root Mean Square Error

of Approximation (RMSEA; Browne & Cudeck, 1993) – were used. Conventions for the TLI are that values of .90, and preferably above .95, indicate acceptable fit. CFI values above .92, and preferably above .96, indicate acceptable fit. RMSEA values lower than .05 indicate good fit, values between .05 and .08 are considered acceptable, and values above .10 indicate poor fit (Graham, 2005).

Analyses employed the full information maximum likelihood (FIML) method for handling missing data. The FIML method handles missing data by using all available data to estimate each parameter, yielding acceptable parameter estimates and standard errors in a single step (Graham, Cumsille, & Elek, 2003). In FIML LISREL models, fit statistics besides the chi square were derived by comparing models to the null or independence model, which estimates means and variances of all manifest indicators and assumes covariances are zero (Graham, 2005). Nested models were compared by examining changes in the chi square fit index, which compares the differences in chi squares for the two models ($\Delta\chi^2$) to the chi square distribution, with degrees of freedom equal to the difference in degrees of freedom for the two models (Δdf).

The analyses were undertaken in a series of steps. First, LISREL was used to estimate a single measurement model, which identified the factor structure for the latent variables and constituted the foundation for the path model to be tested (see Figure 3-1). Second, the structural paths specified in Figure 3-1 were estimated. Third, a series of multigroup analyses were conducted. Models testing the equivalence of beta coefficients for hypothesized structural paths across gender, race, age, mothers' education, family structure, and democratic parenting were conducted in separate multigroup SEMs. Given that complete data was required to construct the groupings, sample size was reduced to complete cases for each multigroup variable (*Ns* shown in Table 3-1).

Results

Measurement Model

The measurement model had a significant chi square value ($\chi^2 = 3112$, $df = 758$, $p < .001$), but two relative fit indices suggested acceptable fit (TLI = .91; CFI = .92), and the RMSEA reflected an excellent fit at .04. The model was scaled in the psi matrix, allowing each item to have a unique factor loading. See Table 3-2 for standardized factor loadings. Single factors emerged for the three constructs of mothers' messages of compassion, adolescents' perceptions of compassion messages, and adolescents' personal values of social responsibility.

The 19 willingness to intervene items reflected three latent factors based on type of intervention strategy: Intervene Directly (8 items), Talk to an Adult (7 items), and Ask Friends for Help. Adolescent substance use reflected two latent factors based on the type of substance used. The first latent factor, Drinking, consisted of four manifest indicators of drinking alcohol, binge drinking, and alcohol-related risk behaviors (i.e., going to a party with lots of drinking and riding with a drunk driver). Smoking consisted of two manifest indicators, using cigarettes and marijuana. Several correlated errors were also included in the model to enhance model fit (see Figure 3-1)¹.

Table 3-3 presents correlations among all latent variables. Mothers' messages of compassion were positively associated with adolescents' perceptions of compassion messages, but were not correlated with any other variables. All other latent variables were significantly correlated in the expected directions.

Path Model

Next, hypothesized paths among latent variables were added to the model. All paths were statistically significant and in the predicted directions (see Figure 3-1 and text below for standardized beta coefficients). The chi square for the model was significant ($\chi^2 = 2934$, $df = 751$, $p < .001$) and a chi square difference tests showed improvement in fit after structural paths were added to the measurement model, $\Delta\chi^2 = 178.46$, $df = 7$, $p < .001$. Again, examination of practical

fit showed acceptable values for two of the indices (TLI = .92, CFI = .92), and excellent fit for the RMSEA of .04. Overall model fit was deemed acceptable.

Mothers' self-reported value messages of compassion predicted adolescents' perceptions of these messages at wave 1 ($\beta = .10$, $SE = .04$, $p < .01$). Adolescents' perceptions of family compassion messages at wave 1 significantly predicted personal values of social responsibility at wave 2 ($\beta = .46$, $SE = .05$, $p < .001$). In other words, high compassion messages heard from parents were associated with higher values of social responsibility one year later. Thus, this first part of the model offered some support for Grusec and Goodnow's (1994) theory of the sequential process of value internalization. To further examine the process, a direct path was tested between mothers' value messages and adolescents' values of social responsibility (not shown), and this path was not significant ($\beta = .01$, $SE = .07$, *ns*).

As shown in Figure 3-1, adolescents' values of social responsibility at wave 2 were associated as hypothesized with outcomes at wave 3. Higher social responsibility predicted greater willingness to intervene to discourage friends' risk behaviors through directly intervening with the friend ($\beta = .41$, $SE = .04$, $p < .001$), talking to an adult ($\beta = .37$, $SE = .03$, $p < .001$), and asking a friend for help ($\beta = .34$, $SE = .03$, $p < .001$). Higher values of social responsibility also predicted lower drinking behavior ($\beta = -.32$, $SE = .03$, $p < .001$) and lower cigarette and marijuana use ($\beta = -.32$, $SE = .04$, $p < .001$), one year later.

Multigroup Analyses

In conducting multigroup analyses, factor loadings were constrained to be equal across groups and differences in beta coefficients were evaluated via chi square difference tests. Thus, the factor invariant model was compared to a model in which betas were also constrained to be equal across groups to determine whether paths significantly differed between groups². Significant differences in hypothesized relationships among constructs were found for age ($\Delta\chi^2 = 35.69$, $\Delta df = 14$, $p = .001$) but not for gender ($\Delta\chi^2 = 9.32$, $\Delta df = 7$, $p = .23$), race ($\Delta\chi^2 = 6.43$, Δdf

= 7, $p = .49$), mothers' education ($\Delta\chi^2 = 7.84$, $\Delta df = 7$, $p = .35$), family structure ($\Delta\chi^2 = 8.64$, $\Delta df = 7$, $p = .28$), or democratic parenting ($\Delta\chi^2 = 10.89$, $\Delta df = 7$, $p = .14$).

The overall fit was acceptable for the multigroup model for age based on relative fit indices, $\chi^2 = 4851$, $df = 2345$, $p < .001$, TLI = .91, CFI = .92, RMSEA = .02. Multigroup analyses for age showed three significantly different paths between early, middle, and late adolescence. The remaining beta coefficients were constrained to be equal, which was supported by chi square difference tests. Mothers' compassion messages did not predict adolescent perceptions of compassion messages in early adolescence ($\beta = -.04$, $SE = .09$, *n.s.*), but this path was marginally significant in middle adolescence ($\beta = .13$, $SE = .08$, $p < .10$) and was statistically significant in late adolescence ($\beta = .20$, $SE = .06$, $p < .001$). Model comparisons indicated that the significant group difference was between early and late adolescence.

In addition, the paths connecting social responsibility values to drinking and smoking were significantly different for the three age groups. Importantly, the paths were significant and negative for all three age groups. However, social responsibility values were a stronger predictor of drinking and smoking in late adolescence ($\beta = -.42$, $SE = .06$, $p < .001$ and $\beta = -.50$, $SE = .07$, $p < .001$, respectively) than in middle adolescence ($\beta = -.26$, $SE = .06$, $p < .001$, and $\beta = -.33$, $SE = .06$, $p < .001$, respectively) or in early adolescence ($\beta = -.16$, $SE = .05$, $p < .01$, and $\beta = -.14$, $SE = .05$, $p < .05$, respectively). Model comparisons revealed that beta coefficients for drinking were significantly different between late adolescence and the other two groups, and the betas for smoking were significantly different across the three groups.

Discussion

This study provides the strongest test to date of Grusec and Goodnow's (1994) theory of the sequential process of value internalization. The evidence suggests that adolescents' *perceptions* of parental compassion messages are key to the socialization of social responsibility values. Importantly, the hypothesized two-step process was confirmed in late adolescence and across a range of other subgroups, but was not fully supported in early or middle adolescence. In

addition, associations between variables measured one year apart revealed that adolescents' values of social responsibility positively predicted greater willingness to intervene with friends to prevent health risk behaviors and lower alcohol, cigarette, and marijuana use; these links from values to substance use were strongest during late adolescence. This process model points to one potential pathway through which adolescents develop into socially responsible citizens in the context of substance use. The discussion that follows centers on the scientific and practical significance of these findings, highlights strengths and limitations of the study, and suggests future directions for research.

Social Responsibility Value – Behavior Links

Adolescents' values of social responsibility were strong predictors of their socially responsible actions in the context of substance use. These values positively predicted willingness to intervene to prevent friends' substance use behaviors, as indicated by three different strategies of intervening, and negatively predicted adolescents' drinking and smoking. This evidence supported hypotheses and was strengthened by the use of longitudinal data suggesting that the associations were sustained across time, the moderately sized standardized coefficients that held even after controlling for correlations among outcomes, and the consistency of results across subgroups including gender, race/ethnicity, SES, family structure, and parenting style. Moreover, despite some variation in the strength of effects between values and substance use by age, the paths remained significant across age groups.

The stronger relationships between social responsibility values and substance use in late adolescence may be a methodological artifact of the restricted range in correlations with substance use for younger age group. Alcohol, cigarette, and marijuana use is less common among younger adolescents in the sample, similar to other nationally representative and local studies (e.g., Johnston et al., 2007). Furthermore, given the discrepant factor loadings on the substance use factors across age groups in the multigroup measurement model (as described in the Footnote), great meaning should not be ascribed to the differing strengths of the value-

substance use pathways by age. Nonetheless, a potential conceptual explanation for observed age differences in the value-behavior relationship is that values may become more cognitively defined with developmental experiences and maturation, and youth in late adolescence may have a better sense of their values and how to act on them. Potential manifestations of the crystallization of values and value-behavior links have been underexplored empirically and would be a fruitful topic for future research on value development. Overall, it is most pertinent to interpretation that social responsibility values negatively predicted substance use for all age groups, notwithstanding slight variations in the strength of these associations.

More broadly, these value-behavior associations support social psychological theory arguing that values are higher-order principles that guide behaviors (Rokeach, 1973; Schwartz, 1992). Other empirical studies have also found relationships between values and behaviors (e.g., Bardi & Schwartz, 2003), yet several potential mediators of the relationship have been identified such as attitudes and behavioral intentions (Fishbein & Ajzen, 1975; Grube, Mayton, & Ball-Rokeach, 1994). The strong associations between theoretically distal constructs of social responsibility values and health behaviors give added meaning to the present findings. Indeed, the current measure of values reflects a broad orientation towards helping others and serving one's larger community. This construct is not specific to health, and thus the sustained prediction to behaviors suggests that a prosocial orientation toward social responsibility pervades decision making in many aspects of adolescents' lives, including those made in the context of substance use. By extension, these values would likely predict a wider range of socially responsible actions in adolescence, including other health promotion behaviors as well as prosocial behaviors with peers and civic behaviors such as volunteering in one's community. An important caveat is that social desirability may be driving the link between these values and behaviors. The inability to control for socially desirability in responses or other third variables such as conscientiousness is a limitation of this study that should be addressed in future research.

Implications. The present study adds to the paucity of empirical research on adolescents' substance use that considers prosocial values as a protective factor (e.g., Goff & Goddard, 1999; Roberts & Bogg, 2004). A personal commitment to a broad, prosocial orientation of social responsibility may deter adolescents from using alcohol, cigarettes, and marijuana and from putting themselves in dangerous situations such as riding with a drunk driver or going to a party where substances are available to minors. Indeed, a novel finding of this study was the longitudinal negative association between social responsibility values and these substance use-related behaviors. Adolescent substance use continues to be widely prevalent (Johnston et al., 2007), despite a range of effective interventions (Tripodi, Bender, Litschge, & Vaughn, 2010), many of which are based on the vast accumulation of research findings on adolescent substance use (Chassin et al., 2004; Brown et al., 2008). Some scholars have called for an integrated approach to prevention and promotion, arguing that encouraging the promotion of positive characteristics and contexts in programs would be a more holistic and multidimensional approach than a sole focus on eschewing unhealthy behaviors, and thus could be more effective at preventing problem behaviors (e.g., Bumbarger & Greenberg, 2002; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002). Intervention programming with the goal of enhancing social responsibility or other positive competences may also be more marketable to schools and communities. Studies of positive youth development and civic engagement have shown that participation in community service is associated with increases in social responsibility (e.g., Metz & Youniss, 2005). Likewise, some scholars have made a case for designing interventions with the primary goal of developing adolescents' contributions to civil society (Lerner, 2000; Pittman & Irby, 1996). Providing empirical evidence that adolescents' character strengths are predictive of fewer problem behaviors is an important first step to contributing to programmatic efforts aimed at integrating promotion and prevention. The associations found in this study may lay a foundation for future prevention work designed to increase social responsibility and improve the health of adolescents.

Adolescents' intentions to intervene in the substance use-related risk behaviors of their friends represent a novel dependent variable. This variable was measured based on the notion that adolescents can actively and positively influence friends (Berndt, 2002; Flanagan et al., 2004), and that substance use and related risk behaviors most often occur in the presence of friends (Steinberg, 2003). Adolescents' interventions with friends may have potential viability as a focus of intervention programming aimed at reducing adolescent substance use, especially as we build knowledge of correlates and ways in which these intervention behaviors can be fostered. There may be obstacles to intervening during adolescence, not the least of which is personal substance use; this study found a negative correlation between adolescents' substance use and willingness to intervene with friends' use. The present investigation of adolescent intentions to intervene in friends' substance use adds to a very small body of knowledge about this behavior (Flanagan et al., 2004; Flanagan et al., 2008; Syvertsen et al., 2009) by examining peer intervening in the context of personal values of social responsibility and value socialization within the family. To fully understand the usefulness of this phenomenon as a prevention strategy, more research is needed on how intentions relate to actual intervention behavior and which intervention strategies are effective (and under what conditions) for convincing friends to curb health risk behavior.

Value Socialization

Grusec and Goodnow (1994) proposed a two-step process of value internationalization. This study tested the theory using longitudinal data and found some evidence for the expected sequential process. Specifically, mothers' value messages of compassion were concurrently correlated with adolescents' perceptions of these messages, supporting the idea that the first step of the socialization process involves adolescents' accurate perceptions of parental value messages. However, what was most surprising about this part of the model was not that associations supported hypotheses, but rather that the effect size was so small. Several potential explanations exist for this low correlation, including the possibilities that (a) fathers may play important roles in socializing values, alone and in combination with mothers; (b) adolescents may

perceive parental messages about compassion from sources such as parents' behaviors or other non-verbal strategies to socialize compassion; and (c) there is heterogeneity in the degree to which adolescents accurately perceive maternal value messages (Grusec & Goodnow, 1994; Knafo & Schwartz, 2003).

Greater associations with increased age between mother and adolescent reports of parental value messages of compassion, as shown by the multigroup age model, provide additional insight into the low overall associations. Although the mother-adolescent association was statistically significant and positive in late adolescence, this path was not significant in early adolescence and marginally significant in middle adolescence. This pattern suggests a developmental progression in the value socialization process within families. There are several potential explanations for these age differences. First, the two-step model specifies an inherently cognitive process for adolescents (Grusec & Goodnow, 1994). Given that social-cognitive capacities such as reasoning, attributions, and perceptions in social relationships become more abstract and complex as adolescents develop (Smetana & Villalobos, 2009), verbal value messages like the ones measured in this study may be more effective in socialization involving older adolescents. It is possible that other strategies such as non-verbal methods may work better for socialization during early and middle adolescence. Alternatively, adolescents' accurate understanding of their mothers' messages may accumulate gradually over time (see Cavalli-Sforza et al., 1982).

This study offered strong support for the second step regarding internalization in Grusec and Goodnow's (1994) theory. The longitudinal prediction of adolescents' perceptions of parental value messages to social responsibility values revealed the largest effect size in the model, and this association held across various subgroups. Taken together, the value socialization pathways in the model suggest that adolescents' perceptions of parental value messages are absolutely key to the value internalization process. The primacy of adolescents' perceptions was supported by an additional analysis that mothers' messages were not directly related to adolescents' values. Of

course, Grusec and Goodnow argued that after perceiving parental value messages, adolescents can either choose to accept or reject the values. The present study showed some evidence for one pathway toward internalization, as adolescents' social responsibility values were strongly predicted by their perceptions of value messages from parents. To the degree that some adolescents in the sample chose to reject the messages, the strength of the association would be decreased. Future studies should further examine such heterogeneity in the process and the conditions under which adolescents choose to reject versus accept parental value messages.

Implications. Parents are seen by many as a primary source for children's values (e.g., Parke & Buriel, 2006), and the present study offers some support for the idea that adolescents' social responsibility values may originate in part from verbal communication from mothers. This implication is important, particularly in conjunction with the recognition that encouraging social responsibility among adolescents can have positive implications for substance use prevention. Findings also suggest the need for researchers and practitioners to consider ways to increase the congruence between mother and adolescent reports of value messages. Good communication strategies may serve to bolster accuracy in adolescents' perceptions of parental messages and to ensure that mothers are communicating their intended messages. For example, mothers may need to display word-deed consistency (Knafo & Schwartz, 2003), which is a correspondence between their words and actions, in order for children to receive intended messages about compassion and social responsibility. Of course, promoting these good communication strategies in the hopes of improving congruence assumes that mothers generally desire to socialize compassion. Intervention programs that already focus on improving positive parent-adolescent communication, such as the Strengthening Families Program (Spoth et al., 1999), may be successful in amplifying value socialization pathways. Furthermore, including explicit communication about treating others with compassion and equality in existing family-focused programs could be effective in increasing adolescents' orientations toward social responsibility.

Limitations and Future Directions

Despite the strengths of this study, its support of theory, and implications for prevention, there are several limitations that also highlight needs in future research. First, the present measure of willingness to intervene assessed a behavioral intention rather than an actual behavior, and thus it is unclear whether actual intervention behavior is linked to social responsibility values.

However, Fishbein and Ajzen's (1975) theory of reasoned action posits that behavioral intentions are important antecedents of behaviors. Also, the degree to which adolescents have the skills to actualize this intention—or would choose to do so within varied social situations—remains unknown. It is likely that intervention behaviors might require practice in order to be effective, and that assertively engaging in interventions to prevent friends from using substances in risky ways would vary by characteristics of the adolescent, the friend, the social situation, and many other variables. Thus, more research is needed regarding whether, to what extent, and using what skills these intentions can be translated into actual behaviors.

A second limitation is that parents (and in this case, mothers) represent only one source for value socialization, yet there are many other important contexts inside (e.g., sibling relationships) and outside of the family, including schools, faith communities, extracurricular groups, other adult mentors, and peer groups that may be instrumental in fostering this manifestation of social responsibility (e.g., Syvertsen et al., 2009). Third, a specific unidirectional model was tested based on existing theory of value socialization and value-behavior links, yet causality was not directly tested and bidirectional pathways could better model the processes. Future research examining reciprocal associations and using new statistical techniques to estimate causality could give more insights into the directionality of both value-behavior links and value socialization processes. For example, an experience of intervening to prevent a friend's health-risk behavior may lead an adolescent to subsequently internalize values of social responsibility, and adolescents may prompt parent-child discussions about values that lead to changes in parents' value orientations. Fourth, the sample lacked sufficient data from fathers to test the model for

both parents. The exclusion of fathers may partly explain the low correlation between mother reports and adolescent perceptions, as fathers likely communicate important messages about values, both independently and in combination with mothers. Future research should test whether processes operate the same way for fathers as mothers and whether two parents communicating the same message increases the accuracy of adolescents' perceptions as well as internalizations of parental values (see Boehnke, 2001). Finally, attrition was an issue in the sample. This missingness could have biased the study results, although FIML methods were employed to limit the potential impact of missing data on generalizability.

Concluding remarks

The longitudinal process model was grounded in a developmental perspective and unites disparate literatures in value socialization, substance use, and social responsibility. Adolescents' values of social responsibility, socialized by a two-step process in which adolescents' perceptions are fundamentally important, is a broad prosocial orientation related to lower personal substance use and greater intentions to intervene to promote friends' health. A continued focus on the role of adolescents' social responsibility in basic and prevention research and as socialized by family and other contexts could further unlock the potential of social responsibility for adolescent health promotion.

Footnote

¹ Eleven parameters were included in the measurement model that correlated theta epsilons (i.e., error terms) for latent variables. These parameters were included to improve model fit and were selected based on modification indices for the largest chi square change. Inspection of correlated items suggested that items that were more methodologically similar were more correlated, suggesting more shared measurement variance. Pure unidimensionality is difficult to find in social science research, with the majority of scales tapping a major dimension with inherently minor dimensions (Slocum-Gori, Zumbo, Michalos, & Diener, 2009). To maintain parsimony and keep the model consistent with the hypothesized process, correlating thetas was preferred over creating additional latent variables. Results for path models and multigroup analyses remained unchanged when conducting using models without correlated theta epsilons, confirming that the correlated error terms improved model fit but altered nothing about substantive findings.

² Measurement equivalence was tested for the three age groups of early, middle, and late adolescence by comparing a factor invariant model with a model where the loadings were free to vary. The chi square difference test between the two models was statistically significant, $\Delta\chi^2 = 365.15$, $\Delta df = 82$, meaning that the criteria for measurement equivalence was not achieved. However, inspection of the factor loadings across groups revealed that items generally loaded on the factors in similar ways across groups and the meaning of the factors also appeared to be the same across groups. The largest discrepancies between loadings appeared for the drinking and smoking factors. Thus, age group differences in paths to these factors must be interpreted with caution.

References

- Allen, J. P., Leadbeater, B. J., & Aber, J. L. (1990). The relationship of adolescents' expectations and values to delinquency, hard drug use, and unprotected sexual intercourse. *Development and Psychopathology, 2*, 85-98.
- Amato, P. (2000). Children of divorce in the 1990s: an update of the Amato and Keith (1991) Meta-analysis. *Journal of Family Psychology, 15*, 355-370.
- Andrews, J. A., Tildesley, E., Hops, H. & Li, F. (2002). The influence of peers on young adult substance use. *Health Psychology, 21*, 349-357.
- Arnett, J. (1992). Reckless behavior in adolescence: A developmental perspective. *Developmental Review, 12*, 339-373.
- Ary, D. V., Duncan, T. E., Biglan, A., Metzler, C. W., Noell, J. W., & Smolkowski, K. (1999). Development of adolescent problem behavior. *Journal of Abnormal Child Psychology, 27*, 141-150.
- Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *Journal of Educational Research, 92*, 86-99.
- Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and responsibilities*. Mahwah, NJ: Erlbaum.
- Baldwin, A. L. (1948). Socialization and the parent-child relationship. *Child Development, 19*, 127-136.
- Bardi, A. M., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin, 29*, 1207-1220.
- Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2006). Effects of parental monitoring and peer deviance on substance use and delinquency. *Journal of Marriage and Family, 68*, 1084-1104.
- Barry, C. M., & Wentzel, K. R. (2006). Friend influence on prosocial behavior: The role of motivational factors and friendship characteristics. *Developmental Psychology, 42*, 153-163.
- Baumrind, D. (1991). The influence of parenting style on adolescent competence and substance use. *Journal of Early Adolescence, 11*, 56-95.
- Banyard, V. L. (2008). Measurement and correlates of prosocial bystander behavior: The case of interpersonal violence. *Violence and Victims, 23*, 83-97.
- Banyard, V. L., Cross, C., & Modecki, K. L. (2006). Interpersonal violence in adolescence: Ecological correlates of self-reported perpetration. *Journal of Interpersonal Violence, 21*, 1314-1332.
- Bekkers, R. (2005). Participation in voluntary associations: Relations with resources, personality, and political values. *Political Psychology, 26*, 439-454.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238-246.
- Berman, S. (1997). *Children's social consciousness and the development of social responsibility*. New York: State University of New York Press.
- Berndt, T. J. (2002). Friendship quality and social development. *Current Directions in Psychological Science, 11*, 7-10.
- Berndt, T. J., Hawkins, J. A., & Jiao, Z. (1999). Influences of friends and friendships on adjustment to junior high school. *Merrill-Palmer Quarterly. Special Issue: Peer Influences in Childhood and Adolescence, 45*(1), 13-41.
- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development, 66*, 1312-1329.

- Boehnke, K. (2001). Parent-offspring value transmission in a societal context: Suggestions for a utopian research design with empirical underpinnings. *Journal of Cross-Cultural Psychology*, 32, 241-255.
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371-399.
- Braithwaite, J., & Braithwaite, V. (1981). Delinquency and the question of values. *International Journal of Offender Therapy and Comparative Criminology*, 273-289.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brook, J. S., Brook, D. W., de la Rosa, M., Duque, L. F., Rodrigues, E., Montoya, I. D., & Whiteman, M. (1998). Pathways to marijuana use among adolescents: Cultural/ecological, family, peer, and personality influences. *Journal of the American Academy of Child & Adolescent Psychiatry*, 37, 759-766.
- Brown, B. B. (1990). Peer groups and peer cultures. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent*, (pp. 171-196). Cambridge, MA: Harvard University Press.
- Brown, S. A., McGue, M., Maggs, J., Schulenberg, J., Hingson, R., Swartzwelder, S., Martin, C., Chung, T., Tapert, S. F., Sher, K., Winters, K. C., Lowman, C., & Murphy, S. (2008). A developmental perspective on alcohol and youths 16 to 20 years of age. *Pediatrics*, 121(suppl4), S290-S310.
- 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.
- Bumbarger, B., & Greenberg, M. T. (2002). Next steps in advancing research on positive youth development. *Prevention & Treatment*, 5, Article 16. Available at <http://www.journals.apa.org/prevention/volume5/>
- Caprara, G.V., Schwartz, S., Capanna, C., Vecchione, M., & Barbaranelli, C. (2006). Personality and politics: Values, traits, and political choice. *Political Psychology*, 27, 1-28.
- Cashmore, J. A., & Goodnow, J. J. (1985). Agreement between generations: A two-process approach. *Child Development*, 56, 493-501.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2002). Positive Youth Development in the United States: Research Findings on Evaluations of Positive Youth Development Programs. *Prevention & Treatment*, 5, Article 15. Available at <http://www.journals.apa.org/prevention/volume5/pre0050015a.html>
- Catalano, R. F., & Hawkins, J. D. (1996). The social development model: A theory of antisocial behavior. In J. D. Hawkins (Ed.), *Delinquency and crime, Current theories* (pp. 149-197). New York: Cambridge University Press.
- Cavalli-Sforza, L. L., Feldman, M. W., Chen, K. H., & Dornbusch, S. M. (1982). Theory and observation in cultural transmission. *Science*, 218, 19-27.
- Centers for Disease Control and Prevention (CDC). (2008, June 6). Youth risk behavior surveillance – United States 2007. *Surveillance Summaries*, 57, No. SS-4.
- Chassin, L., Hussong, A., Barrera, M., Brooke, S. G., Trim, R., & Ritter, R. (2004). Adolescent substance use. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, 2nd edition* (pp. 665-696). Hoboken, NJ: John Wiley & Sons.
- Cherlin, A. (2005). American marriage in the early twenty-first century. *The Future of Children*, 15, 33- 55.
- Collins, W. A., Gleason, T., & Sesma, A. (1997). Internalization, autonomy, and relationships: Development during adolescence. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 78-99). New York: John Wiley & Sons, Inc.

- Collins, W. A., & Laursen, B. (2004). Parent-adolescent relationships and influences. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 331-361). Hoboken, NJ: John Wiley & Sons, Inc.
- Conger, R. D., & Dogan, S. J. (2007). Social class and socialization in families. In J. E. Grusec & P. D. Hastings (Eds.), *Handbook of socialization: Theory and research* pp. 433-460). New York: Guilford Press.
- Damon, W. (2001). To not fade away: Restoring civil identity among the young. In D. Ravitch, & J. Viteritti, (Eds.), *Making Good Citizens: Education and civil society*. New Haven, CT: Yale University Press.
- Darke, S., Kaye, S., McKetin, R., & Duflou, J. (2008). Major physical and psychological harms of methamphetamine use. *Drug and Alcohol Review*, 27, 253-262.
- Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*, 8, 377-383.
- Darling, N., & Steinberg, L. (1993). Parenting style as a context: An integrative model. *Psychological Bulletin*, 113, 487-496.
- Dishion, T., McCord, J. & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist*, 54, 755-764.
- Dishion, T. J., Nelson, S. E., & Kavanagh, K. (2003). The family check-up with high-risk young adolescents: Preventing early onset substance use by parent monitoring. *Behavior Therapy*, 34, 553-571.
- Dodge, K. A., Dishion, T. J., & Lansford, J. E. (Eds.). (2006). *Deviant peer influences in programs for youth: Problems and solutions*. New York: Guilford Press.
- Eisenberg, N., & Morris, A. S. (2004). Moral cognitions and prosocial responding in adolescence. In R. M. Lerner & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 155-188). Hoboken, NJ: John Wiley & Sons, Inc.
- Fallon, B. J., & Bowles, T. V. P. (2001). Family functioning and adolescent help-seeking behavior. *Family Relations*, 50, 239-245.
- Fergusson, D. M., Horwood, L. J., & Beautrais, A. L. (2003). Cannabis and educational achievement. *Addiction*, 98, 1681-1692.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fisher, C. B., Fried, A. L., & Anushko, A. (2007). Development and validation of the college drinking influences survey. *Journal of American College Health*, 56, 217-230.
- Flanagan, C. A. (2003). Developmental roots of political engagement. *PS: Political Science and Politics*, 36, 257-261.
- Flanagan, C. A. (2004). Volunteerism, leadership, political socialization, and civic engagement. In R. M. Lerner, & L. Steinberg, (Eds.), *Handbook of adolescent psychology* (2nd ed., pp. 721-745). Hoboken, NJ: John Wiley & Sons, Inc.
- Flanagan, C. A., Elek-Fisk, E., & Galloway, L. S. (2004). Friends don't let friends...or do they? Developmental and gender differences in intervening in friends' use. *Journal of Drug Education*, 34, 351-371.
- Flanagan, C. A., Stout, M., & Galloway, L. (2008). Health as a public or private issue: Adolescents' perceptions of rights and responsibilities. *Journal of Social Issues*, 54, 815-834.
- Flanagan, C. A., & Tucker, C. J. (1999). Adolescents' explanations for political issues: Concordance with their views of self and society. *Developmental Psychology*, 35, 1198-1209.
- Flor, D. L., & Knapp, N. F. (2001). Transmission and transaction: Predicting adolescents' internalization of parental religious values. *Journal of Family Psychology*, 15, 627-645.
- French, M. T., McGeary, K. A., Chitwood, D. D., McCoy, C. B., Inciardi, J. A., & McBride, D. (2000). Chronic drug use and crime. *Substance Use*, 21, 95-109.
- Fulgini, A. J., & Eccles, J. S. (1993). Perceived parent-child relationships and early adolescents'

- orientation towards peers. *Developmental Psychology*, 29, 622-632.
- Gallay, L. (2006). Social responsibility. In L. Sherrod, C. A. Flanagan, R. Kassimir, & A. K. Syvertsen (Eds.), *Youth activism: An international encyclopedia* (pp. 599-602). Westport, CT: Publishing.
- Gardner, M., & Steinberg, L. (2005). Peer influence on risk taking, risk preference, and risky decision making in adolescence and adulthood: An experimental study. *Developmental Psychology*, 41, 625-635.
- Garnier, H. E., & Stein, J. A. (1998). Values and the family: Risk and protective factors for adolescent problem behaviors. *Youth & Society*, 30, 89-120.
- Georgiades, K., & Boyle, M. H. (2007). Adolescent tobacco and cannabis use: Young adult outcomes from the Ontario Child Health Study. *Journal of Child Psychology and Psychiatry*, 48, 724-731.
- Goff, B. G., & Goddard, H. W. (1999). Terminal core values associated with adolescent problem behaviors. *Adolescence*, 34, 47-60.
- Graham, J. W. (2005). *Structural Equation Modeling*. Unpublished Manuscript, The Pennsylvania State University.
- Graham, J. W., Cumsille, P. E., & Elek-Fisk, E. (2003). Methods for handling missing data. In J. Schinka & W. F. Velicer (Eds.), *Research Methods in Psychology* (pp. 87-114). Volume 2 of *Handbook of Psychology* (I. B. Weiner, Editor-in-Chief). New York: John Wiley & Sons.
- Graham, J. W., Rohrbach, L., Hansen, W. B., Flay, B. R., & Johnson, C. A. (1989). Convergent and discriminant validity for assessment of skill in resisting a role play alcohol offer. *Behavioral Assessment*, 11, 353-379.
- Grube, J. W., Mayton, D. M., & Ball-Rokeach, S. J. (1994). Inducing change in values, attitudes, and behaviors: Belief system theory and the method of value self-confrontation. *Journal of Social Issues*, 50, 153-173.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, 30, 4-19.
- Haemmerlie, F. M., Montgomery, R. L., & Cowell, S. L. (1999). Alcohol abuse by university students and its relationship to sociomoral reasoning. *Journal of Alcohol and Drug Education*, 44, 29-43.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H. Brookes Publishing.
- Harter, S. (1998). The development of self-representations. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of Child Psychology, Vol. 3. Social, emotional, and personality development* (5th ed., pp. 553-618). New York: Wiley.
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin*, 121, 355-370.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance use prevention. *Psychological Bulletin*, 112, 64-105.
- Hayford, S. R., & Furstenberg, F. F. (2008). Delayed adulthood, delayed desistance? Trends in the age distribution of problem behaviors. *Journal of Research on Adolescence*, 18, 285-304.
- Hitlin, S. (2003). Values as the core of personal identity: Drawing links between two theories of self. *Social Psychology Quarterly*, 66, 118-137.
- Hoff, E., Laursen, B., & Tardif, T. (2002). Socioeconomic status and parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 2: Biology and ecology of parenting* (2nd ed., pp. 231-252). Mahwah, NJ: Erlbaum.

- Hoge, D. R., Petrillo, G. H., & Smith, E. I. (1982). Transmission of religious and social values from parents to teenage children. *Journal of Marriage and the Family*, 44, 569-580.
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to unparameterized model misspecification. *Psychological Methods*, 3, 424-453.
- Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. B., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology*, 42, 747-770.
- Husgafvel-Pursiainen, K. (2004). Genotoxicity of environmental tobacco smoke: A review. *Mutation Research*, 567, 427-445.
- Jaccard, J., Blanton, H., & Dodge, T. (2005). Peer influences on risk behavior: An analysis of the Effects of a close friend. *Developmental Psychology*, 1, 135-147.
- Jennings, M. K. (1989). The crystallization of orientations. In M.K. Jennings and J. van Deth (Eds.), *Continuities in political action*, (pp. 313-348). Berlin, Germany, DeGruyter.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Developmental Review*, 12, 374-390.
- Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development*. New York: Cambridge University Press.
- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development*. New York: Academic Press.
- Johnson, J. G., Cohen, P., Pine, D. S., Klein, D. F., Kasen, S., & Brook, J. S. (2000). Association between cigarette smoking and anxiety disorders during adolescence and early adulthood. *Journal of the American Medical Association*, 284, 2348-2351.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2007). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2006* (NIH Publication No. 07-6202). Bethesda, MD: National Institute on Drug Abuse.
- Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: User's reference guide*. Chicago, IL: Scientific Software International.
- Kandel, D. B., Yamaguchi, K., & Chen, K. (1992). Stages of progression in early drug involvement from adolescence to adulthood: Further evidence for the Gateway Theory. *Journal of Studies on Alcohol*, 53, 447-457.
- Kasser, T., Koestner, R., & Lekes, N. (2002). Early experiences and adult values: A 26-year, prospective longitudinal study. *Personality and Social Psychology Bulletin*, 28, 826-835.
- Katz, I., & Hass, R. G. (1998). Racial ambivalence and American value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55, 895-905.
- Kerr, M., & Stattin, H. (2003). Parenting of adolescents: Action or reaction? In A. C. Crouter & A. Booth (Eds.), *Children's influence on family dynamics: The neglected side of family relationships* (pp. 121-151). Mahwah, NJ: Lawrence Erlbaum.
- Killen, M., Leviton, M., & Cahill, J. (1991). Adolescent reasoning about drug use. *Journal of Adolescent Research*, 6, 336-356.
- Knafo, A., & Schwartz, S. H. (2001). Value socialization in families of Israeli-born and Soviet-born adolescents in Israel. *Journal of Cross-Cultural Psychology*, 32, 213-228.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development*, 74, 595-611.
- Kohlberg, L., & Candee, D. (1984). The relationship of moral judgment to moral action. In L. Kohlberg (Ed.), *The psychology of moral development: The nature and validity of moral stages* (Vol. 2; pp. 498-581). San Francisco: Harper & Row.
- Kohn, M. L., Slomczynski, K. M., & Schoenbach, C. (1986). Social stratification and the transmission of values in the family: A cross-national assessment. *Sociological Forum*, 1, 73-102.
- Kouri, E. M., Pope, H. G., Powell, K. F., Oliva, P. S., & Campbell, C. (1997). Drug use history

- and criminal behavior among 133 incarcerated men. *American Journal of Drug and Alcohol Abuse*, 23, 413-419.
- Kuczynski, L., & Grusec, J. E. (1997). Future directions for a theory of parental socialization. In J. E. Grusec & L. Kuczynski (Eds.), *Parenting and children's internalization of values: A handbook of contemporary theory* (pp. 399-414). New York: John Wiley & Sons, Inc.
- Kumpfer, K. L., & Alvarado, R. (2003). Family-strengthening approaches for the prevention of youth problem behaviors. *American Psychologist*, 58, 457-465.
- Lareau, A. (2003). *Unequal Childhoods: Class, Race, and Family Life*. Berkeley, CA: University of California Press.
- Larimer, M. E., & Cronce, J. M. (2007). Identification, prevention, and treatment revisited: Individual-focused college drinking prevention strategies. *Addictive Behaviors*, 32, 2439-2468.
- Latka, M. H., Mizuno, Y., Wu, Y., Tobin, K. E., Metsch, L. R., Frye, V., Gomez, C. A., & Arnsten, J. H. (2007). Are feelings of responsibility to limit the sexual transmission of HIV associated with safer sex among HIV-positive injection drug users? *Journal of Acquired Immune Deficiency Syndromes*, 46, S88-S95.
- Lerner, R.M. (2000). Developing civil society through promotion of positive youth development. *Developmental and Behavioral Pediatrics*, 21(1), 48-49.
- Maccoby, E. E. (1992). The role of parents in the socialization of children: A historical overview. *Developmental Psychology*, 28, 1006-1017.
- Maggs, J. L., Frome, P. M., Eccles, J. S., & Barber, B. L. (1997). Psychosocial resources, adolescent risk behavior and young adult adjustment: Is risk taking more dangerous for some than others? *Journal of Adolescence*, 20, 103-119.
- Maggs, J. L., & Schulenberg, J. E. (2006). Initiation and course of alcohol consumption among adolescents and young adults. In M. Galanter (Ed.), *Alcohol problems in adolescents and young adults: Epidemiology, neurobiology, prevention, and treatment* (pp. 29-47). New York: Springer.
- Maxwell, K. A. (2002). Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and Adolescence*, 31, 267-277.
- Mayton, D. M., II, & Furnham, A. (1994). Value underpinnings of antinuclear political activism: A cross-national study. *Journal of Social Issues*, 50, 117-128.
- McBroom, W.,H., Reed, F. W., Burns, C. E., Hargraves, J. L., & Trankel, M. A. (1985). Intergenerational transmission of values: A data-based reassessment. *Social Psychology Quarterly*, 48, 150-163.
- Merline, A., Jager, J., & Schulenberg, J. E. (2008). Adolescent risk factors or adult alcohol use and abuse: Stability and change of predictive value across early and middle adulthood. *Addiction*, 103, 84-99.
- Metz, E., & Youniss, J. (2005). Longitudinal gains in civic development through school-based required service. *Political Psychology*, 26, 413-437.
- Mortimer, J. T. & Kumka, D. (1982). A further examination of the "occupational linkage hypothesis". *The Sociological Quarterly*, 23, 3-16.
- National Highway Traffic Safety Association (NHTSA). (2006). *Traffic safety facts: 2005 data*. DOT HS 810 616.
- National Institute on Drug Abuse. (2008). *NIDA Info facts: Costs to society*. Retrieved on December 10, 2008 from <http://www.nida.nih.gov/infofacts/costs.html>
- National Youth Anti-Drug Media Campaign. (2004). National campaign, Office of National Drug Control Policy, February, 2004. Retrieved May 2004 from <http://www.mediacampaign.org/mg/index.html>
- Neumark-Sztainer, D., Story, M., French, S. A., & Resnick, M. D. (1997). Psychosocial correlates of health compromising behaviors among adolescents. *Health Education Research*, 12, 37-52.

- Newcomb, M. D., & Bentler, P. M. (1988). Impact of adolescent drug use and social support on problems of young adults: A longitudinal study. *Journal of Abnormal Psychology, 97*, 64-75.
- Noller, P., & Callan, V. J. (1991). *The adolescent in the family: Adolescence and society*. Florence, KY: Taylor & Francis/Routledge.
- Nucci, L., Guerra, N., & Lee, J. (1991). Adolescent judgments of the personal, prudential, and normative aspects of drug usage. *Developmental Psychology, 27*, 841-848.
- Parke, R. D., & Buriel, R. (2006). Socialization in the family: Ethnic and ecological perspectives. In N. Eisenberg, W. Damon, & R. Lerner (Eds.), *Handbook of child psychology: Vol. 3: Social, emotional, and personality development* (6th ed., pp. 429-504). New York: Wiley.
- Patel, R. R., Ryu, J. H., & Vassallo, R. (2008). Cigarette smoking and diffuse lung disease. *Drugs, 68*, 1511-1527.
- Paxton, S. J., Schutz, H. K., Wertheim, E. H. & Muir, S. L. (1999). Friendship clique and peer influences on body image concerns, dietary restraint, extreme weight-loss behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology, 108*, 255-266.
- Perry, C. L., Komro, K. A., Velben-Mortenson, S., Bosma, L. M., Farbaksh, K. A., Stigler, M. H., & Lytle, L. A. (2003). A randomized controlled trial of the middle and junior high school D.A.R.E. and D.A.R.E. Plus programs. *Archives of Pediatrics and Adolescent Medicine, 157*, 178-184.
- Petratis, J., Flay, B. R., & Miller, T. Q. (1995). Reviewing theories of adolescent substance use: Organizing pieces in the puzzle. *Psychological Bulletin, 117*, 67-86.
- Piko, B. F. (2005). Adolescents' health-related behaviors in the light of their value orientations. *Substance Use & Misuse, 40*, 735-742.
- Pittman, K., & Irby, M. (1996). *Preventing problems or promoting development: Competing priorities or inseparable goals?* Baltimore: International Youth Foundation.
- Power, C., Rodgers, B., & Hope, S. (1998). U-shaped relation for alcohol consumption and health in early adulthood and implications for mortality. *The Lancet, 352*, 857.
- Pratt, M. W., Hunsberger, B., Pancer, M., & Alisat, S. (2003). A longitudinal analysis of personal values socialization: Correlates of a moral self-ideal in late adolescence. *Social Development, 12*, 563-585.
- Prinstein, M. J., Boergers, J., & Spirito, A. (2001). Adolescents' and their friends' health-risk behavior: Factors that alter or add to peer influence. *Journal of Pediatric Psychology, 26*, 287-298.
- Rehm, J., Room, R., Graham, K., Monteiro, M., Gmel, G., & Sempos, C. T. (2003). The relationship of average volume of alcohol consumption and patterns of drinking to burden of disease: An overview. *Addiction, 98*, 1209-1228.
- Reyna, V. F., & Rivers, S. E. (2008). Current theories of risk and rational decision making. *Developmental Review, 28*, 1-11.
- Ritt-Olson, A., Milam, J., Unger, J. B., Trinidad, D., Teran, L., Dent, C. W., & Sussman, S. (2004). The protective influence of spirituality and "health-as-a-value" against monthly substance use among adolescents varying in risk. *Journal of Adolescent Health, 34*, 192-199.
- Roberts, B. W., & Bogg, T. (2004). A longitudinal study of the relationships between conscientiousness and the social-environmental factors and substance-use behaviors that influence health. *Journal of Personality, 72*, 325-354.
- Robson, K. (2010). Changes in family structure and the well-being of British children: Evidence from a fifteen-year panel study. *Child Indicators Research, 3*, 65-83.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rossi, A. S. (2005). Social responsibility to family and community. In O.G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we?* (pp. 550-585). Chicago: University of Chicago Press.

- Roth, J., Brooks-Gunn, J., Murray, L., & Foster, W. (1998). Promoting healthy adolescents: Synthesis of youth development program evaluations. *Journal of Research on Adolescence*, 8, 423-459.
- Saltz, R. (2004/2005). Preventing alcohol-related problems on college campuses: Summary of the final report of the NIAAA task force on college drinking. *Alcohol Research and Health: Focus on Young Adult Drinking*, 28(4), 249-251. Retrieved on January 29, 2009 from <http://pubs.niaaa.nih.gov/publications/>
- Scarr, S. & McCartney, K. (1983). How people make their own environments: A theory of genotype → environment effects. *Child Development*, 54, 424-435.
- Scheier, L. M., Botvin, G. J., & Baker, E. (1997). Risk and protective factors as predictors of adolescent alcohol involvement and transitions in alcohol use: A prospective analysis. *Journal of Studies on Alcohol*, 58, 652-667.
- Schoppe-Sullivan, S. J., Schermerhorn, A. C., & Cummings, E. M. (2007). Marital conflict and children's adjustment: Evaluation of the parenting process model. *Journal of Marriage and Family*, 69, 1118-1134.
- Schulenberg, J., Maggs, J. L., & Hurrelmann, K. (1997). Health risks and developmental transitions during adolescence and young adulthood: Health risks and opportunities. In J. Schulenberg, J. L. Maggs, & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (pp. 1-19). New York: Cambridge University Press.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25, 1-65.
- Sears, R. R., Maccoby, E. E., & Levin, H. (1957). *Patterns of child rearing*. Oxford, England: Row, Peterson, and Co.
- Simpson, M. (2003). The relationship between drug use and crime: A puzzle inside an enigma. *International Journal of Drug Policy*, 14, 307-319.
- Slocum-Gori, S. L., Zumbo, B. D., Michalos, A. C., & Diener, E. (2009). A note on the dimensionality of quality of life scales: An illustration with the Satisfaction with Life Scale (SWLS). *Social Indicators Research*, 92, 489-496.
- Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child Development*, 321-335.
- Smetana, J. G., & Villalobos, M. (2009). Social cognitive development in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology, Vol. 1: Individual bases of adolescent development 3rd Edition* (pp. 187-228).
- Spoth, R., Greenberg, M., & Turrisi, R. (2008). Preventive interventions addressing underage drinking: State of the evidence and steps toward public health impact. *Pediatrics*, 121, S311-S336.
- Spoth, R., Redmond, C., & Lepper, H. (1999). Alcohol initiation outcomes of universal family-focused interventions: One- and two-year follow-ups of a controlled study. *Journal of Studies on Alcohol, Supplement No. 13*, 103-111.
- Staff, J., Patrick, M. E., Loken, E., & Maggs, J. L. (2008). Teenage alcohol use and educational attainment. *Journal of Studies on Alcohol and Drugs*, 69, 848-858.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.
- Steinberg, L. (2003). Is decision making the right framework for research on adolescent risk taking? In D. Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 18-24). Thousand Oaks, CA: Sage.
- Straus, M. A., & Stewart, J. H. (1999). Corporal punishment by American parents: National data on prevalence, chronicity, severity, and duration, in relation to child and family characteristics. *Clinical Child and Family Psychology Review*, 2, 55-70.

- Syvertsen, A. K., Flanagan, C. A., & Stout, M. D. (2009). Code of silence: Students' perceptions of school climate and willingness to intervene in a peer's dangerous plan. *Journal of Educational Psychology, 101*, 219-232.
- Thornberry, T., & Krohn, M. (1997). Peers, drug use, and delinquency. In D. Stoff, J. Breiling, & J. Maser (Eds.), *Handbook of antisocial behavior* (pp. 218-233). New York: Wiley.
- Tripodi, S. J., Bender, K., Litschge, C., & Vaughn, M. G. (2010). Interventions for reducing adolescent alcohol use: A meta-analytic review. *Archives of Pediatrics and Adolescent Medicine, 164*, 85-91.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika, 38*, 1-10.
- Turiel, E. (1998). The development of morality. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology, Vol. 3: Social, emotional, and personality development*, (5th ed., pp. 863-962). New York: Wiley.
- Unger, J. B., Ritt-Olson, A., Teran, L., Huang, T., Hoffman, B. R., & Palmer, P. (2002). Cultural values and substance use in a multiethnic sample of California adolescents. *Addiction Research & Theory, 10*, 257-280.
- Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behavior. *Journal of Personality and Social Psychology, 82*, 434-447.
- Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and the Family, 50*, 829-840.
- Whitbeck, L. B., Simons, R. L., Conger, R. D., & Lorenz, F. O. (1989). Value socialization and peer group affiliation among early adolescents. *Journal of Early Adolescence, 9*, 436-453.
- Wills, T. A., Yaeger, A., & Sandy, J. (2003). Buffering effect of religiosity for adolescent substance use. *Psychology of Addictive Behaviors, 17*(1), 24-31.
- Wittchen, H., Frohlich, C., Behrendt, S., Gunther, A., Rehm, J., Zimmerman, P., Lieb, R., & Perkonig, A. (2007). Cannabis use and cannabis use disorders and their relationship to mental disorders: A 10-year prospective longitudinal community study in adolescents. *Drug & Alcohol Dependence, 88*, 60-70.
- Youniss, J., & Smoller, J. (1985). *Adolescents' relationships with mothers, fathers, and friends*. Chicago: University of Chicago Press.

Table 3-1. *Descriptive Statistics for Study Variables*

	Mean	SD	Range	<i>N</i>	%Missing
<i>Substantive Variables</i>					
Mother Compassion Messages	4.31	0.49	2.8–5.0	910	51.3
Adolescent Per. of Compassion	4.25	0.60	1.4–5.0	1242	33.6
Adolescent Social Responsibility	3.94	0.72	1.0–5.0	1199	35.9
Directly Intervene	3.58	0.96	1.0–5.0	1103	41.0
Talk to an Adult	2.91	1.13	1.0–5.0	1103	41.0
Ask Friends for Help	3.21	1.05	1.0–5.0	1087	41.9
Drinking	1.45	0.64	1.0–4.0	1098	41.3
Smoking	1.46	1.03	1.0–6.0	1089	41.8
<i>Multigroup Variables</i>					
	Frequency	Percentage	Range	<i>N</i>	%Missing
Age: Early (10-11)	510	27.3	0, 1	1863	0.4
Middle (12-13)	595	31.8	0, 1		
Late (14-18)	758	40.5	0, 1		
Male (vs. Female)	843	45.1	0, 1	1863	0.4
White (vs. Nonwhite)	1460	78.1	0, 1	1862	0.4
Low Mother Education ^a	671	35.9	0, 1	1850	1.1
Two-Parent Family (vs. Other)	1444	77.2	0, 1	1859	1.2
High Democratic Parenting ^b	785	42.0	0, 1	1855	0.8
<i>Listwise N</i>				421	77.5

Note: ^aLow Education = High School Diploma or less. Compared to High Education (at least some college). ^bHigh Democratic Parenting = scale score of 4 or more.

Table 3-2. *Measurement Model*

Construct / Indicator	Factor Loading	SE	<i>t</i> value
Mother Compassion Messages			
(1) Help less fortunate	.66	.02	14.82
(2) Respect people	.62	.02	15.22
(3) Treat people equally	.70	.02	23.95
(4) Don't judge others	.69	.02	23.92
(5) Stand up for others	.43	.03	14.76
Adolescent Perceptions of Compassion			
(1) Help less fortunate	.66	.02	21.90
(2) Respect people	.62	.03	19.62
(3) Treat people equally	.70	.02	22.77
(4) Don't judge others	.69	.03	22.92
(5) Stand up for others	.43	.03	13.78
Social Responsibility Values			
(1) Help less fortunate	.74	.02	30.36
(2) Help community	.80	.02	33.55
(3) Serve my country	.53	.03	19.46
(4) Help my society	.78	.02	32.20
(5) Help classmates	.82	.02	35.23
(6) Welcome students	.77	.02	31.70
Drinking			
(1) Frequency of drinking	.73	.03	27.50
(2) Binge drinking	.80	.03	31.51
(3) Rode with drunk driver	.57	.03	19.79
(4) Party with substances	.76	.03	29.36
Smoking			
(1) Smoked cigarettes	.80	.03	29.69
(2) Used marijuana	.72	.03	28.74
Intervene Directly			
(1) S ^a : Smoke bothers you	.68	.04	24.40
(2) S: Smoking is bad for health	.76	.03	28.94
(3) S: Tell friend you're worried	.80	.03	30.58
(4) A ^b : Tell friend you're worried	.74	.03	27.70
(5) A: Try to stop friend	.72	.03	26.51
(6) D ^c : Tell friend you're worried	.69	.03	26.51
(7) D: Get friend to get help	.76	.03	28.61
(8) P ^d : Talk friends into going elsewhere	.73	.03	27.12
Talk to an Adult			
(1) S: Talk to an adult	.83	.03	32.98
(2) S: Ask parents for help	.84	.03	32.98
(3) A: Ask parents for help	.83	.03	33.11
(4) D: Ask adult for help	.83	.03	33.02
(5) D: Ask parents for help	.85	.03	34.37
(6) P: Tell adult about party	.80	.03	30.84
(7) P: Ask parents for help	.86	.03	34.56
Ask Friends for Help			
(1) S: Ask friends for help	.80	.03	30.98
(2) A: Ask friends for help	.79	.03	30.71
(3) D: Ask friends for help	.77	.03	29.11
(4) P: Ask friends for help	.81	.03	31.14

Note. Standardized factor loadings reported. All p 's < .001. $\chi^2 = 3112$, $df = 758$, $p < .001$, TLI = .90, CFI = .92, RMSEA = .04. ^aS=Smoking scenario. ^bA=Alcohol/drinking scenario. ^cD=Drug scenario. ^dP=Party scenario.

Table 3-3.

Correlations among Latent Variables

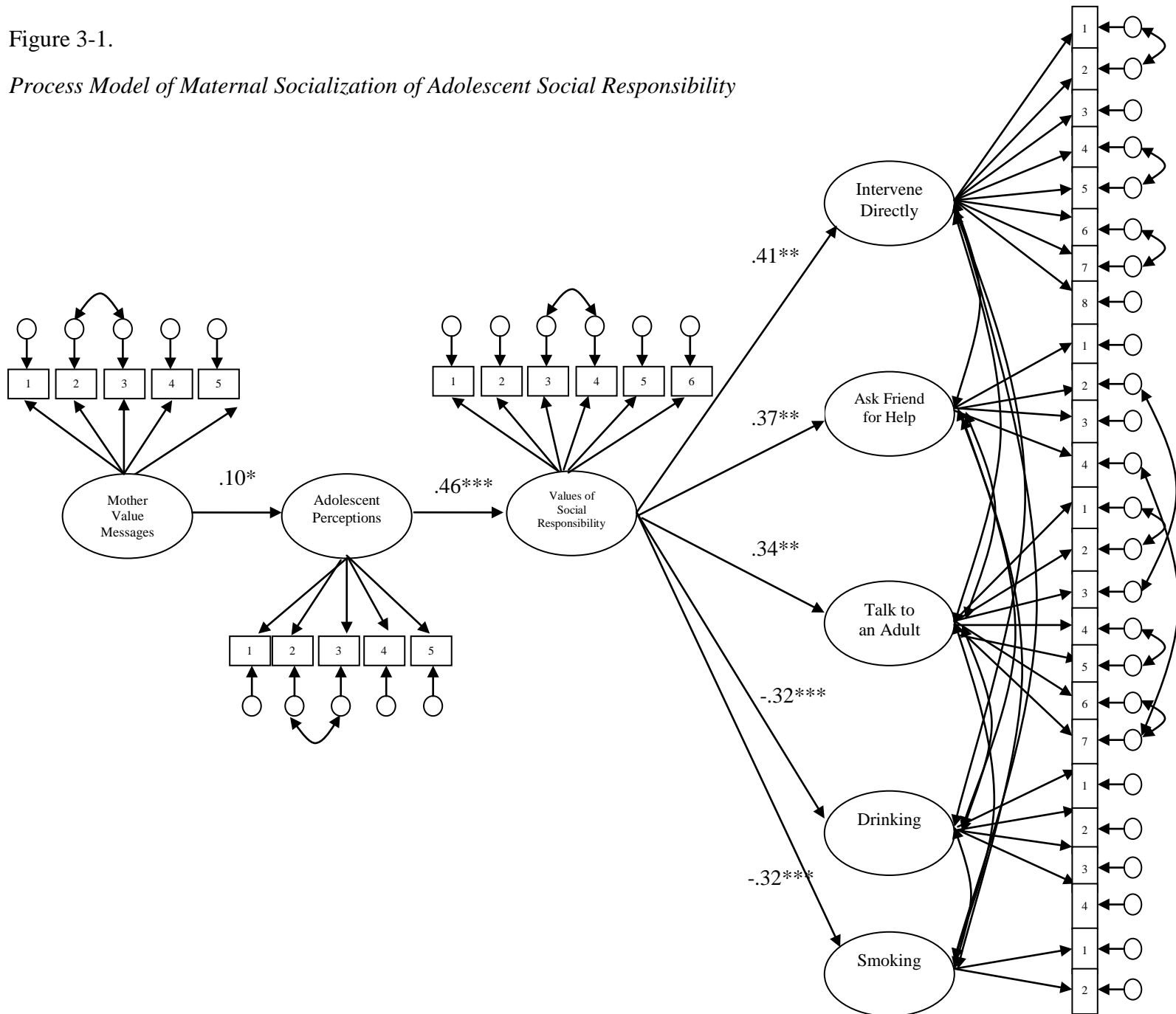
	1	2	3	4	5	6	7	8
1. Mother Compassion Messages	—							
2. Adolescent Perceptions of Compassion Messages	.10*	—						
3. Social Responsibility Values	.06	.45***	—					
4. Intervene Directly	-.02	.25***	.41***	—				
5. Talk to an Adult	-.04	.24***	.36***	.77***	—			
6. Ask Friends for Help	-.02	.24***	.34***	.84***	.85***	—		
7. Drinking	-.10 [†]	-.21***	-.31***	-.48***	-.46***	-.43***	—	
8. Smoking	.06	-.19***	-.31***	-.47***	-.40**	-.41***	.83***	—

Note: Correlations were conducted using the Full Information Maximum Likelihood (FIML) procedure.

[†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 3-1.

Process Model of Maternal Socialization of Adolescent Social Responsibility



Conclusion: Contributions to Science and Practice

President Franklin D. Roosevelt once said, “We cannot always build the future for our youth, but we can build our youth for the future.” For millennia, parents have been preoccupied with shaping youth for the future by imparting their values. Yet, *how is this goal accomplished?* Using rigorous methodological approaches and a large longitudinal sample of mothers and adolescents, this dissertation generated novel empirical information about three broad themes: value socialization processes within families, the role of socialization in shaping adolescents’ values, and value-behavior links in the context of health promotion. Inherent in these themes is an assumption of a sequential developmental process, such that mothers formulate socialization messages in context, certain messages function to socialize specific values among adolescents, and these values, in turn, guide adolescents’ behaviors and decision-making. This assumption was evident in the ordering of the three studies and was explicitly tested in Study 3. Yet taken together, these interconnected studies also illustrated that these processes are not static or unidirectional but rather that socialization can dynamically change in relation to context, may be only simultaneously associated with adolescents’ values, and are sensitive to the developmental periods in adolescence.

The theoretical underpinnings and empirical results of these studies have been exhaustively detailed in the preceding pages. The purpose of this final chapter is to succinctly highlight key findings, their practical significance, and the most promising future directions.

What was Learned

Many nuanced findings emerged from this set of studies. Here I summarize only “the top five”, the most important and relevant findings to remember about the studies. These take-away messages are summarized in the order they appeared in the dissertation.

1. Mothers’ value messages are not static. Instead, there is now some evidence that mothers’ socialization messages change dynamically in response to adolescents’ experiences and

contexts. As shown in Study 1, a range of correlates predicted individual differences and change over time in mothers' value messages of compassion and caution. Some correlates suggested ways to distinguish mothers on value messages that may be stable and deeply ingrained in social structure, as with the findings that mothers who were less educated, unmarried, and Black espoused greater messages of caution. Other factors accounted for change over time and suggest adaptation in parenting to the context. For example, mothers shifted their emphasis on compassion in correspondence with adolescents' reports of being bullied, and mothers' caution increased in relation to corresponding increases in perceptions that adolescents could easily access illegal substances in the neighborhood.

2. Compassion and caution are distinct yet complementary value messages. These two types of value messages communicate different messages about how to treat other people. Mothers' compassion and caution messages seem to have distinct origins, as evidenced by their different correlates in Study 1. Compassion and caution messages also may socialize distinct value orientations: In Study 2, compassion messages positively predicted adolescents' public-interest orientations and negatively predicted self-interest orientations. Somewhat paradoxically, caution messages positively predicted both public-interest and self-interest orientations. Importantly, however, compassion and caution messages are not mutually exclusive. These messages are positively correlated (as seen in Study 1) and also may work interactively to socialize values. Indeed, Study 2 found that adolescents reporting high caution and low compassion messages were more likely to have self-interest values. Yet, caution messages enhanced self-transcendent values in the context of high compassion messages. Adolescents seem to perceive a different meaning from caution messages in relation to their values depending on the degree to which compassion is also emphasized.

3. Adolescents' social responsibility values stem in part from parental compassion messages. A concurrent association was found in Study 2 with all three measures of a public-interest orientation. In other words, parental messages to help the less fortunate and treat others

with respect and equality may be a source for adolescents' values and beliefs related to social responsibility. Study 3's model fleshed out one potential pathway through which value messages may influence adolescents' values: mothers' compassion messages predicted adolescents' perceptions of their messages, and in turn, these perceptions strongly predicted adolescents' personal values of social responsibility. Thus, adolescents' perceptions of parental value messages arose as an important intermediary mechanism in the socialization process (see Finding #4 below).

4. Adolescent perceptions are central to socialization processes. It seems that there is no direct link from mothers' value messages of compassion to adolescents' values of social responsibility, but rather socialization operates through adolescent perceptions (Study 3). Thus, this study offered some empirical support for Grusec and Goodnow's (1994) theory of value internalization and the important role played by adolescents' perceptions. Interestingly, as shown in Study 2, adolescents' perceptions of compassion messages and democratic parenting emerged as strong concurrent and lagged predictors of adolescents' public-interest orientations, i.e., values and generalized beliefs prioritizing the greater good. Thus, adolescents' perceptions of the broader family context link in important ways to an ethic of social responsibility.

5. Social responsibility values predict health promotion behaviors. In Study 3, social responsibility values predicted lower personal substance use and greater willingness to intervene with friends' substance use across a period of one year. This association is particularly noteworthy given that the constructs are conceptually distal. This broad prosocial orientation toward helping others and one's community may be an antecedent to specific behaviors that entail being a responsible citizen by protecting one's own and others' health.

Why it Matters

For research. Taken together, these methodologically rigorous investigations tested and advanced our understanding of new tenets of value socialization theory (Grusec & Goodnow, 1994; Goodnow, Grusec & Kuczynski, 2000; Grusec & Kuczynski, 1997). As illuminated in the

previous chapters, these studies offer specific insights, challenges, and recommendations for scholars interested in continuing to understand how values are socialized within families. Here, I briefly reiterate three key insights that advance value socialization theory and research. First, explicitly measuring socialization strategies – such as verbal communication as examined in these studies – is important for identifying processes of internalization. Parental value messages of compassion and caution seem to be part of what determines adolescents' value orientations, and these messages are the first step in a sequential process by which adolescents internalize the values communicated by parents. Second, adolescents are active agents in their own socialization, as evidenced in these studies by the primacy of adolescents' perceptions. The ways in which adolescents perceive and understand messages from parents serve as vital components in process models of value socialization. Thus, value socialization research will inadequately represent processes at work if studies do not include measures of what adolescents hear and take away from the family context. Third, studies of value socialization should specify content of parental messages, as different messages seem to align with socialization goals. This dissertation makes a novel contribution to research by examining nuances in value socialization processes by content. Compassion and caution are two fundamental messages regarding how to treat others that seem to have unique origins and distinct meaning for adolescents' value orientations. Based on these findings, researchers on value socialization should first consider which values they are interested in understanding and then consider the various ways in which content related to those values may arise in the family context. Examining how varying socialization messages work together also seems very important for understanding parents' roles in adolescents' value development.

In addition, Studies 2 and 3 added to research on adolescents' substance use in several key ways. First, Study 2 illuminated demographic correlates of adolescents' health beliefs and also found some evidence that a family climate characterized by democratic parenting and compassion messages predicted lower private health beliefs and higher public health beliefs. Documenting correlates of adolescents' health beliefs is important, as other studies have shown

that adolescents' public health beliefs have been linked to greater willingness to intervene to protect friends against risk (Flanagan, Stout, & Galloway, 2008), whereas adolescents' private health beliefs have been associated with the perceived harmfulness of substances and greater substance use (e.g., Killen, Leviton, & Cahill, 1991). Second, in documenting a strong negative longitudinal association between social responsibility values and substance use, Study 3 supported a range of substance use theories arguing that prosocial values serve as protective factors against substance use and added evidence to social psychological theory arguing that values guide behaviors. Third, Study 3 also highlighted a new research area with vast intervention potential by examining adolescents' willingness to intervene to prevent friends from harm in using substances. This construct is grounded in the friendship literature and is motivated in part by a social responsibility value orientation. Thus, this dissertation novelly contributes to empirical research on adolescents' substance use by integrating current knowledge about prosocial values and socially responsible characteristics of adolescents.

Theoretical and empirical advancements were strengthened by the methodological rigor of the studies. Longitudinal data from over 1,600 adolescents and their mothers were used to address research questions in Studies 1 and 3, and Study 2 relied on reports from over 2,500 adolescents. The sample offered some diversity on race/ethnicity and represented a range of socioeconomic backgrounds. The cohort sequential design allowed me to test hypotheses using longitudinal data and facilitated tentative conclusions about process and dynamic change over time. Careful statistical analyses examined age, period, and cohort effects to ensure that the best and most parsimonious inferences were made regarding longitudinal change in mothers' value messages (Study 1). A range of quantitative methods were utilized that best addressed the substantive research questions: Study 1 employed multilevel modeling, Study 2 relied on multiple regression models, and Study 3 used structural equation modeling. The most up-to-date strategies were employed to reduce biases to inferences that arise from missing data, such as multiple imputation (Studies 1 and 2) and full information maximum likelihood (Study 3).

For the public. A few take-home points emerged that may interest parents and others intimately involved in the socialization of children and adolescents. The messages mothers communicate to adolescents help to shape adolescents' values, especially when adolescents hear and internalize these messages. The average mother communicates messages about looking out for the good of others along with messages to be wary of others. These messages are associated with different kinds of values in adolescents. For parents who want to encourage social responsibility, this goal may be achieved in part by clearly communicating messages about the importance of helping others, standing up for others, and treating people with respect and equality. Communicating warnings about others along with these compassion messages may even enhance adolescents' priorities of helping others. In addition, creating a family environment where issues are discussed openly, adolescents are respected, and their input is valued can also help to foster adolescents' social responsibility values. Adolescents who value helping others and contributing to society are less likely to use alcohol, cigarettes, and marijuana. Socially responsible adolescents also tend to be good citizens and say they would be willing to help prevent friends from engaging in risky behavior. So, there may be health benefits to emphasizing compassion and social responsibility within families. Mothers differ in their levels of emphasis on compassion and caution, depending on many factors including their background (race/ethnicity or education), concerns for their children's future, knowledge of children's friends, and characteristics of the neighborhood. Certain circumstances, such as adolescents' experiences of being bullied, may prompt mothers to communicate different messages about treating others with respect or with wariness. Thus, challenging times may offer teachable moments in which to restate important values to children. Furthermore, value messages change over time, suggesting that it is never too late—and that challenges may present windows of particular opportunity—for families to start or renew their emphasis on the importance of how one should interact with others.

For practice. These studies may also offer some insights for researchers, practitioners, and health policy makers who aim to promote health and well-being in youth and families. Specifically, valuing social responsibility may have a wide range of behavioral implications, suggesting that finding ways to support families, schools, and community organizations in the promotion of social responsibility could be a worthwhile endeavor. Encouraging social responsibility values and public health beliefs may cultivate adolescents' conceptions of their shared rights and responsibilities and should facilitate their motivation to be responsible for their own health and the health of others. Indeed, a social responsibility approach to prevention would shift the normative beliefs of teens away from focusing on the self and toward looking out for one another's best interests. Social responsibility could also be promoted by focusing on family interactions. Effective family-focused strategies may include encouraging clear parental communication of compassion and social responsibility and adolescents' accurate understandings of these messages.

Next Steps

Many specific future research questions were suggested throughout the dissertation. Here, I focus on the largest questions that remain. A significant limitation of the three studies was the inability to address the role of fathers due to the lack of paternal data in the sample. Recruiting fathers to participate in research studies is often difficult (Costigan & Cox, 2001), yet the study of value socialization within families would be enhanced by an examination of coparenting processes in communicating values (e.g., Boehnke, 2001) and rigorous tests of whether the same pathways emerge for fathers as for mothers (e.g., Kohn, Slomczynski, & Schoenbach, 1986).

A second major limitation is the reliance on maternal and adolescent reports of positive, prosocial characteristics without controlling for social desirability of responses. Doubt remains as to whether some of the associations uncovered result from biases in self-report data (see Platow, 1994). Future research can work to address this concern in two ways. First, empirically validated scales of social desirability could be included in surveys and these responses used to partial

variance out of associations that is due to this bias. Second, using observational methods and objective reports of constructs where possible could help to rule out social desirability as a third-variable explanation.

This set of studies concentrated on one set of value socialization strategies – verbal messages communicated by parents to children. Yet, a broader repertoire of strategies is likely needed for effective socialization (Grusec et al., 2000; Knafo & Schwartz, 2003). Using multiple methods and multiple reporters in measuring socialization could help us to isolate effects and further understand the kinds of interactions around values that actually occur in family life. Moreover, examining socialization on occasions separated by shorter intervals may better illuminate processes and potential causal mechanisms to advance the study of how adolescents develop their values.

Finally, the door is wide open to investigate a much broader range of behaviors that can be predicted by social responsibility values and explore the mechanisms that could facilitate this association. Potential mediators or moderators of the value-behavior link include individual agency, opportunity to engage in a given behavior, and supportive environmental contexts. Furthermore, contexts outside of the family such as schools, community-based organizations, peers, and neighborhood climate may also play important roles in promoting social responsibility. Future research, with potentially useful policy implications, would involve examining the role of these contexts, as well as the interactive influences of these contexts, in shaping adolescents' social responsibility.

Final Thoughts

Adolescents can make an impact on society through acting on their values. Adolescents' values of social responsibility likely positively pervade many domains of life and can facilitate behaviors to promote the health of themselves and others. Mothers can play a role in sparking adolescents' priorities for benevolence, respect, equality, and justice, values that can help adolescents reach their full potentials as citizens. We should all be concerned with encouraging

the positive development of youth and working collectively with youth to improve the health and well-being of society. Whether it be through research, applied work, or family and community life, we should all stop to ponder our role in the collective. In doing so, we could draw inspiration from Dr. Martin Luther King, Jr., who suggested that, “Life’s most persistent and urgent question is, ‘What are you doing for others?’”

References

- Boehnke, K. (2001). Parent-offspring value transmission in a societal context: Suggestions for a utopian research design with empirical underpinnings. *Journal of Cross-Cultural Psychology, 32*, 241-255.
- Costigan, C. L., & Cox, M. J. (2001). Fathers' participation in family research: Is there a self-selection bias? *Journal of Family Psychology, 15*, 706-720.
- Flanagan, C. F., Stout, M., & Gallay, L. (2008). Health as a public or private issue: Adolescents' perceptions of rights and responsibilities. *Journal of Social Issues, 54*, 815-834.
- Franklin D. Roosevelt. (n.d.). *Quotes.net*. Retrieved April 19, 2010, from Quotes.net Web site: <http://www.quotes.net/quote/9563>
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology, 30*, 4-19.
- Grusec, J. E., Goodnow, J. J., & Kuczynski, L. (2000). New directions in analyses of parenting contributions to children's acquisition of values. *Child Development, 71*, 205-211.
- Grusec, J. E., & Kuczynski, L. (Eds.) (1997). *Parenting and children's internalization of values: A handbook of contemporary theory*. New York: John Wiley & Sons, Inc.
- Killen, M., Leviton, M., & Cahill, J. (1991). Adolescent reasoning about drug use. *Journal of Adolescent Research, 6*, 336-356.
- Knafo, A., & Schwartz, S. H. (2003). Parenting and adolescents' accuracy in perceiving parental values. *Child Development, 74*, 595-611.
- Kohn, M. L., Slomczynski, K. M., & Schoenbach, C. S. (1986). Social stratification and the transmission of values in the family: A cross-national assessment. *Sociological Forum, 1*, 73-102.
- Platow, M. J. (1994). An evaluation of the social desirability of prosocial self-other allocation choices. *The Journal of Social Psychology, 134*, 61-68.

VITA
Laura Wray-Lake

EDUCATION

- 2010 Ph.D., Human Development and Family Studies, The Pennsylvania State University
2004 M.S., General-Experimental Psychology, Bucknell University
2002 B.A., Psychology (with Honors), Spanish Minor, Wake Forest University

AWARDS AND HONORS

- 2008-2010 Ruth Kirschstein National Research Service Award (NIDA)
2010 Penn State Alumni Association Dissertation Award
2008-2009 Penn State Public Scholarship Fellow
2008-2009 AAAS Program for Excellence in Science
2009 Society for Research on Child Development Travel Award
2004-2006 University Graduate Fellowship, Penn State University

PUBLICATIONS

- Dorius, C. R., & **Wray-Lake, L.** (2008). Expanding the horizon: New directions for the study of intergenerational care and exchange. In A. Booth, A. C. Crouter, S. Bianchi, & J. A. Seltzer (Eds.), *Intergenerational caregiving* (pp. 351-382). Washington, DC: Urban Institute.
- Finlay, A. K., **Wray-Lake, L.**, & Flanagan, C. A. (in press). Civic engagement during the transition to adulthood: Social policies and developmental opportunities at a critical juncture. In L. Sherrod, J. Torney-Purta, & C. Flanagan (Eds.), *Handbook of research on civic engagement in youth*. Hoboken, NJ: John Wiley & Sons.
- Flanagan, C. A., Syvertsen, A. K., & **Wray-Lake, L.** (2007). Youth political activism: Sources of public hope in the context of globalization. In R. Lerner & R. Silbereisen (Eds.), *Approaches to positive youth development* (pp. 243-256). Thousand Oaks, CA: Sage Publications.
- Flanagan, C. A., & **Wray-Lake, L.** (in press). Civic and political engagement. In B. Brown & M. Prinstein (Eds.), *Encyclopedia of Adolescence*. San Diego, CA: Academic Press.
- Patrick, M. E., **Wray-Lake, L.**, Finlay, A. K., & Maggs, J. L. (2010). The long arm of expectancies: Adolescent alcohol expectancies predict adult alcohol use. *Alcohol and Alcoholism, 45*, 17-24. NIHMSID: NIHMS 144409.
- Wray, L. D.**, & Stone, E. R. (2005). The role of self-esteem and anxiety on decision making for self versus others in relationships. *Journal of Behavioral Decision Making, 18*, 125-144.
- Wray-Lake, L.**, Crouter, A. C., & McHale, S. M. (2010). Developmental patterns of decision-making autonomy across middle childhood and adolescence: European American parents' perspectives. *Child Development, 81*, 636-651. PMC – Journal, In Process.
- Wray-Lake, L.**, Flanagan, C. A., & Osgood, D. W. (2010). Examining trends in adolescent environmental attitudes, beliefs, and behaviors across three decades. *Environment and Behavior, 42*, 61-85. PMCID: PMC2790169.
- Wray-Lake, L.**, Syvertsen, A. K., Briddell, L., Osgood, D. W., & Flanagan, C. A. (in press). Exploring the changing meaning of work for American high school seniors from 1976 to 2005. *Youth & Society*. NIHMSID: NIHMS 158451.
- Wray-Lake, L.**, Syvertsen, A. K., & Flanagan, C. A. (2008). Contested citizenship and social exclusion: Adolescent Arab-American immigrants' views of the social contract. *Applied Developmental Science, 12*, 84-92.