REFLECTED SELF-ESTEEM, IDENTITY, AND MENTAL HEALTH IN ADOLESCENCE

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To my parents, Bob and Linda, for giving me the strength to continue

in spite of all the whining about quitting and coming home

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CHAPTER I

LITERATURE REVIEW

Introduction

"The adolescent is about to crystallize an identity and for this needs others of his generation to act as models, mirrors, helpers, testers, foils" (Douvan and Adelson 1966, p.179).

In western, industrialized countries adolescence is characterized as a time of transitions and identity development. Boys and girls are leaving behind much of their childhood comfort and identity and beginning to shift the importance of their lives away from home and into other activities that begin to consume teens' lives, including spending time with friends, dating, and sports. Early research on this topic suggested that adolescence is a time of disturbance, a period during which persons are trying to figure out who they are. This life stage has been thought to be a time of so much confusion and struggle that Erikson (1968) suggested adolescents experience an "identity-crisis;" they have not yet solidly established who they are. Others have referred to this stage as "a time of storm and stress" (Hall 1904). Given these descriptions of adolescent life, coupled with a multitude of findings demonstrating that psychiatric and behavioral problems typically begin to manifest during the teen years and recur in adulthood (e.g., see Kessler et al. 1994), it is fundamentally important to develop an understanding as to why it is that at such a young age boys and girls come to suffer or escape the experience of mental health problems.

More than any other stage in the life course, adolescence is a time of enormous uncertainty and new experiences. Teens are exploring new social worlds and are in search of information that will help establish their identities and self-worth. *Reflected self-esteem*, which refers to individuals' perceptions of how significant others evaluate their worth, should be especially relevant during this stage of life given that adolescents have not yet fully developed their sense of self, are at a critical time of life when others' opinions of them seem to really matter, and are likely to be keenly aware of others within their social worlds. How others view one is likely to have profound consequences for mental health. In fact, there is a body of theory and research showing the connection of reflected self-esteem to mental health; positive reflected self-esteem is associated with psychological well-being, while negative reflected self-esteem is

related to distress (Rosenberg, Schooler, and Schoenbach 1989). However, the relationship between the various *sources* of reflected self-esteem and mental health during adolescence has not been examined. In this research, I will investigate the relationship between specific sources of reflected self-esteem, identifying "important" or "significant" others' influences on adolescents' lives. The first purpose of this thesis is to establish that reflected self-esteem from various sources (e.g., parents, friends, and teachers) is associated with *mental health*, where relatively lower levels of "mental health" or "psychological well-being" include measures of psychological distress and behavioral problems (e.g., alcohol and drug use, delinquent acts). Generally, I expect that when all sources of reflected self-esteem are positive, young persons should experience well-being. However, I also expect different sources to become more influential than others during adolescence, particularly perceptions of friends' evaluations.

Although reflected self-esteem should have important implications for psychological well-being, *why* it is that reflected self-esteem should influence teens' mental health remains unexplored. I propose that the relationship between reflected self-esteem and mental health operates through encouraging or discouraging investment in role-identities which in turn anchor teens in relationships with others. I anticipate that negative reflected self-esteem will lead to less investment in identities such as student, athlete, or friend, and in turn to increased psychological distress and behavioral problems, while positive reflected self-esteem encourages greater investment in identities and ultimately results in enhanced psychological well-being.

In sum, in this dissertation research I will examine the relationship between reflected self-esteem and mental health, investigating the sources of self-esteem that matter most for adolescents' well-being. In addition, I will investigate the mediating role of identity in the relationship between reflected self-esteem and mental health, paying attention to associations between specific sources of positive and negative reflected appraisals and greater or lesser investment in particular role-identities, respectively, and finally, how identity investments in the end relate to a number of mental health outcomes, including depression, alcohol and drug abuse, and conduct disorder. Overall, the goal of this research is to advance our understanding of how it is adolescents come to suffer or escape psychological problems as they move into young adulthood.

Background: Adolescence and Mental Health Problems

Most researchers consider adolescence to begin at about the age of 12 to 13, as individuals transition out of childhood, and to last up until the ages of about 18 to 21, as individuals approach young adulthood (for discussion see Bush and Simmons 1987). A considerable amount of research shows that mental health problems start during this period.

Adolescents experience fewer positive emotions and experience more depression than their younger counterparts (Larson and Asmussen 1991; Larson and Lampman-Petraitis 1989; Larson, Raffaelli, Richards, Ham, and Jewell 1990). These trends are nothing new and can be traced back to empirical findings from the 1960s through the present. For example, trends from the 1960s through the 1970s clearly indicate that the well-being of adolescents declined. For example, Uhlenberg and Eggebeen (1986) report that the proportion of adolescents between the ages of 16 and 17 having sexual intercourse doubled between 1971 and 1979, and the birth rate for white unmarried mothers increased by 140 percent between 1960 and 1980. In addition, while there was an overall decline in mortality rates during the 1960s and 1970s, the age group of 15 to 24 year olds was the only one to experience an increase in death rates, including a 139 percent increase in the death rate due to suicide and a 232 percent increase in deaths due to homicide. Overall, the authors note that when examining indicators of well-being, including delinquency, school performance, drug and alcohol use, adolescent pregnancy, and other types of self-destructive behavior, there has been "a uniform and serious decline in the well-being of adolescents between 1960 and 1980" (Uhlenberg & Eggebeen 1986, p.34).

In addition, two major epidemiological studies on the prevalence of psychiatric disorder in the general population in the United States reveal an early age of onset of a variety of psychological problems. Both the Epidemiological Catchment Area (ECA) study and the National Comorbidity Survey (NCS) show simple phobia often begins during middle or late childhood, the onset of social phobia typically occurs during late childhood and early adolescence, substance abuse typically starts in the late teens to early 20s, and a large percentage of respondents report experiencing their first episode of major depression or dysthymia (minor depression) before the age of 20 (Kessler and Zhao 1999). The findings regarding the relationship between age of onset and disorder were so evident that Kessler and Zhao (1999, p.138) conclude "…the most striking overall impression from the data as a whole is that most psychiatric disorders

have first onsets quite early in people's lives." Moreover, among persons age 15 to 54 years old in the NCS, younger persons are significantly more likely than older persons to experience a combination of psychiatric disorders (Evenson 2004).

Different perspectives have guided explanations for the onset and abundance of mental health problems during adolescence. Physiological changes are the main cause of psychological problems, according to proponents of the developmental perspective, whereby pubertal changes increase teens' hormonal fluctuations and vulnerability to stress (Petersen & Taylor 1980). In general, adolescents are characterized as moody, which is attributed to hormonal changes that produce height and weight spurts, deeper voices, facial hair, breasts, and broadening hips (Lesko 2001). In particular, researchers argue that off-time pubertal changes, especially those changes that occur earlier than the norm, are stressful for teenagers (Angold, Costello, and Worthman 1998; Graber, Lewinsohn, Seeley, and Brooks-Gunn 1997). Much of the support for the developmental perspective comes from studies indicating that girls are most vulnerable to emotional problems, particularly when puberty occurs earlier than it does for most other girls (Brooks-Gunn and Warren 1988, 1989; Ge, Conger, and Elder 1996; Peterson, Sarigiani, and Kennedy 1991).

While the set of research findings reviewed above emphasize the links between physiological changes and the mental states of adolescents, other developmental scholars focus on cognitive developmental factors (i.e., emotional and intellectual maturity) instead. For example, Jackson and Finney (2002) find that more cognitively developed college students—juniors and seniors—are more protected from the mental health consequences of negative life events compared to individuals who are not as developmentally advanced—freshmen and sophomores. The authors attribute these differences to psychological maturity and experience coupled with greater ability to enact more effective coping strategies in the face of stress among advanced students compared to first and second year students.[1] In general, rather than biological age influencing well-being, it appears that other factors (some of which could be seen as cognitive developmental) are more important triggers of (or buffers to) distress during adolescence.

[1] Because Jackson and Finney do not have a direct measure of cognitive development, they take year in school as an indicator; however, in post hoc analyses the authors found that more advanced students used more effective coping strategies (facing the problem directly) compared to freshmen and sophomores (passive coping).

A third branch of work examines pubertal timing effects in concert with other social changes, including cognitive development, and shows that the social context surrounding pubertal and cognitive change is as or more important than its timing, with respect to problems among teens (Richards & Larson 1993). Brooks-Gunn (1991) points to the concentration of events that lead to increased negative emotions during this phase of life.[2] It appears that the multitude of new experiences, especially the transition from elementary school to middle school, faced by this age group places them in a vulnerable position. With the entry into middle school, adolescents usually face a number of new situations, including the move to a new school, multiple teachers instead of one, exposure to new sets of peers, and heightened pressure and awareness with respect to appearance and dating. For instance, Simmons, Rosenberg, and Rosenberg (1973) find that disturbance in self-image occurs during the transition to middle school, when students are roughly age 12-14. And, compared to persons younger than 12-14 years old, specifically 8-11 year olds who typically do not shift schools during their elementary school years, the young adolescents (12-14 year olds) show a higher level of self-consciousness, greater instability of self-image, slightly lower global self-esteem, lower specific self-esteem, and a more negative "perceived self," all factors which indicate increased cognitive awareness as teens approach this stage of life. (*Global self-esteem* refers to "the individual's positive or negative attitude toward the self as a totality," and *specific self-esteem* refers to domain-specific self-regard, such as academic self-esteem [Rosenberg, Schooler, Schoenbach, and Rosenberg 1995, p.141]). This group was also less likely to think that parents, teachers, and same-sex peers viewed them favorably. In order to disentangle the effects of age maturation from school context, Simmons et al. (1973) compared disturbance of self-image among subjects of the same ages located in elementary school and junior high school. On all four indicators of disturbance in self-image (global self-esteem, specific self-esteem, high self-consciousness, and instability of self-image) a significantly greater percentage of twelve-year-olds in junior high experienced the disturbance compared to twelve-year-olds in elementary school. In sum, Simmons et al. (1973) find that not only is the period of early adolescence related to higher levels of depressive affect compared to younger children, but the stressfulness of the

[2] Brooks-Gunn (1991) finds that the concentration of events is a stronger predictor of adolescents' negative emotions than are hormonal changes, which provides some support for the social over developmental arguments regarding the stressfulness of the teen years.

transition from elementary school to junior high school is significantly related to these disturbances in self-image.

Rather than emphasizing the effects of "off time" physiological or cognitive development, some sociologists focus instead on the *normativeness* of transitions/events. If events occur "off time" (e.g., having a baby while in high school), the consequences of the transition/event are likely to differ markedly from these same transitions/events occurring "on time" (Wheaton & Gotlib 1997). Much of this work has focused on pubertal development, menarche, and menstruation among girls. These findings show that on the whole menarche is not particularly stressful for girls (Brooks-Gunn and Ruble 1982; Ruble and Brooks-Gunn 1982). However, early maturing girls (i.e., "off time") have more difficulty with the transition to middle school than similar peers who are "on time" or late maturers (Blyth, Simmons, and Zakin 1985; Simmons, Blyth, and McKinney 1983). Empirical findings show that early puberty negatively affects girls' self-image; however, girls whose pubertal development co-occurs with changing schools are at even higher risk of poor self-image and depressive symptomatology (Peterson, Kennedy, and Sullivan 1991). Taken together, theory and research largely indicate that the most serious effects of development depend on the social context, especially social transitions.

While, on the whole, both boys and girls experience adolescence as a difficult period, particular experiences as well as mental health problems tend to be quite different for girls and boys. In large part, the gender patterns regarding emotional expression, as well as psychological and behavioral problems, mirror patterns found among adults. Research indicates that boys experience more anger and boredom, while girls report more irritability, awkwardness, and worry (Larson & Asmussen 1991; Lewis & Michalson 1983). A number of studies show that girls report higher levels of depression, anxiety, suicidal feelings, and general mental and physical symptoms (Colten, Gore, and Aseltine 1991; Dornbusch et al. 1991; Thoits and Kellam 1998), while boys report higher levels of conduct problems including delinquency, drinking, and problem behavior at school (Colten, Gore, and Aseltine 1991; Dornbusch et al. 1991; Thoits and Kellam 1998). In addition, findings from the 1997 wave of the National Longitudinal Survey of Youth, a representative sample of 12 to 17 years olds in the United States, show boys are much more likely to engage in regular use of marijuana and alcohol compared to their female peers, and boys are

more likely to have had three or more sexual partners and to have been arrested two or more times compared to girls (Pierret 2001).

These findings are consistent with epidemiological findings which clearly show not only that mental health problems begin far before adulthood, but also are manifested differently for boys and girls. Kessler et al.'s (1994) national survey investigating psychiatric disorders among a representative sample of individuals age 15 to 54 years old in the United States found that the prevalence of affective disorders is higher among females than males, while males have higher rates of substance disorders and anti-social personality disorders.

On the whole, studies examining the relationship between gender and mental health consistently show that boys and girls manifest their problems in different ways, which mirrors the patterns for adult men and women (see Aneshensel, Rutter, and Lachenbruch 1991; Kessler et al. 1994, Kessler and Zhao 1999; Thoits 1992), indicating the need for researchers to include a variety of outcomes in order to better understand adolescents' worlds. This study will examine a variety of mental health outcomes (e.g., depression, alcohol and drug use, and delinquent behaviors) for this reason.

Although the link between adolescence and emotional and behavioral problems is well-established, and research shows this link can be attributed in part to social factors, less is known about how or why social factors are implicated in adolescent mental health. In the next section I will elaborate on processes originating in reflected self-esteem that may play an important explanatory role.

Reflected Self-Esteem

Reflected self-esteem refers to one's (somewhat biased) perceptions of others' reactions to oneself (Cooley 1902; Rosenberg 1979; Thoits 1999). Individuals take the role of the other, but they do not do this accurately and instead tend to have a "self-esteem bias," perceiving themselves through rose-colored glasses (Felson 1981a, 1981b; Felson and Reed 1986a). It is important to point out that reflections may be of two different types. Individuals may base their self-reflections on perceived evaluations from *particular others*, or they may base their reflections on evaluations from a specific or a generalized other regarding a *particular performance* (e.g., Burke 1991). In this research, given the available measures, my concept of "reflected self-esteem" will follow the first construction of reflections. In addition, given this usage, I will

be using the concepts of *reflected self-esteem*, *reflexive self-esteem*, and *reflected appraisals* interchangeably. This concept has also been referred to as the individual's "perceived self-image" (Simmons, Rosenberg, & Rosenberg 1973).

Before discussing specifically the importance of reflected self-esteem for well-being, it is useful to distinguish "global self-esteem" from reflected appraisals. Global self-esteem refers to the actor's perception of his/her moral and self-worth in general. Reflected appraisals, self-perceived competence, and social comparisons are three processes that help to produce global self-esteem (Rosenberg 1979). Social comparison processes involve persons making judgments about themselves based on comparisons with similar others (see Festinger 1954). Self-perceived competence, also referred to as self-attribution of competence, involves a process whereby individuals infer and assess their dispositions, motives, and abilities by observing their own behavior (see Bem 1972). Finally, the process of taking the role of the other provides individuals with self-conceptions based on their perceptions of others' attitudes toward them (Cooley 1902; Rosenberg 1979; Rosenberg and Simmons 1972).

While all three processes are interesting on their own, when studies investigate all three antecedents of self-esteem, the findings generally show that reflected appraisals are most important for determining global self-esteem (Schwalbe and Staples 1991). More generally, regardless of the accuracy of reflected appraisals, empirical findings show that individuals' self-ratings are close to their perceptions of how both specific and generalized others view them, a finding consistent with the symbolic interactionist framework (Felson 1985; Felson and Reed 1986a, 1986b; Miyamoto and Dornbusch 1956).

Symbolic interactionists are largely responsible for the development of research on reflected self-esteem/reflected appraisals within the discipline of sociology. Through their work on the development of self, Charles H. Cooley (1902) and George H. Mead (1934) set forth an explanation which incorporates the notion of reflected self-esteem into the process of self-development. Through a system of shared symbols and shared meanings attached to symbols, individuals engage in communication or interaction. Mead (1934) argued that shared meanings aid in the ability to anticipate reactions of others during communication. This process is called "taking the role of the other," in which the individual is able to cognitively shift back and forth, first putting him/herself in the other's place and then shifting perspective back to his/her own again (Mead 1934). By taking the role of specific others as well as the "generalized

other" (i.e., the wider community) individuals are able to think of themselves and others in terms of social/group categories and come to see themselves as meaningful objects.

By adopting the conception of the generalized other, individuals begin to identify *who* they are as well as *what* they are as a result of imagining the shared reactions of others toward them. Mead identified two components of the self: the "I" and the "me," where the I is the active, creative agent, the part of the self that experiences, thinks, and acts, and the me is that part of the self derived from taking the role of specific others or the generalized other—the social understandings about oneself (Mead 1934). McCall and Simmons (1966) and Stryker (1989) elaborated on Mead's work to clarify that people have multiple "me's," or social selves. Persons come to see how good or bad they are from others' reactions, as well. Cooley (1902) referred to this process as "the looking-glass self" in which we come to evaluate ourselves as others appraise us. By extension, reflexive self-esteem or reflected appraisals are those feelings about the worthiness or goodness of self based on perceptions (which may be biased or inaccurate) of how others see us. The process of viewing the self as an object or set of objects as well as attaching a self-evaluative component to each "me" can be diagramed as follows (see Figure 1):

System of shared meanings and language → taking the role of the other → reflected self-esteem ↕ conceptions of self as social objects/identities

Figure 1. Part A of Theoretical Model

In his description of the looking-glass self, Cooley (1902) notes that different actors will have differential meaning for the individual. "This is evident from the fact that the character and weight of that other, in whose mind we see ourselves makes all the difference with our feeling…" (Cooley 1902, p.183-184). In short, although self-evaluation is a direct function of the perceived opinions of others, others may not be equally important to the person, and the person may also misperceive their opinions (Webster and Sobieszek 1974). It is likely that the evaluations of others who are very important to the person (i.e.,

his/her significant others) have greater influences on self-appraisals (Compas and Wagner 1991; Hoelter 1983, 1984, 1985; Larson and Asmussen 1991; Webster and Sobieszek 1974), an idea that is tested in this dissertation.

Identity theorists working from the symbolic interactionist perspective of the self have theoretically advanced our understanding of whose opinions matter as well as how it is that others' opinions are perceived as meaningful or not for the development of self-concept. Therefore, at this point, it is useful to review some of the main concepts from identity theory.

According to the structural symbolic interactionist perspective, which draws directly from Mead, conceiving the self as a meaningful object or set of objects ("me's") occurs through role-taking. Identity theorists (Stryker 1980; Thoits 1983) term these me's "social identities" or "role-identities." Social identities refer to positional designations assigned by others and accepted by the individual him- or herself as self-descriptive (Stryker 1980; Thoits 1986). Examples of role-identities include "daughter," "student," "athlete," and "friend." Stryker and Burke (2000, p.284) refer to identity as "parts of a self composed of the meanings that persons attach to the multiple roles they typically play in highly differentiated contemporary societies."

Social structures play a key role in Stryker's approach to identity. Social structures influence the likelihood of persons entering specific social networks. Gender, age, race and ethnicity, and social class affect the positions individuals may occupy, the roles they play, and thus the identities they may embrace. In this way, identities are constrained by social structure. At the same time, Stryker points out, persons hold as many identities as the number of positions or roles they occupy. Typically, persons hold multiple identities. Stryker's position was anticipated by the father of social psychology, William James (1890, p.294-295), who stated, "… a man has as many social selves as there are individuals who recognize him and carry an image of him in their mind…[we] may practically say that he has as many different social selves as there are distinct groups of persons about whose opinion he cares…."

Given that persons typically hold multiple identities, they will tend to enact more valued role-identities when there is choice. Identity theorists have referred to the ranking of role-identities by value or importance as prominence hierarchies (McCall and Simmons 1978) or salience hierarchies (Thoits 1992). According to McCall and Simmons (1978) and Thoits (1992), identities are ordered in terms of their

prominence or subjective importance to the individual; the importance or salience depends on the prestige or reward value attached to the identity. Stryker has a different conceptualization of identity salience as "the probability that an identity will be invoked across a variety of situations, or alternatively, across persons in a given situation" (Stryker & Burke 2000, p.286). Salience is strongly influenced by identity commitment, which refers to the social and personal costs entailed in no longer fulfilling a role based on a given identity (Stryker 1980; Stryker and Serpe 1982). In this dissertation research, I adopt a conception of identity salience similar to Thoits' (1992) and McCall and Simmons' (1978), in part due to available measures and in part because subjective importance or "psychological centrality" (Rosenberg 1979) is the concept more commonly used by scholars and is more intuitive.

According to Stryker's identity theory, multiple ties and/or affectively intense ties influence the probability that a particular identity will be invoked (assuming there is choice), and the differential probability of enacting a role predicts the amount of time people will spend in that role (Stryker and Serpe 1982). Because this argument is based in symbolic interactionism, we know that others' evaluations of the role-identity enactment are a source of reflected self-esteem. In fact, Burke (1991) addresses this point in his identity-control model. Burke argues that individuals will change or refine their identity performances based on feedback from others as well as the degree to which individuals' performance matches their internalized identity standards (Burke and Cast 1997). Thus, reflected appraisals should follow role performances, and reflected appraisals in turn should influence role-identity performance involvement. My theoretical argument emphasizes the causal influence of reflected appraisals on involvement in role-identities, whereby more positive reflected appraisals should lead persons to invest more time and energy in roles. However, as suggested by Burke and Cast (1997), reflected self-esteem and identity are mutually reinforcing (as illustrated in Figure 1). Empirical evidence shows that persons with high self-esteem are more likely to have positive personality traits as well as enhanced physical and mental health; all of these resources should facilitate participation in roles (Thoits 1999). Likewise, Burke and Cast (1997) find, for example, when reflected appraisals are negative (causing disturbances to self-perception), and persons are unable to counter those disturbances with their actions, a reorganization of the identity process will occur so that identity standards and reflected appraisals are congruent again. Most often, negatively-viewed identities are dropped in these circumstances.

While I address the mutually reinforcing potential between reflected appraisals and role-identities, I expect that reflected appraisals will have a stronger influence on role-identities than role-identities will have on reflected appraisals. If teens are particularly aware of others' opinions of them, and are experimenting in a number of different roles, positive reflected self-esteem should enhance participation in roles, while negative reflected self-esteem should deter participation.

Thus far, I have used the symbolic interactionist framework and identity theory in order to establish the concepts of reflected self-esteem and role-identities and to show that these two concepts are mutually influencing, whereby positive reflected self-esteem should lead to further role-identity involvement and the degree to which individuals are involved in social roles and the quality of their performances should influence reflected appraisals. At this point, we can turn to the final component of my theoretical model, illustrated in Figure 2:

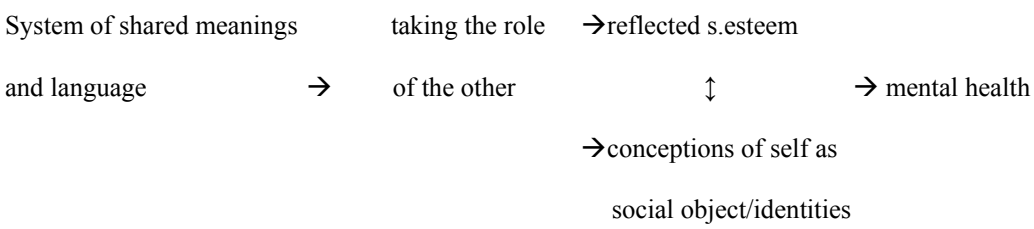

Figure 2. Part B of Theoretical Model

How is it that reflected self-esteem and identity influence mental health? I expect positive reflected self-esteem as well as identity involvement to result in well-being, whereas negative reflected self-esteem and lack of identity involvement should negatively influence mental health. Specifically, I expect that reflected self-esteem will influence psychological and behavioral problems directly because perceiving that (important) others view you as a person of little moral and self-worth, or alternatively as a person of worth, should be directly tied to mental health. However, I emphasize and hope to show that reflected self-esteem affects mental health *through* role-identities. According to Thoits (1983, 1986), holding multiple social roles should be beneficial for the individual because roles provide behavioral guidance as well as a sense of purpose and meaning in life; therefore, multiple roles should be associated

with psychological and functional well-being and conventional conduct. Conversely, not holding social roles or experiencing role loss should increase psychological distress, dysfunction, and/or deviant behavior. Similarly, Sieber (1974) argues that multiple roles provide more benefits than costs, including role privileges, resources for status enhancement and role performance, personality enrichment and ego gratification, and status security whereby if one role is lost or threatened, individuals have other roles to fall back on.

As noted earlier, Rosenberg (1979) and others (Felson 1985, 1990; Webster and Sobieszek 1974) have argued that feelings of self-worth and self-acceptance are especially likely to come from the evaluations of "important" or "significant" others. However, the sources of reflected self-esteem have largely been neglected in the identity process models discussed above. Research stresses the important role of parents in the socialization of children (Davies and Kandel 1981; Gecas and Seff 1990). Some scholars have suggested that as children transition into adolescence, parents play a reduced role in teens' lives and others, particularly peers and teachers, become the most significant others to whom teens turn for support and guidance (see review by Gecas and Seff 1990).

Given that adolescence is a period in which identities are developing and changing, teenagers are likely to be keenly aware of others' perceptions of them in many different roles. Whether the teen perceives important others' views of him/her in a positive light should influence the way he/she comes to feel about him- or herself. In turn, one's self-concept is likely to influence the likelihood of investing in current roles and adopting new ones and experiencing mental health benefits. Therefore, it is likely that the impact of reflected self-esteem on identity as well as mental health will depend on the source of adolescents' reflected appraisals. Specifically, older teens' well-being will be influenced more by the assessments of their teachers and especially peers than by parents. Examining various sources of reflected self-esteem and how these affect identity investment and mental health is one of the major purposes of this research.

It is important to note that a number of studies have demonstrated that peers' values, orientations, and behaviors, in fact, do affect adolescents' behavior, especially for delinquency and drug use (Giordano, Cernkovich, and Pugh 1986; Hirschi 1969; Kaplan, Martin, and Robbins 1984). For instance, Kaplan et al. (1984) found that involvement in drug-using friendship groups had a direct effect on later drug use and the *early* use of alcohol, marijuana, and drugs. In Giordano et al.'s (1986) research on adolescent friendships,

delinquent youth reported higher levels of susceptibility to peer influence (from delinquent friends), and delinquents themselves also were significantly more likely than non-delinquents to believe that they often pressured their friends to engage in delinquent activities. In addition, studies show that felt rejection by conventional groups/norms (e.g., family), results in an increased association with delinquent peers (Jensen 1972) and initial drug use (Kaplan et al. 1984).

Not only the sources of self-esteem but the stability of the self-concept (reflected appraisals and role-identities are key components) should vary as teens mature. According to the symbolic interactionist perspective, role involvements for most individuals are consistent across time and situations (Stryker 1989). I argue that when adolescents are the topic of study, role behaviors will be more inconsistent or unstable (at least relatively so compared to the emphasis on stability among adults), given the novelty of social interactions teens experience. Teens are exploring new worlds (e.g., dating, high school, extra curricular activities) and trying to figure out who they are. Hence, they are likely to be trying on a number of new "hats" which may stay on or drop off quite quickly. New experiences and maturation (emotionally, psychologically, and physically) may lead to the acquisition of new identities (McCall and Simmons 1978; Sieber 1974; Thoits 1983, 1986, 1992, 2003), while at the same time old identities may be relinquished. I expect that when adolescents adopt new role-identities, despite the instability, there should be positive effects on mental health given that role-identities help define who one is and provide behavioral guidance and meaning to one's life. However, relinquishing identities without acquiring new ones should increase the likelihood of experiencing distress.

Recall that my conceptualization of mental health is very broad in this thesis to include a number of psychological and behavioral measures. In general, I expect the processes leading to mental and behavioral problems to operate similarly. However, it is possible that factors leading to delinquency could differ from those leading to distress. In particular, some delinquency researchers propose that rather than delinquency resulting from negative reflected appraisals, adolescents may engage in delinquency as a way to enhance reflected self-esteem (Kaplan 1976, 1980; Kaplan, Martin, and Robbins 1984), with enhanced self-esteem in turn maintaining deviant behavior. Regardless of causal order, the question becomes: what mechanisms would deter teens from engaging in delinquent versus conventional behaviors? My theoretical

answer rests with role-identities, echoing an earlier argument regarding the importance of social bonds with respect to preventing delinquency.

Travis Hirschi (1969) argues that when an individual's bonds to society are weak or broken, the result is delinquency. According to Hirschi, there are four elements of social bonds connecting individuals to the conventional norms and values of society. First, to the extent that an individual is attached to others (in the process of socialization) he/she will be less likely to engage in delinquency. The second element is commitment, which is measured in terms of the investment of time and energy one has put into conventional activities (e.g., getting an education, having a career). Here, an individual's commitment to conventional activities determines how much cost is involved if he/she engages in delinquency. Hirschi notes that sometimes people follow the rules (i.e., commitment) simply from fear of the consequences. Third, involvement prevents persons from engaging in delinquency simply because they have so many conventional activities (e.g., attending meetings, going to classes) that there is no time left for other (delinquent) activities. Finally, to the extent that individuals believe they should obey the rules of society, they will be less likely to commit deviant acts. Either singly or in combination, weakness in the four factors increases the likelihood of delinquency.

Social roles are similar to social bonds in that both connect individuals to the social structure, and therefore, the larger society. Moreover, according to the symbolic interactionist perspective, the opinions and behaviors of significant others contribute to the development of the self (through the process of role-taking). Given that relationships with others are often a result of the actors' positions in the social structure, persons learn appropriate behavior in interaction based upon the prescriptions and proscriptions attached to their social structural positions. My argument extends Hirschi's line of reasoning that persons are less likely to be delinquent when attachment and commitment are to conventional institutions and norms. Specifically, teens who feel less attached and committed to conventional social roles are also less likely to remain involved in those roles (which is consistent with Hirschi's theory), and I would add that those teens will replace conventional systems of behavior with delinquent behavior (Kaplan [1980] makes this point as well). Teens may then become attached and committed to those beliefs and behaviors they share with deviant others like themselves. I argued earlier that negative reflected self-esteem should reduce adolescents' attachment (i.e., make these reflected appraisals less important) and involvement (i.e., reduce

time spent) in conventional roles and increase their involvement in delinquent acts, particularly if friends' positive reflected appraisals are important and these friends are engaged in delinquency as well.

Taken together, according to Hirschi's social bonds theory in connection with symbolic interactionism and identity theory, if an individual does not hold conventional role-identities and/or does not view conventional identities as salient, he/she should have weaker attachment, commitment, and involvement compared to persons holding conventional roles (and/or salient role-identities). Therefore, adolescents could be delinquent and have positive reflected self-esteem if peers are the most important source of reflected self-esteem and these peers are also delinquent.

In sum, reflected self-esteem should directly influence the role-identities embraced during adolescence as well as the time spent in roles and the perceived importance of these role-identities. There should be a direct inverse relationship between role-identity involvements and mental and behavioral problems during adolescence. Likewise, involvement in role-identities should influence reflected appraisals, and evaluative appraisals of the self should influence well-being. Role-identities and reflected appraisals may be volatile during the adolescent years, and their effects should also depend on the importance of the source of those appraisals. Considerable research supports a number of links in this theoretical model. I turn to that research next, with an eye to identifying supportive evidence, obvious gaps, and points on which there are mixed findings.

Empirical Findings on Reflected Self-Esteem and Mental Health

While there has been a great deal of empirical work done regarding overall rates of adolescent problems, such as drinking and drug use, depression and anxiety, as well as delinquency more generally, empirical work on the relationship between reflected appraisals and these outcomes is limited in two main ways. First, most of the work on adolescents' self-appraisals has occurred in the delinquency and labeling literatures and much less so in the psychological distress literature. Second, rather than measuring reflected self-esteem, most studies have concentrated on the relationship between *global* self-esteem and mental health outcomes. While self-esteem is assumed to include reflected-appraisals in its formation, researchers typically measure global self-esteem without directly measuring reflected appraisals. In spite of these shortfalls, evidence does indicate support for a relationship between reflected appraisals and well-being

among teens, although there are inconsistencies among specific findings as well, particularly with respect to delinquency.

For example, some researchers find that self-esteem is *negatively* related to delinquency. That is, persons with low self-esteem are more likely to engage in delinquent acts than persons with high self-esteem (Kaplan 1976, 1980). Kaplan (1976) examined 22 different delinquent acts and consistently found that among persons who had not previously engaged in delinquent behavior, those whose global self-esteem was low were significantly more likely to be delinquent by the next year. Yet Jang and Thornberry (1998) found *no* support for the relationship between low global self-esteem and greater likelihood of delinquency. Still other studies indicate that global self-esteem is *positively* related to delinquency (Kaplan 1976; Kaplan, Martin, and Robbins 1984).

One study is particularly notable because it actually measured reflected appraisals. Matsueda (1992) showed that male adolescents whose parents, teachers, and friends viewed them as delinquents were more likely to engage in delinquent activities compared to those whose parents, teachers, and friends viewed them as persons who abide by the rules; this finding held more so for males than females (Bartusch and Matsueda 1996). Specifically, Matsueda analyzed data from the National Youth Survey (NYS) in which youths were asked reflected appraisals of themselves from the standpoint of parents, teachers, and friends regarding four substantive areas: sociability (e.g., "well-liked," "gets along well with others"), likelihood of success (e.g., "likely to succeed"), distress (e.g., "often upset," "has a lot of personal problems"), and rule violations (e.g., "gets into trouble," "breaks rules") (Matsueda 1992). Individuals who thought others viewed them as rule violators engaged in more delinquent acts, and prior delinquency predicted reflected appraisals (Matsueda 1992).[3, 4]

Still other studies by these investigators reveal rather complex effects of reflected appraisals on delinquency. For instance, seeing oneself in the eyes of others as delinquent *and* as social (i.e., well-liked, gets along well with other people) positively increased the likelihood of delinquency for boys and girls (Bartusch and Matsueda 1996). However, seeing oneself as someone who, according to others, is often

[3] Matsueda (1992) suggests that the finding that prior delinquency affects reflected appraisals indicates individuals' selective perception of others' appraisals in addition to prior delinquency.
[4] Matsueda (1992) and Bartusch and Matsueda (1998) used the first three waves of the National Youth Survey (NYS), which is the same data set I use in this dissertation; however, I analyze all seven waves of the panel data.

upset and has a lot of problems makes one less likely to engage in delinquent acts than persons with positive reflected appraisals on these same aspects (Bartusch and Matsueda 1996).[5] The findings by Matsueda (1992) and Bartusch and Matsueda (1996) indicate that the aspect of the self being evaluated in the reflected appraisal process influences the likelihood of delinquency.

Recall that some researchers argue that adolescents may engage in deviant activities as a way to protect or enhance their self-esteem, especially if feedback from engaging in deviance is more positive than reflected appraisals regarding performance in conventional roles (Kaplan 1976; Kaplan, Martin, and Robbins 1984). Some of the inconsistencies in the self-esteem and delinquency literature may be due to the orientations of adolescents' friends. In other words, positive reflected appraisals from friends could be associated with delinquency *or* conformity depending upon the values and behaviors of peers, consistent with Hirschi's (1969) argument regarding social bonds. I argue that positive reflected appraisals from friends who are engaged in conventional behaviors (i.e., they are attached, committed, involved, and believe in conventional values) or in delinquent acts should influence whether an adolescent participates in unconventional (i.e., deviant) behavior. Giordano, Cernkovich, and Pugh (1986) find that, in comparing the friendship networks of delinquents and non-delinquents, all youths believe they enjoy the rewards of self-confirmation within friendships. Taken together, inconsistencies in the delinquency literature may largely be attributed to whether one's peers are delinquents or abide by conventional rules.

Overall, findings on the relationship between reflected self-esteem and delinquency as an outcome are inconclusive. However, there is consistent, although indirect, evidence that reflected self-esteem positively influences psychological well-being (Robertson and Simons 1989; Rosenberg, Schooler, and Schoenbach 1989; Simmons, Rosenberg, and Rosenberg 1973). Importantly, most of the research on self-esteem and psychological distress has focused on *global* rather than reflected self-esteem. However, Robertson and Simmons (1989) found a direct positive relationship between negative reflected appraisals and depression, and they also found that reduced global self-esteem played a mediating role in the

[5] Matsueda (1992) assumes that reflected appraisals from teachers, students, and friends regarding the respondent as "often upset" and "has a lot of problems" indicate that the respondent is distressed. However, I argue that while it is likely reflected appraisals indicating problems will result in distress, such appraisals may not be directly/perfectly correlated with distress. Distress may depend on the source and importance of the appraiser to the individual. It would be more appropriate to treat the indicators of "often upset" and "has a lot of problems" as reflected appraisals and then investigate the relationship between these reflected appraisals and independent measures of mental health outcomes.

relationship.[6] Indeed, a number of researchers have found that adults with low global self-esteem are much more likely to suffer from a variety of mental health problems (Pearlin and Lieberman 1979; Thoits 1994; for reviews see Thoits 1995, 1999; Turner and Roszell 1994). While the bulk of the work on reflected self-esteem (and global self-esteem) illustrates that esteem influences mental health, there is some evidence to suggest a reciprocal relationship between the two, whereby persons with mental health problems are more likely to suffer lower self-regard (Rosenberg, Schooler, and Schoenbach 1989). Based on the symbolic interactionist argument that reflected appraisals are an important component of self-regard, and the consistent findings with adult samples that self-esteem is significantly and positively related to well-being, it is highly likely that reflected self-esteem will be a predictor of distress in adolescence.

At present, the research on reflected appraisals and mental health is limited in two main ways. First, researchers tend to assume that various sources of reflected self-esteem form the self-concept, without directly measuring whether this is so. For example, persons who have negative reflected self-esteem based on perceptions of how parents view them may not necessarily incorporate these perceptions into their own sense of self; in other words, for some adolescents the reflected appraisals of peers may be the only perceptions that matter. Second, when identity has been linked to reflected appraisals, it has been limited to whether the person thinks of him/herself as a conformist or delinquent/troubled; we do not know how reflected appraisals relate to an array of conventional role-identities.

Sources of Reflected Self-Esteem

As mentioned above, part of the inconsistency in the association between reflexive self-esteem and mental health problems (particularly delinquent behavior) may be a result of ignoring the source of reflected appraisals. It seems likely that not all adolescents will attach the same weight to various sources of reflected appraisals such as friends, parents, and teachers. However, the limited empirical studies on sources of reflected self-esteem among adolescents have produced mixed results.

Berndt (1979) argued that adolescents feel serious pressure during this stage of the life course to conform to the norms of peer groups, and in doing so teens become acutely aware of their own status among their peers. In other words, reflected appraisals from peers (as one source) should have a major

[6] These findings provide further evidence that reflected self-esteem and global self-esteem are strongly related.

influence on self-concept during this period of life (Berndt 1979). Indeed, Larson and Asmussen's (1991) work shows that adolescents were more likely than preadolescents to see their friends as important sources of their self-worth.

Yet, Felson (1981a, 1981b, 1985, 1990) found mixed support for the influence of peer-based reflected appraisals on self-appraisals. In particular, Felson's (1985) analyses revealed little support for this relationship in a sample of fourth through eighth grade students as well as among college football players. Interestingly, in the study of college football players, self-assessments of ability by the players were strongly related to what they *thought* other players and coaches would say about their abilities (Felson believed projection was responsible for the strong correlations between self- and reflected-appraisals). In addition, the evaluations of these more neutral observers—coaches and other players—were more predictive of self-ratings than were friends' or parents' evaluations (who may be viewed as more positively biased in their appraisals). Specifically, perceptions of other teammates' ratings of their seasonal performance were significantly correlated with players' self-ratings ($r = .55$), and perceptions of ratings by the position coach were correlated even more strongly with self-appraisals ($r = .65$). Perceived ratings of game performance by head coaches was still stronger with self-appraisals ($r = .75$) (see Tables 1 and 2, Felson 1981b, p.119). In short, Felson (1981b) found that self-appraisals were weakly related to others' *actual* appraisals, but were very strongly related to how players *believed* others appraised them. Felson (1981b, 1985) argues that these findings raise questions about the emphasis on reflected appraisals in the development of the self, suggesting that theory and research has tended to over-emphasize the effects of reflected appraisals on the self.

While Felson's conclusions are correct in that self-assessments are only weakly related to others' *actual* appraisals, these findings do not refute the reflected appraisal process (contrary to Felson's view). The association between *perceptions* of others' appraisals and self-appraisals is consistent with the symbolic interactionists' arguments that role-taking is important in self-development, whether perceptions of others' appraisals are accurate or not (Cooley 1902; Mead 1934).

Felson's (1985) research on reflected appraisals also indicates that the type of performance is related to how influential reflected appraisals are on self-evaluations. For instance, the effects of reflected appraisals from peers mattered for self-appraisals of physical attractiveness, but much less so for academic

ability. Felson (1981a) concluded that when objective indicators of performance are available, individuals will rely on these rather than reflected appraisals, but when indicators of performance are ambiguous, reflected appraisals should be more important for self-assessments (also see Kelley 1967). In addition, as suggested above, persons tend to overrate themselves on ambiguous abilities (Felson 1981a), a phenomenon referred to as the "self-enhancement bias." In this same manner, others' actual appraisals are consistently but only modestly influential on reflected appraisals of self (Felson 1980, 1989; Shrauger and Schoeneman 1979). While Felson's studies are informative, they are conducted on samples restricted to males, and only examine the relationship between reflected appraisals and self-appraisals without any direct tie to role-identities or mental health outcomes.

Other scholars paint a more complex picture of the relationship between sources of reflected self-esteem and identity. Hoelter (1984) examines which reflected appraisals are more significant for individual's self-evaluations. A sample of high school seniors were asked four sets of questions each containing three semantic differentials: "good/bad," "worse than most/better than most," and "successful/unsuccessful" (Hoelter 1984, p.257). For self-evaluation, the question was, "In general, I myself think I am…" For the reflected appraisal measures, individuals were asked "As a student, my teachers think I am…" "As a friend, my friends think I am…" and "As a daughter/son, my mother/father thinks I am…" First, Hoelter (1984) discovered that not only does the source of the reflection matter, but different sources are more important for girls than boys. For instance, for girls, friends were the most important source of reflected self-esteem, followed by teachers, and finally by parents. In contrast, for boys, parents were the most important source, followed by teachers, and finally by friends. Gore and Colten (1991) also found gender differences in the source of important reflected appraisals; however, this pattern does not match that of the boys and girls in Hoelter's (1984) study. Instead, Gore and Colten (1991) argue that the gender socialization process results in young women's overall greater dependence on the opinions and evaluations of others in developing a sense of self, while men develop other sources of self worth in addition to reflected appraisals, including judgments based on actual achievement. Hoelter's (1984) and Gore and Colten's (1991) findings point to the importance of including the source of reflected appraisals; however, these findings do not directly tell us *why (or alternatively, why not)* sources of

reflected appraisals matter for adolescents. The significance of sources of reflected appraisals, including parents, as well as the impact of these reflections on well-being are addressed in others' work.

Robertson and Simmons (1989) found that perceived parental rejection (negative reflected appraisals) from parents, were significantly related to depressive symptomatology.[7] Similar results appear in Windle's (1992) study on the relationship between sources of perceived emotional support and two outcomes. While Windle (1992) used "perceived emotional support" rather than "reflected appraisals" there is an established positive relationship between emotional support and global self-esteem (Rosenberg 1965, 1979, 1985; Turner 1999). Windle (1992) found that when perceived emotional support from *family* was low, teens experienced depressive symptoms and engaged in delinquency, but when perceived emotional support from *friends* was low, adolescents experienced more depressive symptoms but did not engage in delinquency. Generally, the above findings show that sources of reflected self-esteem are important for understanding the relationship between reflected appraisals and mental health.[8] Moreover, Windle's (1992) findings point to the importance of including an array of mental and behavioral outcomes, given that these relationships may operate differently depending not only on the source but also on the outcome and the person's gender.

Reflected Appraisals and Role-Identities

Unfortunately, adolescent identity research in sociology has largely been restricted to work within the labeling perspective whereby identity models (e.g., Stryker's [1980]) are either ignored or incorporated into theoretical arguments on labeling, particularly as related to delinquent identity (e.g., Bartusch and Matsueda 1996; Matsueda 1992). In addition, studies of adolescent identities often do not include the influence of reflected appraisals on involvement in conventional role-identities. Therefore, I draw upon some of the literature on adults as well to examine this link.

[7] While Robertson and Simmons (1989) found a direct relationship between negative reflected appraisals and depression, they also found that reduced self-esteem (global) played a mediating role in the relationship. This provides further support that reflected self-esteem and global self-esteem are highly related.

[8] Matsueda (1992) found that three sources of reflected appraisals (parents, teachers, and friends) are not compartmentalized into different components of the self, suggesting that what matters is the overall self-evaluation from reflected appraisals from multiple sources, not each source individually. However, Matsueda's sample was restricted to boys and he did not examine multiple psychological and behavioral outcomes.

Hoelter (1983) finds strong support for the relationship between reflected appraisals and the salience of identities. Based on a sample of unmarried undergraduates and analyses of seven role-identities, Hoelter (1983) concludes there is consistent evidence that reflected appraisals regarding one's performance in a role are significantly related to the salience of that role-identity, so that more positive perceived evaluations of the self in a given role are significantly tied to the salience of that role for the individual. As a case in point, the salience of the student identity has been examined in relation to reflected appraisals in a sample of first-year college students. The findings support Stryker's identity model (1980); when students' reflected appraisals were positive regarding their performance in the student role, they were more committed to the identity (Serpe 1987; Stryker and Serpe 1994). Stryker and Serpe (1994, p.26-27) also measured two aspects of identity commitment: interactional and affective commitment. Interactional commitment was measured by asking students whether or not they had joined any organizations that were related to a given identity (and how many organizations they had joined), and, whether or not they had met any friends through activities associated with the identity (and how many friends they had met). Four items constituted the affective commitment measure. Subjects were asked "How important it is to you that your (parents) view you as being involved in (activities related to a given role)?" This question was repeated where "best friend" replaced "parents." The last two items asked students "How good at (activities related to a given role) do your (parents, best friend) think you are?" The authors found that the presence and significance of others (i.e., interactional and affective commitment) has a positive affect on the self (in terms of the salience and centrality of the identity) which increases the time devoted to the social role (Stryker and Serpe 1994).

While the above studies show the effects of reflected appraisals on the salience of identities, another group of studies illustrates that identities can influence reflected appraisals, at least as indicated by global self-esteem. In a sample of sixth grade students, youths' identity evaluations, which included questions regarding the importance of five different role identities, had positive effects on self-esteem.[9] The identity importance of athlete, son/daughter, and student each positively influenced self-esteem. However, friend and club member evaluations were unrelated to self-esteem (Hoelter 1986). Hoelter was

[9] Evaluations of the five identities were each rated on a four-point scale of importance ranging from "very important" to "not at all important," and self-esteem was measured by the RSSE scale-a global self-esteem scale designed especially for children (Rosenberg and Simmons 1972).

especially surprised that the importance of "friend" did not have an effect on self-esteem, despite all of the theoretical and much empirical work suggesting that adolescents should be particularly attuned to the opinions and evaluations of their peers. Hoelter (1986) suggests that possibly adolescents' friendships are quite unstable, and therefore persons terminate friendships and adopt new ones where it is more likely they will garner positive self-esteem. If this were the case, there would be very little variability in friendship evaluations which may make them unable to account for the variation in self-esteem (Hoelter 1986). In Hoelter's (1986) study the friend identity was the most positively evaluated identity and it had the smallest variance of all the identities examined. It should be noted that the findings from this study are restricted to one age group (sixth graders, where 12 years old is the average age) of children who were (on average) not teenagers yet, and these students were surveyed only once.

The findings above support the symbolic interactionist argument that persons rely on perceptions of others' appraisals in deriving a sense of self-worth (Cooley 1902; Mead 1934). Moreover, these findings support that aspect of identity theory indicating that some persons' opinions/evaluations will matter more or less given their relative importance as role partners in the person's salience hierarchy. Finally, positive reflected appraisals result in greater commitment to the identity being evaluated, which should then result in greater time spent in the role (Stryker 1980; Stryker and Serpe 1994).

Taken together, reflected appraisals appear to be linked to the salience of role-identities. However, there is inconsistency in measurement across studies and the number of studies is limited, leaving room for further research on the ways in which reflected appraisals, as well as sources of appraisals, relate to role-identities and ultimately mental health. The relationship between reflected self-esteem and time and energy expenditure in role enactment has not been assessed; only identity salience has been examined, which is only one of three important dimensions of role-identity involvement in this dissertation. I now turn to a review of the relationship between role-identities and psychological and behavioral aspects of well-being.

Role-Identities and Mental Health

There is a well-established relationship within the literature on *adults* that multiple role-identities are good for mental health; persons with more role-identities experience better psychological well-being

than persons with fewer role-identities, even when prior well-being is controlled (Thoits 1983, 1986, 1992, 2003). However, this relationship depends on the voluntary versus obligatory nature of different role-identities. Empirical findings on adults show that when voluntary roles are examined (i.e., identities persons can choose to enter or abandon relatively easily) role accumulation is related to higher global self-esteem and lower psychological distress as well as substance use, but these outcomes are unrelated to an accumulation of obligatory roles (i.e., roles with high demands that are difficult to exit) (Thoits 1992, 2003). Research on the relationship between role accumulation and well-being among adolescents is limited and has not distinguished between obligatory and voluntary role-identities.

Some findings on adolescents support the identity accumulation hypothesis. For instance, in accordance with social bonds theory, Johnson (1979) reports that individuals who are attached to family and school engage in less delinquent activity than those who do not have these attachments. Likewise, other empirical evidence indicates that rejection of conventional rules and societal values is strongly associated with deviant behavior, suggesting that those persons who have fewer conventional role-identities are more likely to experience problems (Gersick, Grady, and Sexton 1981; Kandel 1980). Thoits and Kellam (1998) used identity theory to examine the relationship between role involvement and mental health among adolescents. Given the positive relationship between role accumulation and mental health for adults (Thoits 1983, 1986, 1992), Thoits and Kellam expected that increases in role activities over time would enhance psychological well-being and result in fewer behavioral problems. Unlike most of the literature on adults, the authors were not only interested in the effects of role-identities on mental health, but in the effects of prior behavioral or psychological problems on subsequent role involvement. As expected, prior levels of psychological distress and problem behaviors resulted in fewer role involvements. However, counter to expectations, prior problem behaviors were related to *greater* role-involvements in particular domains: dating, part-time employment, and/or volunteer work. This later finding suggests that the relationship between role involvement and mental health may be particularly complicated during adolescence; problem behaviors may reflect an adolescent's desire to become independent, reflected also in the adoption of adult-like roles (e.g., dating, employment, and volunteer work). While Thoits and Kellam's (1998) findings underscore the effects of prior emotional and behavioral problems on involvement in role-identities, their study on children who were followed from first grade and every year thereafter assessed

role-involvements only at the 8th grade wave and due to funding limitations, the sample was cut by 60% in the final wave (9th grade). Therefore, we do not know the length of time individuals were involved in various role(s) over time. In addition, while the authors found that roles had few influences on mental health, the mental health effects of the acquisition or loss of role-identities over time could not be determined in their study.

Larson and Asmussen's (1991) research revealed that what kind of friends teens have (e.g., delinquent, rebellious, depressed) matters for their own mental health. In general, the authors found that adolescents experienced increased negative emotion in the friend domain compared to younger children. The authors argued that by adopting the friend identity as an important aspect of their life, adolescents come to perceive their own negative emotions as due to the negative feelings of others, the upsetting behavior of others, or the undesirable traits of others. Essentially, taking the role of the other significantly influences adolescents' own emotions, sometimes negatively, when these "others" are located in the friendship domain. This suggests that counter to the role accumulation hypothesis, more role-identities during adolescence do not guarantee well-being to the same degree as they do for adults. In other words, holding the friend identity is probably more protective for mental health than not holding the identity, but given variations in the emotions and conventional/deviant behaviors of their friends, teens could still experience negative effects from the friend role.

Compas and Wagner (1991) showed similar patterns, but recognized that girls are more sensitive to the emotional/behavioral states of their friends compared to boys.[10] They suggested that the adolescent years are a particularly stressful time because this is a critical stage in the lifecourse where teens view identity formation as their central developmental task. This task is stressful because it involves balancing a developing degree of autonomy and increased time spent with peers with maintaining an attachment to one's family. Minimally, the relationship between role-identities and mental health appears to be complex, given that at least some roles (e.g., friendships) may be changing rapidly or have very different effects depending on the composition of the peer network.

[10] The findings of Larson and Asmussen (1991) and Compas and Wagner (1991) are similar to the findings in the adult literature, where women are more vulnerable to "network events" than men, i.e., events happening to other people about whom they care (Kessler and McLeod 1984).

The findings reviewed above warn that the role-accumulation hypothesis for explaining mental health in adolescence may be rejected. However, many of the above studies were concerned with understanding the effects of stressors that occur during adolescence, rather than explaining differences in distress due to role accumulation. In addition, while the above findings underscore the stressfulness of adolescence, particularly in the friendship domain, they do not compare teens who have friends with those who do not.[11] I argue that given what we know about the importance of significant others in our lives as well as the positive effects of social integration on mental health (Ueno 2005), and of social attachments on conventional behavior, persons who have friends and family should experience better psychological well-being than those who do not occupy these roles. In addition, the accumulation of voluntary roles (other than friendships) is protective of mental health among adults (Thoits 2003) and is likely to have the same effects among adolescents. For example, teens who are involved in athletics, clubs, and community activities should feel a greater sense of purpose and meaning in life, which should lead to greater psychological well-being relative to those who do not adopt voluntary roles.

On the whole, the empirical findings reviewed above should be interpreted with caution. The overall conclusion regarding the relationships between reflected self-esteem, role-identity involvements, and mental health appears to be that these components are positively related. However, a comprehensive study examining how reflected self-esteem (as well as the various sources of reflected self-esteem) influence role-identities in terms of accumulation as well as importance and investment of time in them, and in turn how role-identities affect an array of both behavioral and psychological outcomes remains to be done.

In this dissertation research, I hope to overcome the limitations of previous research on reflected self-esteem, identity involvement, and mental health among adolescents by addressing three main hypotheses. First, positive reflected self-esteem should be negatively related to psychological distress, delinquent behavior, and alcohol and substance use. This relationship should vary according to particular sources of self-esteem and by particular outcomes (emotional versus behavioral problems) for boys versus girls. Second, identity investment should be positively related to mental health among adolescents. Third,

[11] An exception is shown in Ueno's (2005) work on adolescent friendship networks. He found a direct inverse relationship between the number of friends one has and the level of depressive symptoms experienced.

the effects of positive reflected appraisals on mental health are explained, at least in part, through role-identity involvements (i.e., the salience of role-identities and time spent engaging in roles). By examining the complete model including reflected self-esteem, role-identity involvement, and psychological and behavioral outcomes, we should arrive at a better understanding of the identity process during adolescence. A description of the data and measures to be used in this study to test these hypotheses follows.

a)

Reflected Self-Esteem → Mental Health

b)

Reflected Self-Esteem → Salience of Role-Identity(s) and Time Involvement in role-activities → Mental Health

Figure 3. Full Theoretical Model

CHAPTER II

METHODS

Data and Sample

The analyses for this research are based on data from the National Youth Survey (NYS), a seven-wave panel study consisting of a national probability sample of American youth generated through a probability sample of households in the United States based upon a self-weighting, multistage, cluster sampling design (Elliott 1976, 1977, 1978, 1979, 1980, 1983, 1987). The original sample was collected in 1977 and contained 2,360 respondents between the ages of 11 and 17 who were eligible for the survey. The overall response rate was 73% (N = 1,726); comparisons based on age, sex, and race indicate that the sample was representative of the 11 to 17 year old population in the United States as established by the U.S. Census Bureau (Elliott, Huizinga, and Menard 1989). The three main reasons for youth refusal to participate in the survey were: parental refusal, youth refusal, or the youth was considered inappropriate for the inclusion in the study (e.g., severely mentally retarded) (see Elliott, Huizinga, and Menard 1989 for detailed information about the NYS). The attrition was extremely small for a seven-wave panel study; by the sixth wave only 13% of the sample had dropped out. Comparisons of respondents across the six waves indicated that loss by age, sex, ethnicity, class, place of residence, and reported delinquency did not substantially influence the underlying distributions of these key variables, and thus the representativeness of the sample was not compromised in any serious way by the respondent loss (Elliott, Huizinga, and Menard 1989).

The first wave of data was collected in early 1977, interviewing 1,726 youth (as well as one of their parents or legal guardians) who were between the ages of 11 and 18 during 1977 about events and behaviors to gain a better understanding of both conventional and deviant types of behavior by youths occurring during the calendar year of 1976. The second wave of data was collected in 1978 (respondents were age 12 to 19) about their lives in 1977. The third wave of data was collected in 1979 (respondents were age 13 to 20), including questions to respondents regarding events and behaviors that occurred in the past year (1978). Respondents were interviewed for the fourth time in 1980 (respondents were age 14 to

21) about their lives during the previous year (1979). The fifth wave of data was collected in early 1981 (respondents were age 15 to 22) and contains information regarding the calendar year 1980. The sixth wave, collected in 1984 (respondents were age 16 to 23), contains information from youth and young adults regarding behavior and events that occurred in 1983. In 1987, the respondents (age 19 to 26) were interviewed for the final time about their lives in 1986 and/or from 1984 and 1985. Given there is a three-year gap between the sixth and seventh waves, some questions in the final wave asked for information about the previous year, while other questions asked about information either from each of the three previous years or the last three years in general. I use the entire sample of respondents at each wave in the cross-sectional analyses. For the longitudinal analyses, respondents who remained in the sample in contiguous waves were included in the analyses.

Although dated, the NYS is ideal for this project because it is the only longitudinal, public data set on youth that contains measures of *reflected* self-esteem, questions about the importance of and involvement in a number of conventional role-identities, and multiple types of mental health outcomes. The panel data allow me to follow youth through the adolescent years and into early adulthood, providing fairly comprehensive information regarding the changes in adolescents' lives and ultimately whether there are social psychological and behavioral consequences due to the identity processes of adolescents. Moreover, while the information comes from respondents roughly two decades ago, this should not pose a major limitation for my study. I argue that the identity processes shaping mental health are theoretically general and should hold across generations. The research on identity and mental health among adults continues to be driven by the same kinds of questions I am asking about adolescents. Therefore, although specific behaviors and attitudes may change over time, I am expecting the process linking feelings of self-worth, identity, and mental health to be similar to those found in adults (see Thoits 1999b for review) and in more recent cohorts of respondents (e.g., Hoelter 1984; Matsueda 1992; Stryker and Serpe 1994; Ueno 2005).

Given that the NYS initially gathered the first wave of data on a representative sample of adolescents age 11 to 18 years old (rather than following a single birth cohort over time), this sampling design is somewhat problematic for my study. Rather than allowing me to follow the same age group over time in general, the impact of the identity process on mental health is assessed on a sample of age-varied

respondents who become older, on average, across time. At the same time, multivariate analyses allow me to control for age at each interview, and supplemental analyses conducted on specific age groups are discussed and reported later in this dissertation.

Measures

Psychological Distress

In this study, I examine two main measures of distress—psychological and behavioral (including substance use) problems. The use of all of these measures is important when assessing mental health because research indicates that males and females may exhibit distress differently; therefore studies that rely on a single measure of distress likely distort the relationship between gender and mental health (e.g., Dohrenwend and Dohrenwend 1976; Aneshensel et al. 1991).

Psychological Distress: Please note that the number of items for each variable are not consistent across all seven waves. For the cross-sectional analyses, I used all of the items available for each point of data collection; however, in the longitudinal analyses the only items used are those that are the same in the contiguous waves of data being compared. Psychological distress in waves 1 to 5 is assessed with proxy measures including items regarding social support and items indicating loneliness (see Tables A.1 and A.2 in Appendix A).[12] Proxy measures are necessary for the first five waves of data because the actual psychological distress variables are not included in the sample until the last two waves. However, studies show that social support and loneliness are strongly correlated with mental health (Anderson, Horowitz, and French 1983; Ouellet and Joshi 1986; Peplau and Perlman 1984; Ponzetti 1990; Turner 1999). For example, Turner and Marino (1994) found that in general the epidemiology of perceived social support was closely associated with the epidemiology of psychological distress and disorder.[13] It is important to underscore the distinction between the concepts of *perceived support* and *reflected appraisals*. "Perceived support" indicates whether or not the individual believes others are available for support if he/she needs it. "Reflected appraisals" have to do with an individual's perceptions about how others evaluate him/her.

[12] Social support is also measured in waves 6 and 7, although the items for social support differ from those in the previous waves. There were no items available in waves 6 and 7 to measure loneliness.
[13] Social support researchers distinguish perceived support from received support. Perceived social support is the belief that support (typically emotional) is available if one needs it; received support has to do with the functions performed by others for the individual (see Thoits 1995).

Therefore, I argue that reflected appraisals should affect perceptions of social support in the same way as they would psychological distress. Individuals who perceive that other persons evaluate them negatively (in terms of someone of worth and value) should be more likely to feel they do not have social support available if needed compared to those persons who have positive reflected appraisals.

The proxy psychological distress measures for the first five waves of data include a total of 13 items for social support and 12 items for loneliness.[14] All of these are based on questions asking respondents, "Please tell me how much you agree or disagree with these statements about you…" Responses were coded (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree). See Tables A.1 and A.2 in Appendix A for a complete listing of the questions. Six social support items were reverse coded in order to measure the *lack* of perceived social support within the first five waves of data: "My family is willing to listen if I have a problem"; "I feel close to my family"; "My friends are willing to listen if I have a problem"; "I feel close to my friends"; I feel like my spouse/boyfriend/girlfriend is willing to listen if I have a problem"; and, "I feel close to my spouse/boyfriend/girlfriend." If the respondent does not have friends and/or a spouse/boyfriend/girlfriend, he/she did not answer these items. Therefore, for each wave, the number of items available were used to create an index (because support comes from a variety of sources), where the items are summed and divided by the total number of items the respondent answered.[15] Higher scores indicate a lack of perceived social support (i.e., higher levels of distress).

A measure of social support was also available for the final two waves of data analyses (waves 6 and 7). However, rather than measuring perceived social support, the items capture received social support. At the same time, including a measure of social support in the final two waves of data collection allows for some estimation of whether respondents perceive they are receiving social support. A total of six items were used to create an index of social support; respondents were asked: "How much warmth and affection have you received from your parents?"; "How much support and encouragement have you received from your parents?"; "How much warmth and affection have you received from your friends?"; "How much support and encouragement have you received from your friends?"; and for those who had been living with

[14] Again, it is important to note that not all items were asked to respondents for all waves of data collection; Tables A.1 and A.2 in Appendix A clarify which items were asked at each point of data collection.
[15] Dividing the total score by the total number of items answered allowed for preservation of cases where the respondent may have skipped answering an item or two.

their spouse/boyfriend/girlfriend during the past year, "How much warmth and affection have you received from your spouse/boyfriend/girlfriend?"; "How much support and encouragement have you received from your spouse/boyfriend/girlfriend?" Responses were coded (1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal). All six items were reverse coded so that higher scores indicate a greater lack of social support; possible scores on this measure of social support range from 6-30. Again, because respondents may not have answered all of the items, either due to skipping/missing an item(s) or because the item was inapplicable, an index of social support for waves 6 and 7 was created, and items were summed and divided by the total number of items the respondent answered.

Loneliness was also used as a proxy measure for psychological distress. Questions that tapped feelings of loneliness were only asked during the first five waves of the survey. Similar to the perceived social support questions, respondents were directed to "Please tell me how much you agree or disagree with these statements about you…" The twelve items are listed in Table A.2 of Appendix A. Response categories were coded (1 = strongly disagree; 2 = disagree; 3 = neither; 4 = agree; 5 = strongly agree). One item "I feel a real part of things at work" was reverse coded. A summary measure for loneliness (ranging from 12-60) was created whereby higher scores indicate greater feelings of loneliness (i.e., higher levels of psychological distress), and scores were divided by the total number of items answered/applicable to the respondent.[16]

A second direct measure of psychological distress was created for waves 6 and 7. The items for this scale tap depression. The first question asks respondents "In the past three years (wave 7)/lifetime (wave 6) have you had two weeks or more during which you felt sad, blue, depressed, or when you lost all interest and pleasure in things that you usually cared about or enjoyed?". Answers to this question were initially coded (1 = no; 5 = yes). First, I recoded this original question (0=no; 1 = yes). The remaining thirteen questions are contingent upon respondents answering (1 = yes) to the initial question listed above. Detailed information for all thirteen items is included in Table A.3 of Appendix A. Each of the contingency items was originally coded (1=no; 2=yes); again, I items were recoded (0 = no; 1 = yes) for a possible range from 0 to 16, where higher scores indicate higher levels of distress. The reason the possible range is from 0 to 16 (rather than 0-13) is because the final item "thoughts of death" contains 4 separately

[16] Again, please refer to Table A.2 of Appendix A for the questions that were asked at each wave.

coded questions (refer to footnote "n" in Table A.3 of Appendix A for each of these questions. (Cronbach's alpha in wave 6 = .78; wave 7 = .78).

Delinquency

Delinquency: Because the original investigators were mainly interested in the delinquent behaviors of youth, there are a large number of questions assessing a wide range of delinquent acts that respondents might have committed. In addition, many of the measures remained in the survey across all seven waves, though additional questions were sometimes added in subsequent waves. In this dissertation, a total of 55 delinquency items were used to create an index of delinquency. Respondents were asked "How many times in the last year have you…" First, each individual item was dichotomized (0 = never did this in the past year; 1 = have done this one or more times in the past year). Second, a summary measure was created including all available information for each wave (please refer to Table A.4 of Appendix A for the possible range of the index at each wave as well as for detailed information on the particular items asked at each wave). As with the previous measures, the final variable is created by divided the summary score by the total number of items answered by the respondent, allowing for respondents to remain in the analyses even though some items may have been skipped or inapplicable to a particular respondent (e.g., only if the respondent was working, could he/she be asked about their behavior at work).

Drug and Alcohol Use

Drug and Alcohol Use: I created a combined measure for drug and alcohol use based on a single item asking about the respondent's use of alcohol and a number of items asking about drug use. Alcohol was measured by a single question asking respondents how many times in the last year they used alcoholic beverages, beer, wine, or hard liquor. Drug use at wave 1 was measured by asking respondents how many times in the last year they had used five different types of drugs; an additional six items were included in the remaining waves of data (which included the five items from wave 1 as well). Please refer to Table A.5 of Appendix A for detailed information on the alcohol use and drug use items. All drug and alcohol items were first dichotomized (0 = never used this alcoholic beverage/drug in the past year; 1 = have used this alcohol beverage/drug one or more times in the past year). Next, a combined summary measure of

"alcohol/drug use" was created; possible scores on this measure range from 0-6 at time 1 and 0-13 for waves 2-7. Finally, I created a variable where I divided the summary score by the number of items answered by the respondent, preserving cases where respondents may have skipped a single item.

Reflected Self-Esteem

The main independent variable used in this study is reflected self-esteem. The NYS contains questions regarding four sources of self-esteem: parents, friends, teachers, and people at work. Not all four sources of reflected self-esteem were included across all seven waves of data. Parents are included in all seven waves, friends are included in the first five waves, teachers are included in the first three waves, and people at work are included in wave 5; for clarification, the items are shown in Table A.6 of Appendix A. Eight reflected self-esteem items were reverse coded so that higher scores indicate higher levels of reflected self-esteem. For each source of reflected self-esteem, respondents were asked "I'd like to know how others would describe you. I'll read a list of phrases and for each will ask you to tell me how much you think your (parents/friends/teachers/people at work) would agree with that description of you." The 12 reflected self-esteem indicators were coded (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree); and a total score was created for each source of reflected self-esteem. In addition, a summary measure across the different sources of reflected self-esteem was created in order to capture the respondent's perceived reflected sense of self in general. Given that not all sources of reflected self-esteem were available at each data collection point, each respondent's total score for reflected self-esteem for each source available was summed and then divided by the number of available sources, establishing an average reflected self-esteem score for each youth. Higher scores represent higher levels of an overall evaluation of reflected appraisals, as is the case with the reflected self-esteem scores from specific sources.[17]

Role-Identities

Salience: The importance/salience of each role-identity was captured with a question regarding each. While many identity theorists (e.g., Thoits 1995, p.74) operationalize salience as "the perceived

[17] Crohnbach's alpha: w1 = .92; w2 = .94; w3 = .95; w4 = .93; w5 = .96; w6 = .88; w7 = .88

importance of roles which respondents had indicated were self-descriptive," the data do not permit me to tap identity salience as directly as Thoits (1995). The salience of identities in this dissertation was assessed by a single item regarding each role-identity. Respondents were asked how important the role activities or persons attached to the roles have been to them; the specific questions are shown in Table A.7 of Appendix A. Response categories were coded (1 = not important at all; 2 = not too important; 3 = somewhat important; 4 = pretty important; 5 = very important). For each wave, a salience hierarchy was created based on the importance rankings of each of the role-identities (i.e., family member, friend, student, and worker), and the total importance score was divided by the number of items the respondent answered. In addition, I calculated a more general salience variable in which a proportion score reflects the summed importance across roles divided by the number of role-identities available.

Time Involvement: A final measure regarding investment in role-identities indicates the amount of time spent in the role. According to Stryker (1980) and Stryker and Serpe (1987), persons who are more committed to an identity and who are more likely to invoke it when given the choice should spend more time in the role. The authors have demonstrated this for several roles, including student, athlete, friend, extracurricular participant, and involved person (excluding organizational involvement) (Stryker and Serpe 1994). While the data do not permit me to measure commitment, there is fairly detailed information regarding how much time adolescents spend in various roles. It seems safe to assume the more time a person spends in a role the greater his/her level of commitment to that identity. Detailed information regarding the questions about time spent in each role is shown in Table A.8 in Appendix A. The role-identities of friend, student, and family member include three sets of questions, asking how many afternoons during the week are spent in the role (coded 0-5 days), how many weekday evenings are spent in the role (coded 0-5 days), and how much time is generally spent in this role during the weekends (coded 1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal). A dichotomous variable was used to measure time spent at work; individuals were asked if they spent 10 hours a week or more working at any job (0 = no; 1 = yes). I created a general summary score for the time involved in each role, where higher scores indicate more time spent in the role (again, this variable was computed by dividing the role-identity summary score by the total number of items answered/applicable to the respondent). In addition, I created a broader time-involvement variable that includes the total amount of time spent across roles—this

variable was calculated as a proportion score where the respondent's total time spent involved in roles was divided by the number of roles available. Salience and time variables will be described as role-identity *involvement*, or *investment*, or *embracement*.

Friends' Delinquent Behaviors

Given that some research suggests that adolescents are more likely to engage in delinquent behaviors if their friends have favorable attitudes toward delinquency or engage in delinquency, I examined whether having friends who participate in delinquent activities alters the relationship between identity involvement and delinquent outcomes. Respondents were asked how many of their close friends have engaged in a number of delinquent behaviors (listed in Table A.10 in Appendix A). Five items were available in waves 1-5, and an additional item was included in waves 2-5. First, I dichotomized the response categories for each of these items (0 = none of my close friends; 1 = one or more of my close friends). Then, I constructed a summary score of "friends' delinquent behaviors"; possible scores in waves 1-5 range from 0-5 and in waves 2-5 range from 0-6. Higher scores indicate respondents have close friends engaged in a greater number of delinquent activities.

Sociodemographic Attributes

To control for other potential sources of variation in mental health, demographic variables including the respondent's gender, race/ethnicity, and age were included in all of the analyses. Sex is a dichotomous variable (0 = male; 1 = female). Race/ethnicity was collapsed into three sets of dummy variables due to the limited number of respondents of different races/ethnicities in the sample (dummies indicate whites (the omitted comparison group), blacks, and persons of other racial backgrounds). Age at each interview (measured in years) is an important control variable and is also used in order to conduct supplemental analyses to examine identity processes by age. Given limited information on socioeconomic status across waves, I have not included this control. When this variable is available and entered into the analyses, results are not significantly altered—these results are available upon request.

Role-occupancy: Eleven role-identities are included in this project: friend, social person, athlete, school activities member, club/community participant, student, worker, spouse/girlfriend/boyfriend, family

member, parent, and churchgoer. The occupancy of the total number of role-identities is entered as a control variable in the final set of cross-sectional analyses (where I examine the relationships between the summary score of reflected self-esteem and mental health problems, with the summary variables for salience and time-involvement entered as potential mediators). Role-occupancy was constructed as a dichotomous variable: either the respondent does not occupy the role (0 = no) or occupies the role (1 = yes). Role-identities that were measured across all waves of data include: friend, student, worker, and family member. There were four role-identities measured in the first five waves: social person, athlete, school activities member, and club/community participant. Religious identity was measured in waves 3 through 7, while spouse/girlfriend/boyfriend identity was measured in waves 4 through 7. Finally, the identity of parent was measured in waves 6 and 7. After creating a series of dichotomous variables, summary score was computed for the number of positions an individual held during the time of each survey—this summary measure is based on a calculated proportion score in which I divided the number of identities being occupied by the number of identities available.

It should be noted that these are crude measures of role-identities, given that respondents were not asked whether they define themselves in terms of each of these roles. However, this measure is similar to that used by Thoits (1992), who also found that respondents claimed their roles as identities, with few exceptions. In addition, Thoits (1992) found that when respondents were asked to rate the importance of these identities, the mean ratings of the role-identities indicated that these roles were important to them. The detailed information regarding the controls is shown in Table A.10 in Appendix A.

Analysis Plan

Cross-sectional Analysis Plan and Hypotheses

There are two phases of analyses. In the first phase, I examine the relationships among reflected self-esteem, role-identity involvements, and mental health with the cross-sectional data. Specifically, in each wave taken separately I expect that positive reflected self-esteem from each source (parents, teachers, friends, co-workers) will be negatively correlated with mental health problems (lack of social support, feelings of loneliness, depression, delinquency, and alcohol/drug use):

Hypothesis 1: The more positive reflected self-esteem from parents, teachers, friends, and fellow workers, the lower the respondent's psychological distress—specifically, the higher levels of social support, less feelings of loneliness, less depression, less engagement in delinquency and less use of alcohol and drugs.

Next, I examine whether reflected self-esteem from particular sources is positively associated with the salience of the corresponding role-identity as well as the amount of time spent in that particular role. For example, given my theoretical expectations, perceiving that an individual's parents think well of him/her should be associated with the person feeling that his/her son/daughter identity is relatively important (compared to those sons/daughters with low scores of reflected self-esteem from parents) and should spend more time engaged in activities with his/her family:

Hypothesis 2: The more positive the reflected self-esteem from parents, teachers, friends, and fellow workers, the more salient the corresponding role-identity (family, school, friend, and worker, respectively), and the more time spent in the corresponding role (time with family, time spent studying, time spent with friends, time spent at work, correspondingly).

In turn, the greater salience and more time spent in particular roles/role-identities should correlate with better mental health (i.e., negatively correlate with mental health problems):

Hypothesis 3: The more salient the role-identity (family, school, friends, and work) and the more time spent in the role-identity (time with family, time spent studying, time spent with friends, and time spent at work) the lower the respondent's psychological distress—specifically, the higher levels of social support, less feelings of loneliness, less depression, less engagement in delinquency and less use of alcohol and drugs.

Moving beyond correlational analyses, I examine the relationships between reflected self-esteem from specific sources and mental health within each wave (cross-sectionally) using OLS regression. In these analyses, important social demographic variables are controlled (gender, age, race/ethnicity). A number of expected relationships are tested:

Hypothesis 4a: The more negative his/her reflected self-esteem from parents, teachers, friends, and fellow workers, the more likely the respondent experiences psychological distress (a lack of social support, feelings of loneliness, psychological distress), engages in delinquency and uses alcohol/drugs.

Hypothesis 4b: Among respondents with non-delinquent friends, the more negative his/her reflected self-esteem from friends, the more likely the respondent experiences psychological distress (a lack of social support and feelings of loneliness), engages in delinquency and uses alcohol/drugs. However, among respondents with delinquent friends, there should be a non-significant or negative relationship between reflected self-esteem from friends and perceived lack of social support, loneliness, delinquency, or alcohol/drug use.

Hypothesis 5: The negative relationship between higher levels of reflected self-esteem from parents, teachers, friends, and fellow workers and psychological distress should be mediated by the salience of the corresponding role-identity as well as the time spent in that particular role.

The last set of cross-sectional analyses includes the summary scores of reflected self-esteem, salience, and time spent in roles/role-identities. This set of OLS regression analyses is based on the summary variables described earlier in this chapter:

Hypothesis 6: Negative reflected-self esteem is associated with a greater likelihood of psychological distress (i.e., lack of social support, feelings of loneliness, depression, delinquency, and alcohol/drug use).

Hypothesis 7: Positive reflected self-esteem is related to greater overall embracement of identities (as indicated by salience and time involvement).

Hypothesis 8: The greater the overall embracement of identities (in terms of salience and time involvement), the less likely the respondent will experience psychological distress and engage in delinquency or alcohol and drug use.

Hypothesis 9: The negative relationship between positive reflected self-esteem and psychological distress (i.e., lack of social support, feelings of loneliness, depression, delinquency, and alcohol/drug use) should be mediated by the total salience and time spent in the occupied roles.

In phase 1, I use OLS regression in order to examine the relationships among reflected self-esteem, role-identity involvements, and mental health. To test identities as mediators, role-identity information is entered in the second block of the model examining the effects of reflected self-esteem on mental health. These analyses are run separately for each type of outcome (proxy psychological distress, delinquent behavior, drug and alcohol use). While I emphasize the causal process of reflected self-esteem influencing identities, it is possible that role-identities influence reflected appraisals as well. Given that these analyses are based on the cross-sectional data, I also run 2-stage least squares (2SLS) analyses in order to examine the potential reciprocal relationship between engaging in role-identities and reflected self-esteem. In similar analyses, Thoits and Hewitt (2001) found that role involvement had an effect on self-esteem but not the reverse; however, self-esteem influenced *later* involvement in role-identities. In another study, Thoits (2003) found that self-esteem and role-involvement were not reciprocally related; however, longitudinal analyses showed that self-esteem at time 1 affected role-involvement at time 2, and role-involvement at time 1 affected self-esteem at time 2. Taken together, these findings suggest that involvement in role-identities is likely to influence how persons feel while engaging in those roles (i.e., how they feel during that time), but the way individuals feel about themselves *currently* will have an effect on role-involvement *over the long run*.

Longitudinal Analysis Plan and Hypotheses

In order to better capture the causal relationships among my variables of interest, I take advantage of the panel data. First, I examine the effects of reflected self-esteem at time 1 (T1) and changes in reflected self-esteem from T1 to T2 on changes in mental health by time 2 (T2). Second, I enter the identity variables into the second block of the OLS analyses in order to see if the inclusion of T1 levels of identity embracement plus changes in embracement from T1 to T2 help to explain the effect of reflected appraisals on change in mental health.

As mentioned earlier, the longitudinal analyses are confined to causal effects based on successive sets of data. For example, I examine the effects of changes in reflected self-esteem from T1 to T2 on changes in mental health from T1 to T2; likewise, changes in reflected appraisals from T2 to T3 should influence the change in mental health from T2 to T3.

In the hypotheses listed below, I use T1 and T2 as an example of how I will be examining the longitudinal data from wave to wave. I state the hypotheses more generally here, but I will examine these processes separately by source of reflected self-esteem (parents, teachers, friends, co-workers) first, and then for summed measures of these variables.

The phase 2 hypotheses are:

Hypothesis 10a: The more negative the appraisals from a particular source at T1, and the greater the drop in positive appraisals from a particular source from T1 to T2, the greater the decrease in the salience of that role-identity from T1 to T2; likewise, the more positive the appraisals from a particular source at T1, and the greater the increase in positive appraisals from a particular source from T1 to T2, the larger the increase in the salience of that role-identity from T1 to T2.

Hypothesis 10b: The more negative the appraisals from a particular source at T1, and the greater the drop in negative appraisals from a particular source from T1 to T2, the larger the decrease in time spent in the role from T1 to T2; likewise, more positive appraisals from a particular source at T1, and the greater the increase in positive appraisals from a particular source from T1 to T2, the greater the increase in the time spent in the role from T1 to T2.[18]

Hypothesis 11: The more negative the reflected appraisals at T1, and the greater the drop in positive appraisals from T1 to T2, the bigger the increase in mental and behavioral problems from T1 to T2; likewise, the more positive the reflected appraisals at T1, and the more positive they become from T1 to T2, the fewer mental and behavioral problems at T2.

Hypothesis 12: The effects of reflected self-esteem at T1, and the effects of the changes in reflected self-esteem from T1 to T2 on changes in psychological and behavioral well-being from T1 to T2 will be mediated by the changes in the salience and time spent in a role from T1 to T2.

[18] Results of analyses examining role involvement (i.e., salience and time spent in role) as the independent variable affecting mental health with reflected self-esteem as a potential mediator will also be examined.

The next set of longitudinal analyses take further advantage of the multiple waves of panel data in order to examine whether reflected appraisals at one point in time influence role embracement at a later point in time, and in turn whether role embracement then ultimately influences mental health problems at a later point in time. The following hypotheses use waves 1,2, and 3 as an example of how all relevant waves (i.e., available information for three successive waves) are tested:

> *Hypothesis 13*: Positive reflected self-esteem from a particular source at T1 should positively and significantly affect the salience and time spent in the corresponding role-identity at T2. In turn, higher levels of role embracement at T2 (i.e., salience and time spent in the role) should be positively and significantly affect mental health at T3 (e.g., greater social support but less loneliness, delinquency, and alcohol/drug use).

As the next step in the longitudinal analyses, I examine gender differences in the types of mental health outcomes experienced by boys/men and girls/women. I expect females to experience more psychological problems than males and males to exhibit more delinquency and alcohol and drug use than females in response to lower reflected self-esteem from each source. Thus, I hypothesize:

> *Hypothesis 14*: The negative effects of changes in reflected appraisals on changes in mental health should vary by gender—girls should be more likely than boys to manifest their mental health problems by reporting higher levels of a lack of social support, loneliness, and depression, while boys should be more likely than girls to report problems in terms of delinquency and alcohol/drug use.

The final stage of longitudinal analyses involves exploring the potential moderating effects of race/ethnicity and age. Given the lack of research on racial/ethnic variation as well as age variation in identity processes occurring during adolescence and their relationship to mental health, I do not provide any specific expectations for these interactions.

My goal is to examine the identity processes involved in adolescence in order to gain a better understanding of why some adolescents suffer from psychological and behavioral problems during this period while others are able to avoid these problems. Specifically, I expect reflected self-esteem to play an

influential role in mental health outcomes. In addition, I expect the connection of reflected self-esteem to psychological and behavioral outcomes will be better understood by the inclusion of role-identity involvement into the models. Reflected self-esteem should influence the role-identity process in terms of how important/salient each role is and how much time the individual devotes to the identity. In turn, the effects of identity involvements should sustain or enhance adolescents' well-being. However, friends' conventional or deviant behaviors are expected to moderate the relationships of reflected appraisals and role-identity involvement with delinquency and drug use. Making use of both the cross-sectional and panel data, ultimately, my goal is to advance theory and research on identity and mental health, particularly as it applies to adolescents. Rather than assuming that identity processes for adults operate the same way during adolescence, I empirically examine this process during this earlier stage in the life course and how it unfolds over time. The high prevalence rates of psychological and behavioral problems during the teen years beckon us to answer why it is that this time of life is so difficult for some teens but not for others.

CHAPTER III

CROSS-SECTIONAL RESULTS

Descriptive Statistics of Respondents

Table 1 shows the sociodemographic characteristics along with descriptive information on the key variables of interest for each of the seven waves of data. There are several noteworthy patterns evident in Table 1. First, boys and girls are fairly equally represented across all the waves of data, with slightly more boys than girls present at each wave. In addition, over three quarters of the sample is white, while about 15% of the sample is black, and the remaining persons in the sample (about 6%) are persons from racial/ethnic backgrounds other than white or black. Given that the consecutive waves of data are based on the same set of initial respondents during the first wave, it is no surprise that the mean age of the sample increases by one year up through the fifth wave of data. The mean ages of respondents in the sixth and seventh waves correspond with the three-year gap in data collection between the fifth and sixth wave, and between the sixth and seventh wave. Overall, the mean age of respondents during the first wave is about 14 years old (13.87), and by the last wave of sampling, the mean age of the respondents is 24 years old (23.87).

Table 1 also includes descriptive information on the sources of reflected self-esteem examined in this dissertation; namely, parents, teachers, friends, and coworkers as sources of self-evaluation. Interestingly, respondents have a fairly high sense of reflected self-esteem when the source of the esteem is parents, with average scores ranging from 39.9 to 50.0 across time (scores are somewhat lower for the first two waves because the average scores are based on 11 items, rather than the 12 items used in waves 3 through 7). Surprisingly, and in contrast to some prior research suggesting that parents become less important in children's lives as they enter adolescence and start to rely heavily on their peers (see review by Gecas and Seff 1990), the findings presented here indicate that as a group, parents become an increasingly important source of reflected self-esteem as persons progress through adolescence. Likewise, teachers and friends are also important sources of reflected self-esteem and become increasingly so as adolescents get older. While information regarding the reflected appraisals of coworkers was only gathered during the fifth

wave of data collection, it appears that the people one works with are yet another important source of reflected self-esteem (mean score = 48.6).

Table 3.1. Descriptive Statistics for key variables

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Gender							
Boys	53.2%	53.2%	53.1%	52.2%	53.2%	53.2%	53.2%
Girls	46.8%	46.8%	46.9%	47.8%	46.8%	46.8%	46.8%
Race							
Whites	79.2%	78.9%	79.8%	78.9%	78.9%	78.9%	78.9%
Blacks	14.7%	15.1%	14.7%	15.1%	15.1%	15.1%	15.1%
Persons from other racial backgrounds	6.1%	6.0%	5.5%	6.0%	6.0%	6.0%	6.0%
Age (in years)	13.87	14.87	15.87	16.87	17.87	20.87	23.87
	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)
Reflected Self-esteem: Parents (W1-2: 11-55;	39.94	43.00	47.85	48.08	48.58	49.50	50.02
W3-7: 12-60)[a]	(4.86)	(5.50)	(5.81)	(5.88)	(5.70)	(5.84)	(5.70)
Reflected Self-esteem: Teachers (12-60)	46.53	46.95	47.29	___	___	___	___
	(5.60)	(5.55)	(5.66)				
Reflected Self-esteem: Friends (11-55)	42.71	43.15	43.68	43.97	44.17	___	___
	(5.08)	(4.97)	(5.08)	(5.12)	(5.02)		
Reflected Self-esteem: People at Work (12-60)	___	___	___	___	48.57	___	___
					(5.14)		
Salience of Family (1-4)	3.21	3.21	3.19	3.18	3.18	3.18	3.23
	(.87)	(.87)	(.87)	(.85)	(.86)	(.85)	(.79)
Salience of School (1-4)	3.09	3.10	3.10	___	___	___	___
	(.92)	(.90)	(.91)				
Salience of Friends (1-4)	3.05	3.07	3.05	3.05	3.03	___	___
	(.95)	(.92)	(.96)	(.95)	(.95)		
Salience of Work (1-4)	___	___	___	___	3.21	___	___
					(.91)		
Hours per week Spent with	9.52	9.03	8.74	8.47	7.97	6.82	6.24
Family (0-14)	(3.40)	(3.58)	(3.70)	(3.68)	(3.76)	(4.04)	(4.13)
Hours per week Spent Studying (0-14)	5.77	5.95	5.29	___	___	___	___
	(3.10)	(3.24)	(3.21)				
Hours per week Spent with Friends (0-14)	7.20	7.35	7.50	7.69	8.08	___	___
	(3.40)	(3.42)	(3.51)	(3.49)	(3.51)		
Hours per week Spent at Work	___	___	___	___	20.16	___	___
					(18.45)		

Table 3.1. Cont.

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Lack of Social Support	1.95	1.89	1.85	1.86	1.86	1.88	1.89
(1.00-5.00)	(.47)	(.46)	(.46)	(.44)	(.42)	(.63)	(.68)
Loneliness	2.40	2.24	2.20	2.15	2.15	___	___
(1.00-5.00)	(.55)	(.55)	(.56)	(.51)	(.50)		
Depression	___	___	___	___	___	.96	.99
(0-15)						(2.12)	(2.16)
Delinquency	.14	.11	.12	.10	.09	.05	.05
(.00-1.00)	(.14)	(.12)	(.12)	(.11)	(.10)	(.07)	(.07)
Alcohol/Drug Use	.12	.29	.14	.16	.17	.18	.17
(.00-1.00)	(.17)	(.25)	(.16)	(.15)	(.15)	(.13)	(.12)

Note: Standard deviations are in parentheses, beneath each mean.

[a] Possible ranges in parentheses.

According to my theoretical argument, given that the mean scores of reflected self-esteem, regardless of the source, are quite high, the salience of each role-identity and the average time spent in each role are expected to be correspondingly high as well. In fact, Table 3.1 shows that one's family is quite important across all points of data collection, just slightly less important in waves 3-6 (mean score = 3.18-3.19) compared to the first couple of years (mean score = 3.21) and the final year of data collection (mean score = 3.23). School is also a consistently salient domain in adolescents' lives (mean score 3.09-3.10). In concert with prior research indicating the importance of friends in adolescents lives, Table 3.1 shows that friends remain stably salient across time (mean score ranging from 3.03-3.07). Finally, by the time respondents are reaching later adolescence, work is clearly important in their lives (mean score = 3.21). It is noteworthy that the salience of family is slightly higher on average than is school and friends (though work is similar).

As a group, as respondents get older they spend less time with their families (average time spent with family in wave 1 = 9.52 hours weekly; average time spent with family by wave 7 = 6.24 hours weekly). Interestingly, the amount of time spent studying declines (though, minimally) from wave 1 to wave 3 (from 5.77 to 5.29 hours weekly). As expected, as the sample gets older, on average, time spent with friends outside of school increases (from an average of 7.20 at wave 1 to 8.08 hours weekly by wave 5). Finally, late adolescents are spending an average of 20 hours a week at work (reported at wave 5).

Overall, the descriptive information on reflected self-esteem as well as the salience of role-identities and time spent in roles all indicate that respondents rely heavily on their parents, teachers, peers, and coworkers as sources of information regarding self-worth. Moreover, adolescents generally perceive these aforementioned groups to be important in their lives and tend to spend a fair amount of time engaging in activities associated with each of these roles.

Table 3.1 also contains descriptive information regarding the key dependent variables of interest in this dissertation: social support, loneliness, depression, delinquency, and alcohol/drug use. As shown in the last set of rows of Table 3.1, persons generally perceive a strong sense of social support (higher mean scores indicate the lack of social support), though there is a slight tendency to feel a greater sense of social support once the group of respondents have all transitioned from childhood to adolescence (mean score of social support at wave 1 = 1.95, mean score for waves 2 through 7 ranges from 1.85-1.89). Likewise, on

average, adolescents tend to feel less lonely as they get older. For example, when the average age of the sample is 14 (wave 1), the average score for loneliness is 2.40; by the time the mean age of the sample is 18 (wave 5), the mean score for loneliness is 2.15. Depression items were assessed during the final two waves of data collection; on average, persons tended not to report many symptoms of depression within their lifetime (wave 6)/ past two years (wave 7) (mean scores = .96 and .99, respectively). At the same time, most respondents (across the ten years of data collection) have not engaged in delinquent acts (average scores range from .05-.14), and average scores of drinking and/or drug use tend to be quite low (mean scores ranging from .12 to .29). Please note that these scores are proportions based on the total number of delinquent acts committed divided by the total number of items answered by the respondent (this is also true with the alcohol/drug use variable). At the same time, Table 3.1 indicates that there is slightly more delinquent activity when adolescents are in their mid-teenager years, average ages from 14-18 (waves 1-5), while alcohol/drug use is most prevalent at wave 2 (mean age = 15), but remains stably present into early adulthood (average mean score for alcohol/drug use for waves 3-7 = .14-.18).

Correlations of Reflected Self-Esteem, Mental Health, the Salience of Roles, and the Amount of Time Spent in Roles

Tables 3.2, 3.3, and 3.4 present the correlations of key variables as a first step in assessing the relationship between reflected self-esteem and mental health as well as assessing the associations between *specific* sources of reflected self-esteem and the salience of role relationships and the amount of time spent in these roles. From a quick glance at Table 3.2, it is clear that reflected evaluations of self are consistently and negatively related to indicators of poor mental health, irrespective of the specific source of reflected self-esteem or the particular mental health outcome. In other words, higher levels of reflected self-esteem from parents, teachers, friends, and coworkers are associated with higher levels of social support, lower levels of loneliness, and lower levels of delinquency and alcohol/drug use as well as lower levels of depressive symptoms. These correlations are in line with theoretical expectations and support my first hypothesis.

Table 3.2. Correlations of Sources of Reflected Self-Esteem with Mental Health Outcomes

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
RSE Parents and Low Social Support	-.51***	-.58***	-.62***	-.63***	-.62***	-.39***	-.34***
RSE Parents and Loneliness	-.46***	-.52***	-.55***	-.50***	-.52***	---	---
RSE Parents and Delinquency	-.34***	-.40***	-.42***	-.41***	-.38***	-.34***	-.32***
RSE Parents and Alcohol/Drug Use	-.21***	-.15***	-.30***	-.36***	-.36***	-.33***	-.32***
RSE Parents and Depression	---	---	---	---	---	-.18***	-.20***
RSE Teachers and Low Social Support	-.45***	-.48***	-.51***	---	---	---	---
RSE Teachers and Loneliness	-.43***	-.50***	-.49***	---	---	---	---
RSE Teachers and Delinquency	-.42***	-.41***	-.45***	---	---	---	---
RSE Teachers and Alcohol/Drug Use	-.27***	-.16***	-.33***	---	---	---	---
RSE Friends and Low Social Support	-.50***	-.54***	-.56***	-.57***	-.58***	---	---
RSE Friends and Loneliness	-.45***	-.51***	-.54***	-.50***	-.51***	---	---
RSE Friends and Delinquency	-.38***	-.40***	-.43***	-.43***	-.40***	---	---
RSE Friends and Alcohol/Drug Use	-.25***	-.15***	-.30***	-.37***	-.36***	---	---
RSE Work and Low Social Support	---	---	---	---	-.57***	---	---
RSE Work and Loneliness	---	---	---	---	-.51***	---	---
RSE Work and Delinquency	---	---	---	---	-.38***	---	---
RSE Work and Alcohol/Drug Use	---	---	---	---	-.34***	---	---

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Next, I examined the associations between my main independent variable—reflected self-esteem—and both the salience of the role-identity and the time spent in the role. As shown in Table 3.3, higher levels of reflected self-esteem are correlated with greater importance of the corresponding role-identity and more time spent in that role, (with one major exception). In other words, persons with higher reflected self-appraisals from parents perceive their family role as more important and spend more time with their family. Likewise, higher levels of reflected self-esteem from teachers are related to greater importance placed on school and more time spent studying. In addition, reflected self-esteem of coworkers is positively correlated with the salience of work in respondent's lives (r = .10), although this source of reflected self-esteem is not significantly related to time spent at work. This is understandable given that teens are likely to have fairly structured work hours (i.e., a schedule) and probably have less discretion over increasing or decreasing hours spent at work compared to other, more flexible, social roles. Finally,

reflected self-evaluation from friends is positively associated with the importance of friends. However, counter to expectations, reflected self-esteem from friends is *negatively* associated with the amount of time individuals spend with their friends, as indicated in bold in Table 3.3. Alternatively, lower perceived self-evaluation from friends is correlated with more time spent with friends. This finding is counterintuitive and warrants further consideration (see below), but first let me turn to the correlations presented in Table 3.4.

Table 3.3. Correlations of Sources of Reflected Self-Esteem with Salience of the Role-Identity, and Time Spent in the Role

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
RSE Parents and Salience of Family	.20***	.28***	.28***	.32***	.33***	.35***	.33***
RSE Parents and Time Spent with Family	.15***	.21***	.20***	.17***	.16***	.15***	.07^{+}
RSE Teachers and Salience of School	.26***	.33***	.31***	---	---	---	---
RSE Teachers and Time Spent Studying	.20***	.22***	.26***	---	---	---	---
RSE Friends and Salience of Friends	.10***	.12***	.15***	.15***	.14***	---	---
RSE Friends and Time Spent with Friends	-.10***	-.11***	-.08**	-.09***	-.07**	---	---
RSE Work and Salience of Job	---	---	---	---	.10***	---	---
RSE Work and Time Spent at Job	---	---	---	---	-.03	---	---

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Table 3.4 shows the associations between the salience of social roles, the time spent in role relationships, and mental health. The first set of rows illustrates the relationship between these aforementioned variables regarding the family domain. Salience of family and the amount of time spent with family are positively and consistently (across all waves) related to perceived social support, less loneliness, less delinquency, and less alcohol/drug use, as well as lower levels of depressive symptoms. The next set of rows shows the same correlations as above for the domain of school. Paralleling the findings on family, the more importance placed on school and the greater amount of time spent studying, the more perceived social support, less loneliness, and the less delinquency and alcohol/drug use. Findings on work (indicated in the last set of rows in Table 3.4) are not as consistent as the above set of correlations. While the salience of one's job is significantly associated with higher levels of social support, less loneliness, and less delinquency, there is no significant relationship between the importance of work and alcohol/drug use. Moreover, the amount of time spent at work is not significantly related to any of the

mental health outcomes, with the exception of alcohol/drug use—where time spent at work is positively associated with drinking/using drugs (r = .21). This finding is consistent with work in the adult literature (e.g., see Thoits 1992).

Table 3.4. Correlations of Salience of the Role-Identity and Time Spent in the Role with Mental Health Outcomes

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Salience of Family and Low Social Support	-.26***	-.31***	-.34***	-.40***	-.37***	-.47***	-.50***
Time Spent with Family and Low Social Support	-.17***	-.23***	-.18***	-.19***	-.15***	-.15***	-.09*
Salience of Family and Loneliness	-.13***	-.16***	-.19***	-.24***	-.18***	---	---
Time Spent with Family and Loneliness	-.08***	-.16***	-.12***	-.13***	-.10***	---	---
Salience of Family and Delinquency	-.20***	-.25***	-.25***	-.23***	-.22***	-.19***	-.07+
Time Spent with Family and Delinquency	-.24***	-.25***	-.26***	-.22***	-.19***	-.16***	-.14***
Salience of Family and Alcohol/Drug Use	-.19***	-.13***	-.23***	-.24***	-.26***	-.21***	-.14***
Time Spent with Family and Alcohol/Drug Use	-.29***	-.19***	-.33***	-.31***	-.30***	-.24***	-.10*
Salience of Family and Depression	---	---	---	---	---	-.10***	-.07+
Time Spent with Family and Depression	---	---	---	---	---	-.05	-.07+
Salience of School and Low Social Support	-.13***	-.18***	-.21***	---	---	---	---
Time Spent Studying and Low Social Support	-.09***	-.14***	-.20***	---	---	---	---
Salience of School and Loneliness	-.12***	-.17***	-.18***	---	---	---	---
Time Spent Studying and Loneliness	-.08**	-.13***	-.14***	---	---	---	---
Salience of School and Delinquency	-.29***	-.33***	-.36***	---	---	---	---
Time Spent Studying and Delinquency	-.24***	-.26***	-.29***	---		---	---
Salience of School and Alcohol/Drug Use	-.29***	-.17***	-.27***	---	---	---	---
Time Spent Studying and Alcohol/Drug Use	-.22***	-.12***	-.21***	---	---	---	---
Salience of Friends and Low Social Support	-.11***	-.15***	-.20***	-.19***	-.19***	---	---
Time Spent with Friends and Low Social Support	-.03	-.02	-.02	-.02	-.06*	---	---
Salience of Friends and Loneliness	-.07**	-.09***	-.15***	-.12***	-.13***	---	---
Time Spent with Friends and Loneliness	.04	.02	-.01	-.01	-.04	---	---
Salience of Friends and Delinquency	-.07**	-.09***	-.06*	-.06*	-.02	---	---
Time Spent with Friends and Delinquency	.25***	.23***	.27***	.27***	.25***	---	---
Salience of Friends and Alcohol/Drug Use	-.06**	-.02	-.11***	-.10***	-.08**	---	---
Time Spent with Friends and Alcohol/Drug Use	.20***	.16***	.27***	.27***	.22***	---	---
Salience of Work and Low Social Support	---	---	---	---	-.10***	---	---
Time Spent at Work and Low Social Support	---	---	---	---	.03	---	---
Salience of Work and Loneliness	---	---	---	---	-.13***	---	---
Time Spent at Work and Loneliness	---	---	---	---	-.03	---	---
Salience of Work and Delinquency	---	---	---	---	-.06*	---	---
Time Spent at Work and Delinquency	---	---	---	---	.00	---	---
Salience of Work and Alcohol/Drug Use	---	---	---	---	.04	---	---
Time Spent at Work and Alcohol/Drug Use	---	---	---	---	.21***	---	---

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Turning to the friendship domain, consistent with the findings for the other role domains, the importance of friends is negatively associated with lack of social support, loneliness, delinquency and alcohol/drug use. However, the unexpected findings regarding friends that were reported above (i.e., the negative association between reflected self-esteem from friends and the amount of time spent with friends [shown in Table 3.3]), present themselves once again in the findings on the relationship between salience, time spent in the role, and mental health (shown in the third set of rows in Table 3.4). On the whole, the

amount of time spent with friends is not significantly associated with perceived social support or loneliness. Yet, it is noteworthy that the associations between time spent with friends and participation in delinquent activities and alcohol/drug use are positive and significant.

Overall, the findings presented in Tables 3.3 and 3.4 support my expectations that: 1) reflected self-esteem should be positively associated with mental health; 2) when dissecting the specific source of reflected self-esteem, reflected self-esteem should be related both to the salience of the role-identity and time spent in the role; and, 3) the importance of the role-identity and the time spent in the role should be positively correlated with mental health. However, the findings regarding the friendship domain (reported above) are noticeably inconsistent with those for the other domains examined. Adolescents who have a relatively high sense of reflected self-esteem from friends do not spend more time with their friends even though they do, in fact, view their friends as more important. Moreover, perhaps not surprisingly, the more time spent with friends, the more likely adolescents are to engage in delinquent acts and use alcohol/drugs. These patterns suggest that even though one's friends play an important role in providing a sense of self-worth, adolescents' time spent with friends may be limited by their parents if friends are engaging in deviant activities.

At this point, I turn to the results of a series of exploratory analyses that help make sense of the unusual findings regarding the role of friends. Two different sets of analyses were conducted. First, I checked to see whether the negative relationship between reflected self-esteem from friends and the amount of time spent with friends would still hold once I controlled for key social status variables (i.e., age, gender, and race/ethnicity). In regression analyses (not shown), when I controlled for these sociodemographic characteristics, persons with a relatively high sense of reflected self-esteem from friends were still significantly more likely to spend less time with their friends compared to individuals with a relatively lower sense of reflected self-esteem from friends. The results indicate that the initial correlations between reflected self-esteem and time spent with friends cannot be attributed to variation in age, gender, or race/ethnicity. Given that friends are highly influential in adolescents' lives, I next examined whether the perplexing relationship between reflected self-esteem from friends and time spent with friends differed depending on whether one's friends engage in delinquent activities. If teens have friends who are delinquent, parents may be much less likely to allow their children to spend time with them compared to

those youth whose friends are not delinquent. If this is the case, then we should see that among teens with delinquent friends there is a negative relationship between reflected self-esteem from friends and the time spent in the role. In contrast, among adolescents whose friends are not delinquent, reflected self-esteem from friends should be positively related to the amount of time spent with friends. The results of these latter analyses are shown in Table 3.5.

Regression Analyses

Table 3.5 reports the results of regression analyses of the amount of time spent with friends regressed on reflected self-esteem from friends, for respondents who do and do not have delinquent friends (refer back to Table A.9 of Appendix A for the items used in the constructed "friends' delinquency" variable).[19] With the exception of the first wave of data (when respondents are younger on average), the relationship between reflected self-esteem from friends and the amount of time spent with friends differs according to whether the respondent's friends are delinquent. As indicated in the first row of Table 3.5, there is no significant relationship between reflected self-esteem from friends and the amount of time spent with friends among those teens whose friends are not delinquent (in waves 2-4). Moreover, by wave 5 (when respondents are older on average) there is a modest positive relationship, indicating that for persons with non-delinquent friends higher levels of reflected self-esteem from friends is significantly related to more time spent with these persons. In contrast, among individuals with delinquent friends there is a significant negative relationship between reflected self-esteem from friends and time spent with friends, and this pattern is consistent across all five waves. Taken together, the results shown in Table 3.5 clearly indicate that the relationship between reflected self-esteem and time spent is contingent on the kinds of friends individuals have. Among adolescents with delinquent friends, parents may restrict their children's time with friends. At the same time, perhaps, reflected self-esteem is not (for the most part) positively related to time spent with friends among those with non-delinquent friends due to the limited amount of time adolescents spend "hanging out" with their friends outside of fairly structured activities (e.g., school, athletics, extra-curricular activities). Overall, these findings suggest the importance of including friends'

[19] Standardized coefficients are reported in all of the tables based on the cross-sectional OLS regression analyses. Please refer to Appendix B for the corresponding tables showing the unstandardized coefficients and standard errors.

behaviors in the analyses when examining the relationship between reflected self-esteem from friends and mental health in general. Therefore, when I turn to the final set of cross-sectional analyses, where the entire theoretical model is examined, I conduct separate analyses for the "friends" domain depending on whether the respondent has delinquent friends.

Table 3.5. Time Spent with Friends Regressed on Reflected Self-Esteem from Friends by Whether Friends are Non-Delinquent or Delinquent[1,2]

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
R has no Delinquent Friends	-.10*	-.04	.05	.03	.08+
N	474	484	497	519	543
R has Delinquent Friends	-.06+	-.08**	-.09**	-.09**	-.09**
N	984	901	998	907	837

p < .10 +; p < .05*; p < .01**; p < .001***

[1] Standardized coefficients.
[2] Age, Gender, and Race/Ethnicity are controlled in all models.

The analyses reported in Tables 3.6, 3.7, 3.8, 3.9, and 3.10 are reported by the specific mental health outcome variable—lack of social support, loneliness, delinquency, alcohol/drug use, and depression, respectively. Respondent's gender, race/ethnicity, and age are controlled in all of the models but not shown (to conserve space). Model 1 includes only the reflected self-esteem variable (with controls), while Model 2 includes the potential mediating variables of salience of the role-identity and time spent in the role. A number of patterns are evident in Tables 3.6-3.10.

Please note that in Table 3.6, positive coefficients signify a *lack* of social support, while negative coefficients represent higher levels of social support. As illustrated in each Model 1 of Table 3.6, reflected self-esteem from parents is negatively associated with mental health problems in all seven waves. In other words, higher levels of reflected self-evaluations from parents are associated with higher levels of perceived social support. Contrary to expectations, each Model 2 indicates that the salience of the role-identity and the time spent in the role do not act as mediators in the relationship between reflected self-esteem from parents and social support. Rather, the relationship between reflected self-esteem and social support remains significant and negative when salience and time spent in the role are entered in each model 2. While it was expected that the more salient the family role-identity and the more time spent in activities

with one's family the higher the level of social support, these results are not consistent across time. For instance, the more important one's family, the more social support one reports; however, time spent with one's family is only significantly related to higher levels of social support at waves 1 and 2, but is not significantly related to social support in waves 3 through 7. While this finding is unexpected, it does make some sense given that as the sample of respondents gets older (on average), respondents are more likely to have more activities and roles across which they divide their time and energy making it more likely that they simply have less total time to devote to family activities, despite the continuing importance of their families to them.

Table 3.6. Standardized Coefficients of OLS Regression Analyses of Lack of Social Support Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(2)	(2)
RSE from Parents	-.50***	-.46***	-.56***	-.50***	-.62***	-.56***	-.62***	-.55***	-.61***	-.55***	-.41***	-.29***	-.45***	-.33***
Salience of Family	---	-.15***	---	-.14***	---	-.19***	---	-.21***	---	-.19***	---	-.36***	---	-.38***
Time Spent with Family	---	-.06**	---	-.08***	---	-.01	---	-.03	---	-.00	---	-.01	---	.01
Adjusted R^2	.269	.297	.343	.373	.391	.425	.409	.453	.404	.436	.199	.312	.216	.342
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	-.44***	-.43***	-.46***	-.44***	-.51***	-.49***	---	---	---	---	---	---	---	---
Salience of School	---	-.05+	---	-.02	---	-.06*	---	---	---	---	---	---	---	---
Time Spent Studying	---	.01	---	-.05*	---	-.05*	---	---	---	---	---	---	---	---
Adjusted R^2	.21	.21	.240	.242	.263	.269	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	-.51***	-.51***	-.55***	-.55***	-.65***	-.64***	-.59***	-.59***	-.62***	-.60***	---	---	---	---
Salience of Friends	---	-.09*	---	-.10**	---	-.08*	---	-.04	---	-.05	---	---	---	---
Time Spent w/ Friends	---	-.07+	---	-.08*	---	-.04	---	-.07*	---	-.12***	---	---	---	---
Adjusted R^2	.264	.275	.299	.315	.420	.426	.373	.379	.397	.414	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	-.45***	-.45***	-.46***	-.46***	-.50***	-.49***	-.53***	-.52***	-.49***	-.48***	---	---	---	---
Salience of Friends	---	-.03	---	-.06*	---	-.13***	---	-.12***	---	-.12***	---	---	---	---
Time Spent w/ Friends	---	-.07**	---	-.08**	---	-.04	---	-.05+	---	-.06*	---	---	---	---
Adjusted R^2	.233	.238	.240	.248	.252	.269	.292	.309	.242	.261	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table 3.6. Cont.

RSE from Workers	---	---	---	---	---	---	---	---	-.56***	-.55***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	-.06*	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	.05+	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.329	.332	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

[a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Turning to the results on school and social support, Table 3.6 shows that in general, higher levels of reflected self-esteem from teachers are associated with higher levels of perceived support across the three waves, and, in general, the importance of school and the amount of time spent studying is associated with higher levels of social support (with the exceptions of a non-significant relationship between salience and social support at wave 2, and, a non-significant relationship between time spent in the role and social support at wave 1). Again, school salience and time in school activities does not mediate the association between reflected self-esteem and perceived support.

As noted above, the analyses for friends are based on whether the respondent's friends are delinquent or not. Consistent with the findings for family and school, for both respondents with non-delinquent and delinquent friends, reflected self-esteem from friends is significantly related to higher levels of perceived support. Among teens whose friends are not delinquent, the importance of friends is significantly and positively associated with perceived support in the first three waves of data collection; however, this relationship is no longer significant in waves 4 and 5. Also, among this group, the amount of time spent with friends is significantly related to higher levels of social support (with the exception of wave 3, where the relationship does not reach significance). Turning to the results for respondents with delinquent friends, the salience of friends is significantly related to higher levels of social support (with the exception of the non-significant relationship at wave 1), and time spent with friends is also related to higher levels of social support (although, this relationship fails to reach significance at wave 4). Thus, despite existing differences in the relationship between reflected self-esteem from friends and time spent with friends between adolescents with delinquent and non-delinquent friends, the same general patterns emerge regarding the relationship between reflected self-esteem, salience of role-identities, and time spent in roles and mental health problems regardless of whether the respondent has delinquent or non-delinquent friends. For teens with and without delinquent friends, friend salience and time spent with friends do not mediate the self-esteem-support association.

Finally, Table 3.6 presents the results for the work domain. As shown, reflected self-esteem from people at work is significantly and positively related to social support, whereby, persons with higher levels of reflected self-esteem from people at work are significantly less likely to lack social support. In addition, the more important one's work, the more social support reported; at the same time, the more time one

spends at work, the less he/she perceives having social support. This latter finding is inconsistent with expectations regarding the benefits of role involvement on mental health.

Moving to Table 3.7, the same analyses as discussed above are presented for the mental health outcome of loneliness. For all sources of reflected self-esteem, there is a negative and significant association with loneliness across all available waves of data—higher levels of reflected self esteem from parents, teachers, friends, and co-workers are significantly related to lower levels of loneliness. As was the case for lack of social support, the salience of each role-identity and the time spent in each role are not consistently negatively related to loneliness and do not act as mediators in the relationship between reflected self-esteem and loneliness in any role domain, even when teens with delinquent and conventional friends are analyzed separately. Note that role investments are more consistently related to a lack of social support (shown in Table 3.6) than to loneliness (shown in Table 3.7). To this point, it appears that the identity process may have less of an effect on feelings of loneliness than on one's sense of social support, though this conclusion awaits longitudinal analyses.

Table 3.7. Standardized Coefficients of OLS Regression Analyses of Loneliness Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	-.45***	-.44***	-.52***	-.51***	-.56***	-.54***	-.51***	-.48***	-.52***	-.52***
Salience of Family	---	-.04	---	.00	---	-.05+	---	-.09***	---	-.01
Time Spent with Family	---	-.02	---	-.05*	---	.01	---	-.01	---	.01
Adjusted R^2	.219	.220	.277	.279	.306	.307	.256	.262	.278	.277
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250
RSE from Teachers	-.43***	-.41***	-.50***	-.49***	-.49***	-.48***	---	---	---	---
Salience of School	---	-.04+	---	-.00	---	-.05+	---	---	---	---
Time Spent Studying	---	.01	---	-.04	---	.01	---	---	---	---
Adjusted R^2	.193	.193	.250	.250	.240	.240	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495				
R w/Non-Del Friends:										
RSE from Friends	-.45***	-.44***	-.50***	-.50***	-.61***	-.61***	-.51***	-.51***	-.58***	-.57***
Salience of Friends	---	-.05	---	-.09*	---	-.02	---	-.01	---	-.06
Time Spent with Friends	---	.05	---	-.04	---	-.07+	---	-.07+	---	-.02
Adjusted R^2	.216	.217	.249	.257	.371	.373	.260	.263	.329	.331
(N)	474	474	484	484	497	497	519	519	543	543
R w/Del Friends:										
RSE from Friends	-.41***	-.41***	-.45***	-.45***	-.47***	-.47***	-.51***	-.50***	-.43***	-.44***
Salience of Friends	---	-.00	---	-.01	---	-.06*	---	-.04	---	-.03
Time Spent with Friends	---	-.02	---	-.05	---	-.04	---	-.04	---	-.10**
Adjusted R^2	.177	.176	.203	.203	.216	.220	.248	.250	.180	.189
(N)	984	984	901	901	997	997	907	907	837	837
RSE from Workers	---	---	---	---	---	---	---	---	-.51***	-.51***
Salience of Work	---	---	---	---	---	---	---	---	---	-.07**
Time Spent at Work	---	---	---	---	---	---	---	---	---	-.04
Adjusted R^2	---	---	---	---	---	---	---	---	.261	.267
(N)									1076	1076

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

[a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table 3.8 presents results for the outcome of delinquency. Persons reporting higher levels of reflected self-esteem from parents, teachers, friends, and co-workers are significantly and consistently less likely to engage in delinquent acts than those peers who report lower levels of reflected self-esteem. Again, salience of the role-identity and time spent in the role do not mediate the relationship between reflected self-esteem and delinquency in any domain. However, there are still a number of important findings regarding the salience and time spent in the role and delinquent activities.

Table 3.8. Standardized Coefficients of OLS Regression Analyses of Delinquency Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(2)	(2)
RSE from Parents	-.33***	-.30***	-.38***	-.33***	-.39***	-.34***	-.39***	-.35***	-.35***	-.31***	-.33***	-.30***	-.29***	-.31***
Salience of Family	---	-.08***	---	-.08***	---	-.10***	---	-.05*	---	-.06*	---	-.04	---	.06+
Time Spent with Family	---	-.13***	---	-.11***	---	-.12***	---	-.13***	---	-.11***	---	-.09**	---	.10**
Adjusted R^2	.207	.234	.210	.236	.232	.259	.202	.222	.177	.193	.191	.198	.151	.160
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	-.39***	-.34***	-.38***	-.31***	-.41***	-.34***	---	---	---	---	---	---	---	---
Salience of School	---	-.13***	---	-.15***	---	-.18***	---	---	---	---	---	---	---	---
Time Spent Studying	---	-.09***	---	-.09***	---	-.08***	---	---	---	---	---	---	---	---
Adjusted R^2	.237	.264	.219	.251	.248	.290	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	-.23***	-.21***	-.18***	-.17***	-.14***	-.15***	-.17***	-.17***	-.22***	-.23***	---	---	---	---
Salience of Friends	---	-.06	---	-.04	---	-.02	---	-.02	---	-.01	---	---	---	---
Time Spent w/ Friends	---	.10*	---	.15***	---	.16***	---	.15***	---	.20***	---	---	---	---
Adjusted R^2	.123	.131	.059	.076	.048	.067	.030	.049	.046	.081	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	-.34***	-.32***	-.39***	-.37***	-.42***	-.39***	-.42***	-.39***	-.37***	-.35***	---	---	---	---
Salience of Friends	---	-.02	---	-.03	---	-.01	---	-.03	---	-.04	---	---	---	---
Time Spent w/ Friends	---	.22***	---	.16***	---	.24***	---	.24***	---	.22***	---	---	---	---
Adjusted R^2	.216	.259	.209	.230	.225	.278	.217	.271	.193	.237	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table 3.8. Cont.

RSE from Workers	---	---	---	---	---	---	---	---	-.33***	-.33***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	-.02	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	-.02	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.189	.189	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

[a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Within the family domain, the salience of family is significantly related to less delinquency when respondents are younger (on average), but this significant relationship disappears as teens become increasingly older (waves 4 through 7). This set of findings suggests that the importance of one's family does not continue to detract from the likelihood of engaging in delinquency as adolescents approach their later teen years. However, the amount of time one spends engaging in family activities is consistently related to less delinquency (across all waves of data collection), a finding consistent with Hirschi's argument on the importance of social bonds in deterring delinquency (Hirschi 1969).

The school domain also plays a key role in relation to delinquency. Persons who report school as a salient part of their lives, as well as those who spend relatively more time studying, are less likely to engage in delinquency than those teens who view school as less salient and who spend less time studying, respectively, again consistent with Hirschi (1969) regarding the argument that commitment to conventional activities should be associated with less delinquent activity.

Regardless of whether one's friends are delinquent or not, the salience of one's friends is generally not significantly related to whether one is delinquent. However, the more time individuals spend with their friends the higher the likelihood of delinquency—regardless of whether their friends are delinquent or not. That is, the more time spent with friends, the more likely teens are to commit delinquent acts (with one exception—a nonsignificant association at wave 1 when the respondents are on average 14 years old).

Finally, while it is the case that higher levels of reflected self-esteem from co-workers are associated with less delinquency, the salience of work and the time spent working are not significantly related to whether one engages in delinquent acts.

In sum, the findings shown in Table 3.8 indicate the importance of perceived positive evaluations of self from others in determining whether one engages in delinquent activities (of course, longitudinal analyses are needed to test this causal argument). In addition, salience and time spent in roles are generally negatively associated with the likelihood of delinquency, though within the friendship domain, time spent with friends encourages the likelihood of committing delinquent acts (in contrast to time spent in other role domains, which detracts from the likelihood of being delinquent).

Table 3.9 presents the results for alcohol/drug use. As is the case with the outcomes mentioned thus far, reflected self-esteem from parents, teachers, friends, and co-workers is negatively and consistently

associated with using alcohol/drugs across all seven waves. In addition, neither the salience of the role-identity nor the amount of time spent in the role mediate the relationship between reflected self-esteem and the use of alcohol/drugs at any time point. At the same time, respondents who report that their families are important and who spend more time with their families report significantly less use of alcohol/drugs than do their peers who see their families as less important and who spend less time in family activities, respectively. As is the case with delinquency, school plays an important role regarding the likelihood of adolescents' alcohol/drug use. Individuals who report that school is salient are significantly less likely to use drugs/alcohol. Likewise, persons who spend more time studying are less likely to engage in alcohol/drug use (with the exception of a non-significant relationship at wave 2). Among persons with non-delinquent friends, the salience of friends is unrelated to alcohol/drug use; however, the more time spent with friends, the more alcohol/drug use (with the exception of a non-significant relationship at wave 1). The findings are somewhat different among respondents with delinquent friends. As shown in Table 3.9, those respondents who evaluate their friends as relatively more important use alcohol/drugs less than individuals who perceive their friends as less important (with the exception of a non-significant relationship at wave 2). In addition, respondents who spend more time with their delinquent friends are significantly more likely to drink and/or use drugs. Finally, persons who report that their work is salient are more likely to use alcohol/drugs, and those individuals who spend more time at work are also more likely to engage in alcohol/drug use compared to those who find their work less important and spend less time at work, respectively—again, a finding that is inconsistent with my guiding hypotheses but consistent with the adult literature (e.g., Thoits 1992). In general, the findings on alcohol and drug use (shown in Table 3.9) indicate that—similar to the lack of social support, loneliness, and delinquency—higher levels of alcohol/drug use are associated with lower levels of reflected self-esteem. Also, while the importance of and time spent with family and school mostly act as deterrents from alcohol and drug use, hours spent with friends and at work are positively related to an increased likelihood of engaging in these behaviors. It is noteworthy that among respondents whose friends are delinquent, salience of friends is significantly and negatively related to alcohol and drug use (at least when adolescents are in their later teen years on average, illustrated in waves 3-6 in Table 3.9).

Table 3.9. Standardized Coefficients of OLS Regression Analyses of Alcohol/Drug Use Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(2)	(2)
RSE from Parents	-.24***	-.20***	-.15***	-.12***	-.30***	-.24***	-.37***	-.32***	-.35***	-.30***	-.35***	-.31***	-.36***	-.36***
Salience of Family	---	-.05*	---	-.02	---	-.07**	---	-.06*	---	-.07**	---	-.07*	---	-.02
Time Spent with Family	---	-.16***	---	-.11***	---	-.18***	---	-.16***	---	-.15***	---	-.15***	---	-.02
Adjusted R^2	.280	.309	.055	.067	.201	.239	.213	.242	.191	.219	.162	.185	.156	.154
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	-.28***	-.24***	-.16***	-.13***	-.33***	-.28***	---	---	---	---	---	---	---	---
Salience of School	---	-.10***	---	-.08**	---	-.12***	---	---	---	---	---	---	---	---
Time Spent Studying	---	-.09***	---	-.04	---	-.06*	---	---	---	---	---	---	---	---
Adjusted R^2	.296	.316	.053	.060	.205	.223	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	-.19***	-.18***	-.06	-.06	-.13**	-.13**	-.25***	-.25***	-.29***	-.29***	---	---	---	---
Salience of Friends	---	-.06	---	-.01	---	-.07	---	-.03	---	-.03	---	---	---	---
Time Spent w/ Friends	---	.05	---	.12**	---	.19***	---	.10*	---	.14***	---	---	---	---
Adjusted R^2	.276	.277	.015	.026	.105	.134	.204	.210	.146	.161	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	-.24***	-.23***	-.17***	-.16***	-.30***	-.27***	-.39***	-.36***	-.38***	-.35***	---	---	---	---
Salience of Friends	---	-.04+	---	.01	---	-.06*	---	-.07*	---	-.05+	---	---	---	---
Time Spent w/ Friends	---	.16***	---	.12***	---	.22***	---	.23***	---	.20***	---	---	---	---
Adjusted R^2	.306	.330	.074	.085	.200	.246	.219	.270	.186	.222	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table 3.9. Cont.

RSE from Workers	---	---	---	---	---	---	---	---	-.35***	-.35***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	.06*	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	.07*	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.144	.151	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

[a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

The final cross-sectional analyses in Table 3.10 report the results of regression analyses of depression on reflected self-esteem only at waves 6 and 7. Recall that in the final two waves of data collection respondents were asked reflected self-esteem questions only about the family domain. As shown in Table 3.10, reflected self-esteem from parents is significantly and negatively associated with depressive symptoms. However, the salience of one's family and the time spent with one's family do not mediate this relationship. In fact, salience and time are unrelated to depression (with one exception: there is a weak negative relationship between the amount of time spent in family activities and depressive symptoms at wave 7).

Table 3.10. Standardized Coefficients of OLS Regression Analyses of Depression Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 6		Wave 7	
	(1)	(2)	(1)	(2)
RSE from Parents	-.21***	-.19***	-.24***	-.23***
Salience of Family	---	-.05	---	-.01
Time Spent with Family	---	-.02	---	-.07+
Adjusted R^2	.063	.064	.080	.082
(N)	1015	1015	659	659

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

In sum, the results presented in Tables 3.6-3.10 indicate the key role of reflected self-esteem in mental health (as measured in terms of perceived lack of social support, loneliness, delinquency, drug/alcohol use, and depression). Regardless of source, higher self-appraisals of worth are associated with better mental health, consistent with Hypothesis 4a. However, Hypothesis 4b is not fully supported, given that regardless of whether or not one's friends are delinquent, higher levels of reflected self-esteem from friends are related to a greater likelihood of experiencing mental well-being. Contrary to Hypothesis 5, neither the salience of the role nor the time spent in the role act as mediators in the relationship between reflected self-esteem and mental health. In fact, there is no instance in the analyses where the significant, negative relationship between reflected self-esteem and mental health problems is substantially reduced or goes to nonsignificance (or modified in any way). At the same time, the findings indicate that while not entirely consistent across waves or roles, the salience of the role-identity and the amount of time spent in each role have independent although generally far weaker effects on mental health (again, consistent with Hypothesis 3).

Given that my initial hypothesis regarding the mediating effects of salience and time spent in the role was not supported, a couple of follow-up points are noteworthy. First, I explored the possibility that my theoretical model needed to be altered. Perhaps reflected self-esteem mediates the effects of role involvement on well-being rather than the reverse. Exploratory analyses examining this possibility revealed that in general reflected self-esteem does not intervene in the relationships of salience and time with psychological symptoms (results shown in Appendix C). Therefore, based on the cross-sectional analyses, it appears that rather than the salience of a role-identity or time spent in a role acting as mediators in the relationship between reflected self-esteem and mental health problems (or vice versa), each of the three aspects of roles has an independent effect on mental health.

Second, my theoretical model may still be valid, but longitudinal analyses are required in order to capture the mediating effects of both salience and time spent in the role on mental health problems. In other words, it may take time for teens to discover just how important to them their friends are, for example, and thus this perception will have a delayed effect on perceived social support, feelings of loneliness, engaging in delinquency and alcohol/drug use.

Before turning to the results of longitudinal analyses assessing changes in reflected self-esteem on changes in mental health, potentially mediated by changes in the importance of the role-identity and the amount of time spent in the role, I tested one final set of hypotheses with more general (or summary) measures of reflected self-esteem, salience of role-identities, role involvement and mental health.

This set of analyses differs from the previous set of analyses in one important way. In this set of findings, I control for an additional variable—the total number of role-identities occupied by the respondent. The total number of possible role-identities not only includes the roles of family member, friend, student, and worker, but also includes being a social person (e.g., someone who goes on dates, to parties, or engages in other social activities), an athlete, a school activities member (e.g., someone who participates in service clubs, recreational or hobby clubs, student government, newspaper or yearbook), a club/community participant, a spouse/boyfriend/girlfriend, a parent, and a churchgoer. While not all of these role-identities are measured across all waves of data collection, when available, they are included as a control variable in this set of cross-sectional analyses. Here, I use the terms “role occupancy” and/or “role accumulation” to refer to the number of role-identities occupied by the respondent and argue that because

role accumulation influences mental health, it is important to take into account the number of roles occupied beyond the four examined in these analyses.

Using a summary measure of reflected self-esteem (a summary score averaging reflected self-esteem scores from parents, teachers, friends and co-workers for the appropriate waves), the following four hypotheses were tested: (Hypothesis 6) The higher the summary score of reflected self-esteem, the less mental health problems (i.e., the less lack of social support, less loneliness, lower likelihood of delinquency, lower likelihood of alcohol/drug use, and less depression); (Hypothesis 7) the higher the summary scores of reflected self-esteem, the higher the overall salience of and the more total time spent in role activities; (Hypothesis 8) the higher the overall salience of role-identities and the more total time spent in roles will be negatively related to a lack of social support, loneliness, delinquency, alcohol/drug use, and depression; (Hypothesis 9) the relationship between the summary score of reflected self-esteem and mental health problems will be mediated by the overall role embracement (i.e., salience and time spent in role activities). Please recall that the fourth hypothesis was not supported in the previous set of analyses when specific sources of reflected self-esteem, as well as salience and time spent in each role, were examined. Rather than a mediating effect, it appeared that reflected self-esteem, salience, and time were each independently related to mental health when specific domains were examined. Therefore, it could be that when examining general patterns across a number of role domains, I may see these same independent effects.

Table 3.11 presents the results of regression analyses examining the summary reflected self-esteem score on mental health problems. As shown, it is clear that as was the case with specific sources of reflected self-esteem, higher scores on the general measure of reflected self-esteem are significantly and negatively related to the likelihood of experiencing a lack of social support, loneliness, delinquency, alcohol/drug use, and depression.[20]

[20] Table 3.11 does not include a control for role accumulation given that in this analysis I am not examining role embracement.

Table 3.11. Standardized Coefficients of OLS Regression Analyses of Mental Health Problems Regressed on Summary Reflected Self-Esteem Score[a, b]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Lack of Social Support	-.51***	-.56***	-.60***	-.61***	-.62***	-.37***	-.34***
Loneliness	-.49***	-.54***	-.58***	-.53***	-.55***	---	---
Depression	---	---	---	---	---	-.21***	-.23***
Delinquency	-.39***	-.40***	-.42***	-.42***	-.38***	-.32***	-.30***
Alcohol/Drug Use	-.28***	-.17***	-.33***	-.41***	-.39***	-.33***	-.32***

[a] Note: Gender, Race/Ethnicity, and Age are controlled for in all models.

[b] The dependent variable defines each row.

The results for regression analyses examining the relationship of the summary reflected self-esteem score on the total salience score of the combined role-identities one occupies, and the total time spent in roles are illustrated in Table 3.12. Consistent with expectations, the higher the total reflected self-worth score, the more important these role-identities are overall, and the greater amount of time spent engaging in these roles. Together, Table 3.11 and Table 3.12 indicate that average total scores across role-identities in terms of reflected self-esteem, salience, and time spent in roles operate similarly to the role-specific measures examined in the first set of cross-sectional analyses.

Table 3.12. Standardized Coefficients of OLS Regression Analyses of Total Salience of Identities and Total Time Spent in Roles Regressed on Summary Reflected Self-Esteem Score[a, b]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Total Salience of Identities	.25***	.34***	.32***	.24***	.23***	.35***	.33***
Total Time Spent in Roles	.13***	.16***	.16***	.04	.13***	.15***	.10**

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

[b] The dependent variable defines each row.

As stated above, I also expected that the overall salience of the combined role-identities and the total amount of time spent in the combined role-identities would be negatively related to mental health problems. The results for these analyses are presented separately for each of the five mental health outcomes—as shown in Tables 3.13-3.17. Not surprisingly, Tables 3.13 and 3.17 show that the more important the combined identities and the more total time spent in various roles the higher the perceived social support and the less loneliness (although the significant effects of time spent in role activities is less consistent than the importance of roles).

Table 3.13. Standardized Coefficients of OLS Regression Analyses of Lack of Social Support Regressed on Total Salience of Identities and Total Time Spent in Roles[a]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Total Salience of Identities	-.22***	-.26***	-.30***	-.29***	-.28***	-.44***	-.48***
Total Time Spent in Roles	-.09***	-.12***	-.15***	-.05*	-.07*	-.04	-.01

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Table 3.14. Standardized Coefficients of OLS Regression Analyses of Loneliness Regressed on Total Salience of Identities and Total Time Spent in Roles[a]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Total Salience of Identities	-.15***	-.17***	-.18***	-.17***	-.18***	---	---
Total Time Spent in Roles	-.01	-.07**	-.18***	-.02	-.02	---	---

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Turning to the results for delinquency, shown in Table 3.15, the higher overall salience of identities is significantly and negatively related to engaging in delinquency. However, the findings on the relationship between the total amount of time spent in roles and participation in delinquent activities is not consistent across waves; such that, in general the total amount of time spent in roles is significantly and negatively related to delinquency in waves 1, 2, 6, and 7, while there is a significant and positive association in waves 3 and 4 (and time and delinquency are unrelated in wave 5).

Table 3.15. Standardized Coefficients of OLS Regression Analyses of Delinquency Regressed on Total Salience of Identities and Total Time Spent in Roles[a]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Total Salience of Identities	-.24***	-.27***	-.28***	-.18***	-.15***	-.14***	-.04
Total Time Spent in Roles	-.06*	-.06*	.07**	.10***	.03	-.11***	-.10**

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Moving to the findings on salience and alcohol/drug use presented in Table 3.17, the more salient the combined role-identities, the less likely respondents are to engage in drinking and drug use—this finding is consistent with the findings on salience and delinquency. As was the case with delinquency, total time spent in role activities is not consistently associated with using alcohol/drugs. At waves 1 and 6, there is a significant and negative relationship between time spent in roles and alcohol/drug use, but the

relationship is significant and positive at waves 4 and 5—where the more time spent in roles is related to more alcohol/drug use.

Table 3.16. Standardized Coefficients of OLS Regression Analyses of Alcohol/Drug Use Regressed on Total Salience of Identities and Total Time Spent in Roles[a]

Dependent Variables	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Total Salience of Identities	-.17***	-.11***	-.22***	-.18***	-.12***	-.15***	-.13***
Total Time Spent in Roles	-.07***	-.03	-.02	.09**	.13***	-.18***	-.03

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Finally, Table 3.17 shows the results for depression. Once again, greater overall salience of role-identities is related to the likelihood of experiencing fewer depressive symptoms. However, the total time spent in role activities is unrelated to depression.[21]

Table 3.17. Standardized Coefficients of OLS Regression Analyses of Depression Regressed on Total Salience of Identities and Total Time Spent in Roles[a]

Dependent Variables	Wave 6	Wave 7
Total Salience of Identities	-.12***	-.08*
Total Time Spent in Roles	-.03	-.06

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Next, Tables 3.18-3.22 present the results for regression analyses in which the summary reflected self-esteem variable was entered into the first equation (along with gender, race/ethnicity, age, and role accumulation), and the potential mediating variables—the total salience score of the role-identities occupied and the summary score for total time spent in the occupied roles—are entered into the second equation. Similar to the findings for the specific sources of reflected appraisals, my hypothesis regarding the mediating effects of role involvement is not supported for any of the mental health outcomes (as demonstrated by comparing the remaining significant effects of reflected self-esteem from model 1 to model 2 in the first row of each Table 3.18-3.22). At the same time, important findings are present in this set of tables.

[21] This non-significant finding is consistent with the findings presented in Table 3.10 because the only variable used to create the summary score for total time spent in roles at Waves 6 and 7 is time spent with family.

In general, as found earlier in Table 3.11, the higher the summary score for reflected self-esteem, the less likely respondents are to experience any of the mental health problems—lack of social support, loneliness, delinquency, alcohol/drug use, or depression. In addition, there are a number of noteworthy findings. For instance, Table 3.18 shows that the total salience and the amount of time spent in these roles are, for the most part, significantly and negatively related to the lack of social support.

Table 3.18. Standardized Coefficients of OLS Regression Analyses of Lack of Social Support Regressed on Summary Reflected Self-Esteem Score, Total Salience of Identities, and Total Time Spent in Roles[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Summary RSE	-.50***	-.47***	-.54***	-.49***	-.58***	-.52***	-.59***	-.55***	-.59***	-.55***	-.41***	-.28***	-.45***	-.33***
Total Salience	---	-.10***	---	-.11***	---	-.15***	---	-.16***	---	-.15***	---	-.36***	---	-.38***
Total Time Spent	---	-.06**	---	-.10***	---	-.07***	---	-.07***	---	,03	---	-.01	---	.01

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Respondents with higher levels of reflected self-esteem overall are less lonely (as indicated in the first row of Table 3.19). At the same time, cumulative role salience and time are not consistently related to feelings of loneliness. In fact, greater salience of role-identities has a significantly negative effect on loneliness only at waves 4 and 5, and time spent in roles is only significantly, negatively related to loneliness at waves 2 and 5. I do not have a ready explanation for the lack of consistent and significant findings between overall salience and time spent in role activities and feelings of loneliness.

Table 3.19. Standardized Coefficients of OLS Regression Analyses of Loneliness Regressed on Summary Reflected Self-Esteem Score, Total Salience of Identities, and Total Time Spent in Roles[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Summary RSE	-.48***	-.47***	-.53***	-.52***	-.55***	-.54***	-.51***	-.49***	-.53***	-.52***	---	---	---	---
Total Salience	---	-.03	---	-.01	---	-.03	---	-.05*	---	-.07**	---	---	---	---
Total Time Spent	---	.02	---	-.05*	---	-.02	---	-.03	---	-.05*	---	---	---	---

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

The results of delinquency regressed on the summary scores of reflected self-esteem, salience, and time spent in roles are shown in Table 3.20. As mentioned above, higher levels of reflected self-worth are consistently and significantly linked to less delinquent activity. In general, the overall importance of combined role-identities is significantly and negatively related to delinquency, while the amount of time spent in role-activities is not significantly related to a lower likelihood of engaging in delinquent acts until respondents are at the point in their lives where they are transitioning into young adulthood (on average)—as shown in Models 2 of waves 6 and 7. Perhaps, the general importance of family, school, friends, and work help reduce the potential for engaging in delinquent activity, again, fitting with Hirschi's theory (1969).

Table 3.20. Standardized Coefficients of OLS Regression Analyses of Delinquency Regressed on Summary Reflected Self-Esteem Score, Total Salience of Identities, and Total Time Spent in Roles[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Summary RSE	-.41***	-.37***	-.42***	-.36***	-.45***	-.39***	-.44***	-.43***	-.40***	-.39***	-.34***	-.31***	-.30***	-.32***
Total Salience	---	-.15***	---	-.15***	---	-.17***	---	-.08**	---	-.06**	---	-.04	---	.06+
Total Time Spent	---	-.03	---	-.04+	---	-.00	---	.09***	---	-.00	---	-.08**	---	-.09*

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

The findings on alcohol/drug use do not simply parallel the results for delinquency. As presented in Table 3.21, higher scores of reflected appraisals are associated with a decreased likelihood of drinking and drug use—consistent with the other mental health outcomes discussed thus far. In general, adolescents are less likely to drink and use drugs if they view their role-identities as more salient in their lives. However, there is no consistent relationship between the total amount of times spent in roles and alcohol/drug use. For example, at waves 1 and 6, those adolescents who spend more time engaging in role activities are significantly less likely to use alcohol/drugs; this relationship is not significant at waves 2, 3, and 7; and, the relationship is positive and significant by waves 4 and 5.

Table 3.21. Standardized Coefficients of OLS Regression Analyses of Alcohol/Drug Use Regressed on Summary Reflected Self-Esteem Score, Total Salience of Identities, and Total Time Spent in Roles[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Summary RSE	-.29***	-.26***	-.17***	-.14***	-.33***	-.29***	-.41***	-.39***	-.40***	-.38***	-.34***	-.29***	-.37***	-.37***
Total Salience	---	-.11***	---	-..06*	---	-.14***	---	-.09***	---	-.04+	---	-.06*	---	-.02
Total Time Spent	---	-.06**	---	-.02	---	-.01	---	.08***	---	.11***	---	-.15***	---	-.02

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Lastly, Table 3.22 includes the results for the analyses on depression. Again, reflected self-esteem is significantly and negatively related to depressive symptoms. However, the total salience and time spent in roles do not mediate the relationship between reflected self-esteem and depression, and neither of these summary measures are significantly related to depression (with the exception of a weakly significant and negative relationship between overall salience and depression at wave 6).

Table 3.22. Standardized Coefficients of OLS Regression Analyses of Depression Regressed on Summary Reflected Self-Esteem Score, Total Salience of Identities, and Total Time Spent in Roles[a]

	Wave 6		Wave 7	
	(1)	(2)	(1)	(2)
Summary RSE	-.23***	-.21***	-.26***	-.25***
Total Salience	---	-.06+	---	-.01
Total Time Spent	---	-.01	---	-.05

[a] Note: Gender, Race/Ethnicity, Age, and Total Number of Roles Occupied are controlled for in all models.

Summary

In sum, the results of the cross-sectional analyses provide strong support for my main expectation that reflected self-esteem should be related to whether an individual experiences mental health problems. At the same time, these analyses reveal that, contrary to expectations, the salience of identities and the amount of time spent in role-activities do not help to explain the relationship between reflected appraisals and mental health. Rather, it appears that role embracement is independently associated with mental health. Moreover, it seems that reflected self-esteem has a greater independent effect on well-being than does either measure of role embracement.

The inconsistent findings between role salience, time involvement, and mental health are especially evident in the final set of results discussed above (i.e., the analyses based on the summary measures). This inconsistency is indicative of the usefulness of examining more specific identity processes, such as those reported in the first set of cross-sectional analyses, and points to the need for longitudinal analyses in order to understand the causal relationships involved in these identity processes and mental health. I now turn to the results based on the panel data.

CHAPTER IV

LONGITUDINAL RESULTS

Next, I turn to the results of a series of longitudinal analyses based on the panel data. Many of these analyses parallel the questions examined using the cross-sectional data. However, the main difference in the following set of results is the focus on change. Taking advantage of data across time, I am able to investigate whether *changes* in the main independent variables-- that is, reflected self-esteem from parents, teachers, and friends-- lead to *changes* in mental health. All of the following results are based on OLS regression analyses.

Before moving to the results, I would like to briefly recap the thrust of my main theoretical model. I argue that reflected self-esteem (and change in reflected self-esteem) should be significantly related to mental health (and change in mental health). For example, if adolescents experience a drop in reflected self-esteem from parents between the first and the second interviews, then I expect that there will be a corresponding decrease in perceived social support. In addition to the main effects of reflected appraisals on well-being, I also expect that this relationship will be mediated by the salience of the role-identity and time spent in the role (and changes in role involvements). First, I show the results of a change in reflected self-esteem (from parents, teachers, and friends) on changes in the salience and time spent in the corresponding role identity. If my full theoretical model is to be empirically supported, I must first establish that there are significant effects of changes in reflected self-esteem on both change in salience and in time spent in the role. As stated in Hypotheses 10a and 10b, a drop in reflected self-esteem should be associated with a decrease in the importance of the role-identity as well as the amount of time spent in the role.

In Table 4.1, six sets of results are presented, each representing the sample of respondents in contiguous waves (i.e., waves 1 and 2; waves 2 and 3, etc.). In each set of regressions, gender, race/ethnicity, and current age are controlled. Also, each equation controls for the value of the dependent variable and reflected self-esteem in the previous wave. Table 4.1 is divided into three panels—the first panel illustrates the results for reflected self-esteem from parents, the second from friends, and the third set

from teachers. As mentioned throughout this paper, reflected self-esteem from parents was measured across all seven waves of data collection; however, reflected self-worth from friends was assessed in the first five waves, and questions about reflected self-esteem from teachers were asked during the first three interviews. Note that for the panel analyses, variables compared across contiguous waves were created using identical items. However, I continue to present the standardized coefficients in this section given that the large number of items used to create many of the independent and dependent variables results in very small unstandardized scores. Unstandardized regression coefficients are provided in the appendices.

Table 4.1. Change in the Salience of the Role-Identity Regressed on Change in Reflected Self-Esteem[a]

	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Previous wave Salience of Family	.32***	.45***	.41***	.46***	.37***	.37***
Previous wave RSE from Parents	.18***	.16***	.22***	.20***	.16***	.19***
Change in RSE from Parents	.23***	.17***	.18***	.18***	.13***	.14***
Adjusted R^2	.201	.282	.276	.308	.213	.220
(N)	1569	1558	1357	1197	873	593
Previous wave Salience of Friends	.33***	.41***	.47***	.43***	---	---
Previous wave RSE from Friends	.08**	.12***	.05+	.07**	---	---
Change in RSE from Friends	.08**	.07**	.08***	.07**	---	---
Adjusted R^2	.148	.219	.247	.217	---	---
(N)	1230	1292	1339	1280		
Previous wave Salience of School	.38***	.41***	---	---	---	---
Previous wave RSE from Teachers	.24***	.19***	---	---	---	---
Change in RSE from Teachers	.21***	.15***	---	---	---	---
Adjusted R^2	.279	.287	---	---	---	---
(N)	1537	1437				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Not surprisingly, across all waves and across all sources of reflected self-esteem the importance of the role-identity in the previous wave is significantly and positively related to the salience of the role-identity in the current wave. For instance, persons who place more importance on their families at time 1 are significantly more likely to place importance on their families at time 2. In addition, the previous wave

of reflected self-esteem (from parents, teachers, and friends) is significantly and positively related to identity salience at the current wave. In other words, as shown in the third row of each panel, a positive change in a reflected view of the self from parents, friends, and teachers contributes significantly to an increase in the importance of the corresponding role-identity—family, friends, and school, respectively. In short, Table 4.1 provides support for Hypothesis 10a.

Table 4.2 presents the results for the effects of changes in reflected self-esteem on change in the amount of time spent in the corresponding role. Parallel to the results presented in Table 4.2, there is a significant, positive relationship between the amount of time the respondent spends with his/her family, friends, or studying in the previous wave and the amount of time spent in each role in the current wave. For example, the more time spent with friends at time 1, the more time spent with them at time 2. Likewise, higher levels of reflected self-esteem from parents (second row in the first set of panels) and from teachers (second row in the last panel) in the previous wave of data are significantly related to an increase in the amount of time spent in these role-domains in the current wave, except for positive appraisals from parents in the last two waves. However, unlike the pattern for parents and teachers in general, there is no relationship between the previous wave of reflected appraisals from friends and a change in the amount of time spent with friends, with the exception of a significant decrease in time spent at wave 4. This finding is not surprising given the cross-sectional results reported earlier. Again, it is likely that parents control the amount of time their children spend with their friends, particularly if their friends are delinquent. Moreover, the amount of time adolescents have to spend with friends outside of school, athletics, and extra-curricular activities is fairly limited for many adolescents, making it unlikely that there is much flexibility in the amount of time teens can "hang out" with their friends. Finally, Table 4.2 shows partial support for Hypothesis 10b. In support of this hypothesis, persons who experience a positive change in reflected appraisals from parents and teachers are significantly more likely to spend an increased amount of time in the role (family and school, respectively, with the exception of the nonsignificant relationship between change in reflected self-esteem from parents and a change in the amount of time spent with family from wave 6 to wave 7). However, the results regarding the relationship between a change in reflected self-esteem from friends and change in the amount of time spent with friends does not support my hypothesis. Instead, adolescents who have a positive change in their reflected

appraisals from friends experience a significant decline in the amount of time spent with friends from wave 1 to wave 2, and this same pattern exists (though is only modestly significant) in waves 3 to 4 and waves 4 to 5 (and the relationship fails to reach significance for waves 2 to 3). I do not have a ready explanation for why it is that the more self-worth perceived from friends is linked to less time spent with those important others. Perhaps, regardless of whether persons value their friends' opinions about their worth, adolescents simply have less time to devote to their friends due to a fairly limited amount of free time outside of school, athletics, and other extra-curricular activities.[22]

Table 4.2. Change in Time Spent in the Role Regressed on Change in Reflected Self-Esteem[a]

	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Previous wave Time Spent w/Family	.40***	.46***	.46***	.50***	.36***	.37***
Previous wave RSE from Parents	.14***	.09***	.11***	.09***	.03	.06
Change in RSE from Parents	.13***	.12***	.10***	.11***	.06+	.05
Adjusted R^2	.275	.324	.331	.369	.203	.188
(N)	1567	1555	1358	1198	874	591
Previous wave Time Spent w/Friends	.41***	.43***	.46***	.50***	---	---
Previous wave RSE from Friends	-.03	-.04	-.06*	-.03	---	---
Change in RSE from Friends	-.07**	-.02	-.04+	-.05+	---	---
Adjusted R^2	.213	.220	.227	.252	---	---
(N)	1224	1285	1333	1279		
Previous wave Time Spent Studying	.43***	.52***	---	---	---	---
Previous wave RSE from Teachers	.14***	.15***	---	---	---	---
Change in RSE from Teachers	.12***	.10***	---	---	---	---
Adjusted R^2	.274	.339	---	---	---	---
(N)	1535	1433				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

In general, Hypotheses 10a and 10b are supported—adolescents who experience positive changes in reflected self-esteem (at least from parents and teachers) are significantly more likely to increase the

[22] When adolescents are subdivided into those who do or do not have delinquent friends, none of the effects of positive change in reflected self-esteem from friends on change in time spent with friends are significant for either group of respondents.

importance placed on the corresponding role-identity and spend more time in the role from the previous wave to the current wave. These results hint at the idea that the impact of reflected self-esteem derived from parents lessens over times as teens become older and enter young adulthood (ages 18 to 24 at wave 6 and 21 to 27 at wave 7). At the same time, the friendship domain poses some interesting questions that make the relationship between reflected appraisals from friends and the importance and time spent with friends more complicated. I will return to the issues raised here in the final chapter of this dissertation.

Tables 4.3-4.7 show the results of regression analyses in which I test my full theoretical model. Once again, contiguous waves of data are used in order to assess change from one point in time to the next wave of the interview. Each dependent variable of interest is reported in a separate table. Table 4.3 shows the results for change in perceived lack of social support; Table 4.4 shows the results for change in loneliness; Table 4.5 provides the results for changes in delinquency; Table 4.6 illustrates the results for change in alcohol and drug use, and Table 4.7 provides the results for change in depressive symptoms. These analyses allow me to test Hypothesis 11 and Hypothesis 12. In model 1, I examine whether a change in reflected self-esteem is significantly related to a change in mental health. In model 2, I enter the potential mediating variables—change in salience and change in time spent in the role—in order to assess whether change in salience and time spent in the role mediate the main effect of change in reflected self-esteem on change in mental health. This set of tables is divided in the same way as the previous set of tables, so that there are essentially three different role domains presented in each table—the first panel shows the results for the family domain, followed by school, and finally by the friendship domain. The analyses for each role domain have been run separately and are presented together for convenience. In addition to entering the change variables in each model, I controlled for the previous level of the dependent variable and the prior level of the mediating variables. There are several important patterns shown in this set of tables.

Consistent with the results from the cross-sectional analyses, changes in reflected self-esteem are significantly and consistently related to changes in mental health—across all role domains and across all mental health outcomes. In other words, adolescents who experience an enhanced sense of reflected self-worth from time 1 to time 2 experience a significant increase in perceived social support (shown in the third row of the first panel in Table 4.3). Likewise, persons with positive changes in reflected self-esteem

from teachers (third row in the second panel) and from friends (third row in the final panel) are significantly more likely to experience a positive change in perceived social support. Once again, this finding holds across all mental and behavioral outcomes examined, providing strong support for Hypothesis 11. Positive changes in reflected self-esteem (from parents, teachers, and friends) significantly raise perceptions of social support and dampen feelings of loneliness, acts of delinquency, and alcohol and drug use. Moreover, a positive change in reflected appraisals from parents significantly decreases feelings of depression from wave 6 to wave 7 (shown in Table 4.7).

Table 4.3. Change in Lack of Social Support Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.39***	.38***	.37***	.35***	.47***	.43***	.49***	.48***	.24***	.17***	.42***	.34***
Previous wave RSE from Parents	-.34***	-.31***	-.42***	-.39***	-.34***	-.29***	-.33***	-.31***	-.22***	-.15***	-.24***	-.21***
Change in RSE from Parents	-.37***	-.33***	-.40***	-.38***	-.35***	-.31***	-.34***	-.31***	-.19***	-.14***	-.28***	-.24***
Previous wave Salience of Family	---	-.15***	---	-.14***	---	-.19***	---	-.12***	---	-.39***	---	-.26***
Change in Salience of Family	---	-.14***	---	-.14***	---	-.16***	---	-.11***	---	-.34***	---	-.33***
Previous wave Time Spent with Family	---	-.01	---	.02	---	-.02	---	.06*	---	-.00	---	.04
Change in Time Spent with Family	---	-.07***	---	-.04+	---	-.04+	---	-.03	---	-.03	---	-.01
Adjusted R^2	.460	.481	.500	.518	.543	.569	.567	.581	.204	.305	.341	.407
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Lack of social support	.46***	.46***	.43***	.43***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.30***	-.28***	-.33***	-.31***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.28***	-.27***	-.29***	-.27***	---	---	---	---	---	---	---	---
Previous wave Salience of School	---	-.02	---	-.04	---	---	---	---	---	---	---	---
Change in Salience of School	---	-.04+	---	-.02	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	---	-.03	---	-.02	---	---	---	---	---	---	---	---
Change in Time spent studying	---	-.05+	---	-.05+	---	---	---	---	---	---	---	---
Adjusted R^2	.414	.416	.416	.418	---	---	---	---	---	---	---	---
(N)	1534	1534	1433	1433								

Table 4.3. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.42***	.41***	.40***	.40***	.50***	.49***	.50***	.48***	---	---	---	---
Previous wave RSE from Friends	-.36***	-.36***	-.39***	-.37***	-.30***	-.31***	-.29***	-.29***	---	---	---	---
Change in RSE from friends	-.34***	-.34***	-.33***	-.33***	-.29***	-.29***	-.29***	-.28***	---	---	---	---
Previous wave Salience of Friends	---	-.05+	---	-.07**	---	-.04+	---	-.07**	---	---	---	---
Change in Salience of Friends	---	-.05+	---	-.12***	---	-.05*	---	-.06**	---	---	---	---
Previous wave Time Spent w/Friends	---	-.05+	---	-.03	---	-.05*	---	-.05*	---	---	---	---
Change in Time Spent w/ Friends	---	-.05*	---	-.03	---	-.05*	---	-.07**	---	---	---	---
Adjusted R^2	.425	.428	.453	.463	.500	.504	.492	.492	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table 4.4. Change in Loneliness Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.34***	.35***	.41***	.41***	.45***	.45***	.45***	.46***
Previous wave RSE from Parents	-.36***	-.36***	-.36***	-.35***	-.27***	-.25***	-.32***	-.33***
Change in RSE from Parents	-.34***	-.33***	-.33***	-.32***	-.28***	-.26***	-.32***	-.32***
Previous wave Salience of Family	---	.02	---	-.00	---	-.08**	---	-.01
Change in Salience of Family	---	-.03	---	-.04	---	-.07**	---	.00
Previous wave Time Spent with Family	---	-.01	---	-.02	---	-.02	---	.05+
Change in Time Spent with Family	---	-.06*	---	-.01	---	-.01	---	-.01
Adjusted R^2	.380	.383	.442	.442	.400	.404	.448	.449
(N)	1563	1563	1553	1553	1357	1357	1197	1197
Previous wave Loneliness	.36***	.36***	.42***	.42***	---	---	---	---
Previous wave RSE from Teachers	-.41***	-.40***	-.35***	-.34***	---	---	---	---
Change in RSE from teachers	-.34***	-.33***	-.34***	-.33***	---	---	---	---
Previous wave Salience of School	---	.00	---	-.04	---	---	---	---
Change in Salience of School	---	-.02	---	-.05*	---	---	---	---
Previous wave Time Spent Studying	---	-.04	---	.03	---	---	---	---
Change in Time spent studying	---	-.03	---	-.01	---	---	---	---
Adjusted R^2	.380	.380	.439	.440	---	---	---	---
(N)	1531	1531	1454	1454				
Previous wave Loneliness	.37***	.37***	.43***	.42***	.45***	.44***	.48***	.48***
Previous wave RSE from Friends	-.39***	-.39***	-.36***	-.36***	-.33***	-.34***	-.28***	-.28***
Change in RSE from friends	-.34***	-.34***	-.33***	-.33***	-.29***	-.29***	-.28***	-.27***
Previous wave Salience of Friends	---	-.03	---	-.02	---	-.03	---	-.04+
Change in Salience of Friends	---	-.02	---	-.04	---	-.02	---	-.03
Previous wave Time Spent w/Friends	---	-.06*	---	-.04+	---	-.02	---	-.07**
Change in Time Spent w/ Friends	---	-.01	---	-.01	---	-.02	---	-.04
Adjusted R^2	.377	.378	.455	.456	.438	.438	.433	.437
(N)	1224	1224	1284	1284	1333	1333	1279	1279

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table 4.5. Change in Delinquency Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.57***	.56***	.62***	.60***	.66***	.66***	.71***	.70***	.55***	.54***	.57***	.56***
Previous wave RSE from Parents	-.13***	-.12***	-.14***	-.12***	-.15***	-.14***	-.08***	-.04+	-.05+	-.04	-.12***	-.13***
Change in RSE from Parents	-.22***	-.20***	-.19***	-.17***	-.16***	-.15***	-.17***	-.16***	-.11***	-.10***	-.15***	-.16***
Previous wave Salience of Family	---	-.02	---	-.05*	---	-.00	---	-.08***	---	-.03	---	.05
Change in Salience of Family	---	-.06*	---	-.05*	---	-.00	---	-.02	---	-.07*	---	.05
Previous wave Time Spent with Family	---	-.06*	---	-.05*	---	-.04	---	-.04	---	-.06	---	-.08*
Change in Time Spent with Family	---	-.06**	---	-.07***	---	-.03	---	-.03	---	-.02	---	-.05
Adjusted R^2	.472	.477	.525	.531	.544	.544	.587	.593	.386	.388	.431	.432
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Delinquency	.59***	.57***	.64***	.62***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.16***	-.13***	-.15***	-.12***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.22***	-.20***	-.20***	-.18***	---	---	---	---	---	---	---	---
Previous wave Salience of School	---	-.10***	---	-.08**	---	---	---	---	---	---	---	---
Change in Salience of School	---	-.07**	---	-.10***	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	---	-.01	---	-.05*	---	---	---	---	---	---	---	---
Change in Time spent studying	---	-.05*	---	-.05*	---	---	---	---	---	---	---	---
Adjusted R^2	.489	.497	.565	.575	---	---	---	---	---	---	---	---
(N)	1531	1531	1454	1454								

Table 4.5. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.60***	.59***	.61***	.59***	.68***	.65***	.70***	.68***	---	---	---	---
Previous wave RSE from Friends	-.16***	-.16***	-.15***	-.15***	-.14***	-.15***	-.11***	-.11***	---	---	---	---
Change in RSE from friends	-.23***	-.23***	-.21***	-.20***	-.15***	-.14***	-.17***	-.17***	---	---	---	---
Previous wave Salience of Friends	---	.01	---	-.00	---	-.02	---	-.01	---	---	---	---
Change in Salience of Friends	---	-.00	---	-.02	---	-.04+	---	-.01	---	---	---	---
Previous wave Time Spent w/Friends	---	.08**	---	.12***	---	.14***	---	.08***	---	---	---	---
Change in Time Spent w/ Friends	---	.08**	---	.11***	---	.12***	---	.08***	---	---	---	---
Adjusted R^2	.510	.513	.538	.548	.579	.593	.597	.601	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table 4.6. Change in Alcohol/Drug Use Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug Use	.54***	.52***	.52***	.50***	.59***	.57***	.71***	.69***	.58***	.56***	.61***	.60***
Previous wave RSE from Parents	-.11***	-.08***	-.22***	-.18***	-.22***	-.20***	-.11***	-.09***	-.10***	-.09**	-.17***	-.17***
Change in RSE from Parents	-.17***	-.15***	-.17***	-.15***	-.17***	-.16***	-.11***	-.10***	-.09***	-.08***	-.11***	-.12***
Previous wave Salience of Family	---	-.06*	---	-.08***	---	-.03	---	-.05*	---	-.01	---	.01
Change in Salience of Family	---	-.03	---	-.03	---	.00	---	.00	---	-.08*	---	.01
Previous wave Time Spent with Family	---	-.09***	---	-.11***	---	-.10***	---	-.08***	---	-.08*	---	-.04
Change in Time Spent with Family	---	-.08***	---	-.11***	---	-.05*	---	-.03	---	-.10**	---	.04
Adjusted R^2	.407	.417	.457	.476	.508	.515	.596	.603	.406	.416	.472	.473
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Alcohol/Drug Use	.53***	.52***	.51***	.50***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.15***	-.13***	-.24***	-.18***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.16***	-.14***	-.19***	-.16***	---	---	---	---	---	---	---	---
Previous wave Salience of School	---	-.08**	---	-.12***	---	---	---	---	---	---	---	---
Change in Salience of School	---	-.08**	---	-.08***	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	---	-.03	---	-.06*	---	---	---	---	---	---	---	---
Change in Time spent studying	---	-.03	---	-.07**	---	---	---	---	---	---	---	---
Adjusted R^2	.400	.405	.446	.463	---	---	---	---	---	---	---	---
(N)	1531	1531	1454	1454								

Table 4.6. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug Use	.53***	.51***	.51***	.49***	.60***	.56***	.76***	.74***	---	---	---	---
Previous wave RSE from Friends	-.16***	-.15***	-.23***	-.21***	-.24***	-.24***	-.11***	-.11***	---	---	---	---
Change in RSE from friends	-.17***	-.16***	-.18***	-.17***	-.18***	-.17***	-.15***	-.15***	---	---	---	---
Previous wave Salience of Friends	---	-.03	---	-.06*	---	-.03	---	-.01	---	---	---	---
Change in Salience of Friends	---	-.02	---	-.05*	---	-.06**	---	-.02	---	---	---	---
Previous wave Time Spent w/Friends	---	.12***	---	.17***	---	.16***	---	.08***	---	---	---	---
Change in Time Spent w/ Friends	---	.10***	---	.17***	---	.11***	---	.05**	---	---	---	---
Adjusted R^2	.416	.424	.450	.476	.536	.553	.654	.657	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table 4.7. Change in Depression Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 7	
	(1)	(2)
Previous wave of Depression	.50***	.50***
Previous wave RSE from Parents	-.13***	-.13**
Change in RSE from Parents	-.14***	-.14***
Previous wave Salience of Family	---	.00
Change in Salience of Family	---	-.04
Previous wave Time Spent w/Family	---	-.04
Change in Time Spent with Family	---	-.04
Adjusted R^2	.306	.304
(N)	591	591

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Age are controlled in all of the models; standardized coefficients are presented.

In Hypothesis 12, I argue that change in salience of the role-identity and change in the amount of time spent in the role should mediate the relationship between change in reflected self-esteem and mental health. Note, I did not find support for a similar hypothesis in the cross-sectional analyses. Instead, it appeared that rather than mediating the relationship, role embracement and reflected self-esteem had independent effects on mental health. Despite these results, I kept the prediction that salience and time would act as mediators once I examined these relationships with longitudinal data because it seemed plausible that these effects may not present themselves at the same point in time—rather, it may take some time to see the effects of changes in the psychological importance of the role and time spent in the role occurring as a result of (or in tandem with) an increase/decrease in reflected self-esteem. This set of results is shown in model 2 for each of the waves in Tables 4.3-4.7.

Once again, my hypothesis regarding the potential mediating effects of role embracement in the relationship between reflected self-worth and mental health is not supported. In fact, there is *no* instance of mediation in the longitudinal analyses. While the effects are much less consistent than those of reflected self-esteem, on the whole, changes in the salience of role-identities and changes in the amount of time spent in roles tend to have independent effects on mental health changes rather than mediating effects. Next, I will briefly discuss some of the patterns and inconsistencies in the effects of changes in salience and time on mental health, specifically focusing on the change scores in model 2 for Tables 4.3-4.7.

Adolescents who give increasing importance to their family across time show a significant increase in a sense of social support; likewise, an elevation in the time respondents spend engaged in activities with their families raises their perceptions of social support significantly. This finding, however,

is only marginally significant for the Wave 3 and Wave 4 analyses and fails to reach significance in the final three stages of analyses. In contrast to the family domain, teens who attach increasing importance to school experience only a marginally significant decrease in the lack of social support (and this variable fails to reach significance by Wave 3). In addition, the negative relationship between increased time spent studying and decreased lack of social support is only marginally significant (-.05+ for both Wave 2 and Wave 3). Moving to the friendship domain, persons for whom friends are increasingly important are significantly less likely to perceive a lack of social support, and increased time spent with friends produces a significant positive change in social support (i.e., their perceptions of support are elevated).

Turning to Table 4.4, there are some parallel patterns to those shown in Table 4.3, but in general, identity processes appear to be more often related to changed perceptions of social support, delinquency, alcohol/drug use, and depression than to loneliness (at least among this sample of respondents). For the most part, respondents who place increased importance on their family over time, as well as those who increase the amount of time spent with their family do not report a decline in feelings of loneliness. The exception to this is a significant relationship between change in the salience of family and loneliness for the Wave 4 analysis and a significant negative relationship between more time spent with family and a decreased sense of loneliness for the Wave 2 analysis. There are generally no independent effects of change in the importance of school or changes in the amount of time spent studying on alterations in loneliness. The one exception is among teens whose school salience increased between Waves 2 and 3, and who report a drop in feelings of loneliness. Moreover, change in the importance of friends and the time spent with friends does nothing to alter adolescents' feelings of loneliness. This finding is quite interesting given that perceived lack of social support and feelings of loneliness are significantly correlated.[23] Perhaps, the relationship between role embracement and loneliness is specific to girls—a hypothesis I examine a bit later in this dissertation.

Table 4.5 summarizes the findings for delinquency. Again, focusing on change in the role embracement variables, there are a number of independent effects of changes in salience and time spent in roles on changes in delinquent activity. In general, for adolescents who experience a positive change in the importance of their families and for those who spend increased time engaging in family activities, there is a

[23] All dependent variables across all seven waves of data are correlated at the $p < .001$ level.

significant drop in delinquent activity (although this relationship is not significant across all of the waves). There is a clear and consistent pattern regarding the relationship between embracement of the student identity and delinquency. Boys and girls whose perceptions about the importance of school increase over time—as for those who increase the time spent studying (across waves)—significantly decrease their participation in delinquent activity. The friendship domain presents itself, once again, as a unique domain regarding delinquent activity. Consistent with the findings from the cross-sectional analyses, rather than time involvement with friends deterring delinquency, increased time spent with friends produces elevations in delinquent activity across waves (refer to the last row in the final panel for Table 4.5). At the same time, the increased salience of friends is unrelated to delinquency, and this pattern holds when respondents are subdivided into those with delinquent and non-delinquent friends (results not shown).

Next, I turn to the findings regarding salience of the role-identity and time spent in the role in relation to the use of alcohol and drugs presented in Table 4.6. Basically, as the importance of their families increases across time, adolescents report no corresponding decrease in the use of alcohol and drugs (with one exception—at Wave 6, persons who have a positive change in the salience of family experience a significant decline in substance use). At the same time, changes in the amount of time spent engaged in activities with family appear to be important in reducing the use of alcohol and drugs. This holds at all waves except Waves 5 and 7. In the second panel (regarding the school domain), increased importance placed on school across time significantly decreases substance use. Increased time spent studying is not related to a decline in substance use between Waves 1 and 2, but does relate to a significant decline between Waves 2 and 3. Finally, and in contrast to delinquency, those teens who place increasing importance on their friends across time decrease their substance use significantly (although this relationship fails to reach significance in the analyses for Waves 2 and 5). Yet, in line with the findings on delinquency, those boys and girls who spend more time with their friends are at a significantly greater risk of an increase in substance use across time. Finally, there are no significant effects of change in the salience of family or change in the amount of time spent with family on change in depression from wave 6 to wave 7 (shown in Table 4.7).

In sum, the longitudinal results presented thus far strongly support the thrust of my theoretical argument---reflected self-esteem is an important factor shaping mental health among adolescents. The

relationship is supported with cross-sectional analyses, but also strongly supported in the longitudinal analyses, in which gains in reflected self-esteem result in improved mental health (greater perceived social support and reduced loneliness, delinquency, substance use, and depression). The longitudinal results, again consistent with the cross-sectional results, do not support my hypotheses regarding the mediating effects of role salience and time spent in the role in the relationship between reflected self-esteem and mental health. Instead, it appears that changes in the importance of the role-identity and changes in the amount of time spent in role activities have independent effects on mental health, much like reflected self-esteem has an independent effect. While role embracement variables (i.e., salience and time spent in the role) are not as consistently or as strongly related to mental health problems as is reflected self-esteem, taken together, the evidence suggests that all three components of the identity process are important in understanding patterns and variation in mental health.

Here, two points are noteworthy. First, it could be argued that I have mis-ordered my theoretical model (a point I made in the previous chapter). In other words, it could be that the effects of change in role-embracement on change in mental health are mediated by change in reflected self-esteem. I conducted an exploratory set of analyses in which I entered changes in salience and time spent in the role first and then entered changes in reflected self-esteem in the second model. The results of these analyses are shown in Appendix D. The results of these exploratory analyses provide evidence that the independent and mediating variables in my theoretical model do not need to be reversed; rather, those results provide further evidence that all three factors—reflected self-esteem, salience of the role-identity, and time spent in the role—act as independent variables in mental health.

Second, it could be argued that I still have not fully addressed the true causal ordering of the variables in my model. By limiting my longitudinal analyses to contiguous waves, I have yet to take full advantage of the multiple waves of panel data which allow me to examine the effects of each component of my model on change in the next component and so on. In other words, by taking advantage of three waves of the panel data, rather than just two consecutive waves, I can increase confidence in the conclusion that reflected self-esteem (as well as salience and time spent in the role) have independent and causal effects on mental health. For the results of these analyses, I turn your attention to Tables 4.8-4.22.

It is important to note that I lose much information by examining effects over three waves of data. The previous longitudinal analyses allow me to assess the consistency of patterns over a longer period of time because I have a greater number of variables measured similarly in two consecutive waves compared to the variables available for three consecutive waves. At the same time, the analyses based on three consecutive waves of data provide greater confidence that the relationships I have documented are causal. As stated in Hypothesis 13, I expect to find that reflected self-esteem from parents, friends, and teachers at the initial assessment are all significantly and positively related to the salience of the corresponding role-identity and time spent in this role at the following point in time. In turn, I expect there to be a negative effect of higher levels of role embracement on mental health problems at the subsequent point in time.

Before summarizing the results of these analyses, let me explain the layout of Tables 4.8-4.22. In Tables 4.8, 4.11, 4.12, 4.17, and 4.18, I estimate two regressions for each of the role domains. For instance, in Table 4.8, in the first column, I regressed salience of family at time 2 on reflected self-esteem from parents at Time 1. In the second column, I regressed the amount of time spent with family at time 2 on reflected self-esteem from parents at time 1. I repeated these analyses for the domain of friends and the domain of school. In Tables 4.9, 4.13, 4.14, 4.19, and 4.20, I regressed the four mental health outcomes on each set of role embracement variables by domain (note in Tables 4.19 and 4.20 that there are only three mental health outcomes assessed). Finally, Tables 4.10, 4.15, 4.16, 4.21, and 4.22 show the effects of reflected self-esteem for the initial wave examined in the analyses (e.g., in Table 4.10, it is wave 1; in Table 4.15, it is wave 2) on mental health at the final wave in the analyses. In this set of regressions, the previous wave of role embracement variables is entered into the second model of each equation. Overall, the logic is to (1) assess the effect of $Time_x$ reflected self-esteem on $Time_y$ role embracement; (2) assess the effect of $Time_y$ role embracement on $Time_z$ mental health, and; (3) for consistency with the full theoretical model, assess the effect of $Time_x$ reflected self-esteem on $Time_z$ mental health, and then control for the $Time_y$ role embracement variables.

Turning to the results shown in Table 4.8, reflected self-esteem from parents and teachers at wave 1 have significant, positive effects on role embracement variables at wave 2. In comparison, reflected self-esteem from friends at time 1 has a significant, positive effect on the importance of friends at time 2, but does not significantly impact the amount of time spent with friends at wave 2. This finding is quite

consistent with the results on the relationship between reflected self-esteem and time spent with friends that has presented itself throughout this dissertation.

Table 4.8. Standardized Coefficients of OLS Regression Analyses of Wave 2 Salience and Time Spent Regressed on Wave 1 Reflected Self-Esteem[a]

	Wave 2	
Independent Variables	DV = Wave 2 Salience	DV= Wave 2 Time Spent in Role
Wave 1 RSE from Parents	.16***	.15***
Adjusted R^2	.046	.100
(N)	1598	1593
Wave 1 RSE from Friends	.06*	-.04
Adjusted R^2	.041	.039
(N)	1373	1369
Wave 1 RSE from Teachers	.24***	.16***
Adjusted R^2	.102	.081
(N)	1573	1572

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

As Table 4.9 shows, across all three role domains and all four mental health outcomes, persons who place more importance on family, friends, and school at Time 2 are less lacking social support, less lonely, and less likely to engage in delinquency and substance use at wave 3. Likewise, adolescents who spend more time with their families, and spend more time studying at time 2 are significantly less likely to have mental health problems at wave 3 (with the exception of a nonsignificant relationship between time 2 time spent studying and time 3 feelings of loneliness). The amount of time teens spend with their friends at time 2 does not significantly affect their perceptions of social support and loneliness at time 3, but has a positive impact on delinquency and drug/alcohol use at time 3.

Table 4.9. Standardized Coefficients of OLS Regression Analyses of Wave 3 Mental Health Problems Regressed on Wave 2 Salience and Time Spent in the Role[a]

	Wave 3			
Independent Variables	DV = Wave 3 Lack of Social Support	DV = Wave 3 Loneliness	DV= Wave 3 Delinquency	DV = Wave 3 Alcohol/Drug Use
Wave 2 Salience of Family	-.23***	-.09**	-.15***	-.13***
Wave 2 Time Spent w/Family	-.08**	-.12***	-.13***	-.15***
Adjusted R^2	.092	.037	.132	.427
(N)	1599	1599	1599	1599
Wave 2 Salience of Friends	-.08**	-.07**	-.05*	-.06*
Wave 2 Time Spent w/Friends	.02	-.01	.19***	.17***
Adjusted R^2	.023	.014	.119	.141
(N)	1364	1364	1364	1364
Wave 2 Salience of School	-.18***	-.15***	-.20***	-.19***
Wave 2 Time Spent Studying	-.07**	-.03	-.10***	-.07**
Adjusted R^2	.064	.034	.144	.155
(N)	1569	1569	1569	1569

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Finally, as expected, Table 4.10 shows that reflected self-esteem from parents, friends, and teachers at time 1 has a negative and significant impact on mental health problems at time 3, and these effects remain significant after controlling for role involvement at time 2 (shown in Model 2).

Table 4.10. Standardized Coefficients of OLS Regression Analyses of Wave 3 Mental Health Problems Regressed on Wave 1 Reflected Self-Esteem[a]

	Wave 3							
	DV = Wave 3 Lack of Social Support		DV = Wave 3 Loneliness		DV = Wave 3 Delinquency		DV = Wave 3 Alcohol/Drug Use	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Wave 1 RSE from Parents	-.34***	-.30***	-.37***	-.35***	-.21***	-.17***	-.18***	-.14***
Wave 2 Salience of Family	---	-.19***	---	-.05+	---	-.13***	---	-.11***
Wave 2 Time Spent w/Family	---	-.05*	---	-.09**	---	-.10***	---	-.14***
Adjusted R^2	.138	.182	.142	.152	.125	.160	.146	.183
(N)	1543	1543	1543	1543	1543	1543	1543	1543
Wave 1 RSE from Friends	-.35***	-.35***	-.36***	-.36***	-.25***	-.24***	-.21***	-.20***
Wave 2 Salience of Friends	---	-.06*	---	-.05+	---	-.04+	---	-.05*
Wave 2 Time Spent w/Friends	---	-.00	---	-.03	---	.18***	---	.16***
Adjusted R^2	.140	.142	.135	.137	.144	.174	.150	.175
(N)	1326	1326	1326	1326	1326	1326	1326	1326
Wave 1 RSE from Teachers	-.35	-.32***	-.34***	-.32***	-.29***	-.24***	-.23***	-.19***
Wave 2 Salience of School	---	-.11***	---	-.08**	---	-.14***	---	-.14***
Wave 2 Time Spent Studying	---	-.05+	---	-.01	---	-.08**	---	-.05*
Adjusted R^2	.139	.153	.123	.127	.165	.195	.161	.186
(N)	1525	1525	1525	1525	1525	1525	1525	1525

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

The following two sets of tables no longer include reflected self-esteem from teachers, and therefore, the analyses are limited to the domains of parents and friends. The patterns shown in Tables 4.11-4.16 are quite consistent with the results presented in Tables 4.8-4.10. As shown in Table 4.11, persons who have higher levels of reflected self-esteem at wave 2 place significantly more salience on family and spend more time engaged in family activities at wave 3 (shown in the first row); the same results are found for the effects of reflected self-esteem from parents at wave 3 on role embracement at wave 4 (shown in the first row of Table 4.12). Turning to the friend domain, reflected appraisals from friends at time 2 positively influence the importance of friends at wave 3 (shown in the second panel of Table 4.11), and this pattern holds across waves 3 and 4 (shown in the second panel of Table 4.12). However, there is a significant negative relationship between teens positive feelings of reflected self-worth from friends at wave 2 and the amount of time spent with friends at wave 3 (panel 2 of Table 4.11); again, this same result is found for wave 3 reflected appraisals from friends on wave 4 time spent with friends (panel 2 of Table 4.12).

Table 4.11. Standardized Coefficients of OLS Regression Analyses of Wave 3 Salience and Time Spent Regressed on Wave 2 Reflected Self-Esteem[a]

Wave 3		
Independent Variables	DV = Wave 3 Salience	DV= Wave 3 Time Spent in Role
Wave 2 RSE from Parents	.23***	.15***
Adjusted R^2	.964	.118
(N)	1573	1574
Wave 2 RSE from Friends	.12***	-.06*
Adjusted R^2	.051	.037
(N)	1463	1460

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Table 4.12. Standardized Coefficients of OLS Regression Analyses of Wave 4 Salience and Time Spent Regressed on Wave 3 Reflected Self-Esteem[a]

Wave 4		
Independent Variables	DV = Wave 4 Salience	DV= Wave 4 Time Spent in Role
Wave 3 RSE from Parents	.26***	.14***
Adjusted R^2	.081	.126
(N)	1365	1365
Wave 3 RSE from Friends	.09***	-.07**
Adjusted R^2	.039	.021
(N)	1415	1413

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Tables 4.13 and 4.14 summarize the effects of the role embracement variables on mental health. The salience of teens' families and friends at wave 3 reduces mental health problems at wave 4 (Table 4.13), and the same pattern holds for waves 4 and 5 (Table 4.14). In other words, respondents whose families and friends are important to them at time 3 (and time 4) are significantly less likely to have mental health problems at time 4 (and time 5, respectively). The effects of the amount of time spent with family and friends on later mental health problems are less consistent across domains and across mental health outcomes, as well as across waves. For example, persons who spend more time with their families at wave 3 are less likely to suffer from any type of mental health problem at wave 4 (second row of panel 1 in Table 4.13). In contrast, persons who spend more time with their families at wave 4 do not experience any significant benefit (or detriment) to their mental health in terms of social support or loneliness by wave 5 (second row of panel 1 in Table 4.14); although, these persons are less likely to engage in delinquency and substance use by wave 5, which is consistent with the wave 4 results (last two columns of the second row of panel 1 in Tables 4.13 and 4.14). Adding to the inconsistency, there are no effects of time spent with friends at wave 3 (or at wave 4) on perceived social support or feelings of loneliness at time 4 (or at time 5, respectively) (first two columns in the second row of panel 2 in Tables 4.13 and 4.14), but persons who spend more time with their friends at wave 3 (and wave 4) commit significantly more delinquent acts and use substances more by wave 4 (and by wave 5, respectively) (last two columns in the second row of panel 2 in Tables 4.13 and 4.14).

Table 4.13. Standardized Coefficients of OLS Regression Analyses of Wave 4 Mental Health Problems Regressed on Wave 3 Salience and Time Spent in the Role[a]

	Wave 4			
Independent Variables	DV = Wave 4 Lack of Social Support	DV = Wave 4 Loneliness	DV= Wave 4 Delinquency	DV = Wave 4 Alcohol/Drug Use
Wave 3 Salience of Family	-.29***	-.18***	-.15***	-.14**
Wave 3 Time Spent w/Family	-.07**	-.07*	-.13***	-.20***
Adjusted R^2	.133	.052	.113	.156
(N)	1527	1527	1527	1527
Wave 3 Salience of Friends	-.16***	-.12***	-.07**	-.10***
Wave 3 Time Spent w/Friends	-.01	.00	.25***	.25***
Adjusted R^2	.055	.019	.116	.144
(N)	1417	1417	1417	1417

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Table 4.14. Standardized Coefficients of OLS Regression Analyses of Wave 5 Mental Health Problems Regressed on Wave 4 Salience and Time Spent in the Role[a]

	Wave 5			
Independent Variables	DV = Wave 5 Lack of Social Support	DV = Wave 5 Loneliness	DV= Wave 5 Delinquency	DV = Wave 5 Alcohol/Drug Use
Wave 4 Salience of Family	-.31***	-.18***	-.20***	-.20***
Wave 4 Time Spent w/Family	-.01	.00	-.12***	-.19***
Adjusted R^2	.134	.043	.124	.157
(N)	1320	1320	1320	1320
Wave 4 Salience of Friends	-.16***	-.11***	-.08**	-.10***
Wave 4 Time Spent w/Friends	-.01	-.03	.24***	.25***
Adjusted R^2	.062	.026	.123	.127
(N)	1360	1360	1360	1360

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Consistent with the results presented in Table 4.10, reflected appraisals from parents and friends at wave 2 are negatively and significantly related to mental health problems at time 4 and remains so once the role involvement variables are taken into account (see Table 4.15); the same pattern holds for reflected self-esteem from parents and friends at wave 3 on mental health problems at wave 5 (see Table 4.16).

Table 4.15. Standardized Coefficients of OLS Regression Analyses of Wave 4 Mental Health Problems Regressed on Wave 2 Reflected Self-Esteem[a]

	Wave 4							
	DV = Wave 4 Lack of Social Support		DV = Wave 4 Loneliness		DV = Wave 4 Delinquency		DV = Wave 4 Alcohol/Drug Use	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Wave 2 RSE from Parents	-.42***	-.37***	-.36***	-.33***	-.25***	-.21***	-.25***	-.20***
Wave 3 Salience of Family	---	-.22***	---	-.12***	---	-.11***	---	-.10***
Wave 3 Time Spent w/Family	---	-.04	---	-.04	---	-.12***	---	-.19***
Adjusted R^2	.208	.260	.139	.156	.123	.155	.137	.192
(N)	1482	1482	1482	1482	1482	1482	1482	1482
Wave 2 RSE from Friends	-.40***	-.39***	-.35***	-.34***	-.26***	-.24***	-.27***	-.25***
Wave 3 Salience of Friends	---	-.11***	---	-.08**	---	-.03	---	-.07**
Wave 3 Time Spent w/Friends	---	-.04	---	-.03	---	.23***	---	.23***
Adjusted R^2	.182	.196	.123	.129	.120	.166	.147	.198
(N)	1376	1376	1376	1376	1376	1376	1376	1376

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Table 4.16. Standardized Coefficients of OLS Regression Analyses of Wave 5 Mental Health Problems Regressed on Wave 3 Reflected Self-Esteem[a]

	Wave 5							
	DV = Wave 5 Lack of Social Support		DV = Wave 5 Loneliness		DV = Wave 5 Delinquency		DV = Wave 5 Alcohol/Drug Use	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Wave 3 RSE from Parents	-.48***	-.43***	-.39***	-.37***	-.24***	-.19***	-.28***	-.22***
Wave 4 Salience of Family	---	-.21***	---	-.09**	---	-.15***	---	-.15***
Wave 4 Time Spent w/Family	---	.03	---	.02	---	-.11***	---	-.18***
Adjusted R^2	.260	.295	.162	.167	.116	.152	.140	.201
(N)	1294	1294	1294	1294	1294	1294	1294	1294
Wave 3 RSE from Friends	-.44***	-.43***	-.39***	-.39***	-.27***	-.25***	-.30***	-.27***
Wave 4 Salience of Friends	---	-.12***	---	-.07**	---	-.05*	---	-.08***
Wave 4 Time Spent w/Friends	---	-.06*	---	-.06*	---	.22***	---	.23***
Adjusted R^2	.215	.234	.160	.168	.137	.181	.146	.197
(N)	1342	1342	1342	1342	1342	1342	1342	1342

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends). For interpretation ease, results across domains are presented together in this table.

Tables 4.17 through 4.22 present the results of the final two sets of analyses using three consecutive waves of data. Here, only the family domain is examined (because reflected self-esteem regarding friends was not included in the final two waves of interviews). In addition, only social support, delinquency, and alcohol/drug use are included in these analyses because neither loneliness nor depressive symptoms was measured across all three consecutive interviews. Table 4.17 and 4.18 results are consistent with the results presented above. Overall, reflected self-esteem from parents at wave 4 (and at wave 5) significantly predicts the importance of family and the amount of time spent with family by wave 5 (and by wave 6, respectively).

Table 4.17. Standardized Coefficients of OLS Regression Analyses of Wave 5 Salience and Time Spent Regressed on Wave 4 Reflected Self-Esteem[a]

Wave 5		
Independent Variables	DV = Wave 5 Salience	DV= Wave 5 Time Spent in Role
Wave 4 RSE from Parents	.28***	.13***
Adjusted R^2	.085	.134
(N)	1233	1234

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

Table 4.18. Standardized Coefficients of OLS Regression Analyses of Wave 6 Salience and Time Spent Regressed on Wave 5 Reflected Self-Esteem[a]

Wave 6		
Independent Variables	DV = Wave 6 Salience	DV= Wave 6 Time Spent in Role
Wave 5 RSE from Parents	.27***	.09**
Adjusted R^2	.081	.092
(N)	957	956

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

In addition, for those teens whose families are more salient in their lives at wave 5 (and at wave 6), the less these persons perceive a lack of social support, and the less they engage in delinquency and alcohol/drug use at wave 6 (and at wave 7, respectively), as shown in the first row of Tables 4.19 and 4.20. In general, persons who spend more time in activities with their families at wave 5 (and at wave 6) commit fewer delinquent acts and use alcohol/drugs less by wave 6 (and by wave 7, respectively), as evident in the second row of Tables 4.19 and 4.20; however, this relationship is only marginally significant for social support at wave 6 and fails to reach significance for social support at wave 7). While only speculative, one reason for this finding may be due to the different items used to capture social support in waves 6 and 7 compared to the previous interviews—in the final two interviews, this variable corresponds more closely to "received" than "perceived" social support (see Table A.1 in Appendix A for the social support measures).

Table 4.19. Standardized Coefficients of OLS Regression Analyses of Wave 6 Mental Health Problems Regressed on Wave 5 Salience and Time Spent in the Role[a]

	Wave 6		
Independent Variables	DV = Wave 6 Lack of Social Support	DV= Wave 6 Delinquency	DV = Wave 6 Alcohol/Drug Use
Wave 5 Salience of Family	-.23***	-.09**	-.10**
Wave 5 Time Spent w/Family	-.06+	-.11***	-.14***
Adjusted R^2	.107	.109	.079
(N)	1182	1182	1182

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

Table 4.20. Standardized Coefficients of OLS Regression Analyses of Wave 7 Mental Health Problems Regressed on Wave 6 Salience and Time Spent in the Role[a]

	Wave 7		
Independent Variables	DV = Wave 7 Lack of Social Support	DV= Wave 7 Delinquency	DV = Wave 7 Alcohol/Drug Use
Wave 6 Salience of Family	-.23***	-.13***	-.15***
Wave 6 Time Spent w/Family	-.01	-.10**	-.16***
Adjusted R^2	.072	.098	.097
(N)	904	904	904

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

Finally, as shown in Tables 4.21 and 4.22, reflected self-esteem from parents at waves 4 and 5 is significantly and negatively related to the experience of lack of social support, to delinquency, and to alcohol/drug use at waves 6 and 7, respectively. Once again, this finding does not disappear once the role embracement variables are included in the equations.

Table 4.21. Standardized Coefficients of OLS Regression Analyses of Wave 6 Mental Health Problems Regressed on Wave 4 Reflected Self-Esteem[a]

	Wave 6					
	DV = Wave 6 Lack of Social Support		DV = Wave 6 Delinquency		DV = Wave 6 Alcohol/Drug Use	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Wave 4 RSE from Parents	-.25***	-.19***	-.23***	-.21***	-.26***	-.24***
Wave 5 Salience of Family	---	-.19***	---	-.02	---	-.03
Wave 5 Time Spent w/Family	---	-.05	---	-.10***	---	-.12***
Adjusted R^2	.099	.137	.139	.148	.112	.126
(N)	1155	1155	1155	1155	1155	1155

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

Table 4.22. Standardized Coefficients of OLS Regression Analyses of Wave 7 Mental Health Problems Regressed on Wave 5 Reflected Self-Esteem[a]

	Wave 7					
	DV = Wave 7 Lack of Social Support		DV = Wave 7 Delinquency		DV = Wave 7 Alcohol/Drug Use	
Independent Variables	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Wave 5 RSE from Parents	-.27***	-.23***	-.23***	-.20***	-.28***	-.23***
Wave 6 Salience of Family	---	-.16***	---	-.08*	---	-.10**
Wave 6 Time Spent w/Family	---	.01	---	-.09**	---	-.15***
Adjusted R^2	.097	.118	.120	.132	.117	.148
(N)	860	860	860	860	860	860

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled in all of the models; standardized coefficients are presented.

[a] Separate analyses were conducted for each dependent variable. For interpretation ease, results are presented together in this table.

Taken together, the results presented in Tables 4.8-4.22 further confirm the importance of reflected self-esteem in shaping the mental health experiences of adolescents. While the contiguous waves of data presented in Tables 4.1-4.7 suggested that the causal ordering of my main theoretical model was correct, the results of the analyses presented in Tables 4.11-4.22 provide further support for the causal order of the theoretical model. Although, these results once again show that role involvements do not mediate the influence of reflected self-esteem on mental health. At the same time, there are some limitations, which I will return to in the conclusion of this dissertation.

Interaction Analyses

Gender Interactions

Findings on mental health problems in the adult literature indicate strong support for examining an array of mental health problems that tap more "male-oriented" and more "female-oriented" ways of expressing problems. Several scholars have argued (and found) that men are more likely to express problems through externalizing problems/behaviors—such as aggressive/antisocial behavior and substance use, while women are more likely to express problems through internalizing disorders—such as depression (e.g., Aneshensel et al. 1991; Kessler and Zhao 1999; Thoits 1992). The adolescent literature, to a large extent, has restricted research questions on delinquency to samples of boys and questions regarding emotional symptoms to samples of girls, adolescent researchers have begun to see parallel findings to the adult literature in terms of girls reporting internalizing disorders and boys reporting externalizing disorders (e.g., Colten et al. 1991; Dornbusch et al. 1991). Indeed, a major theme in the adolescent literature focuses on why it is girls are more likely than boys to experience feelings of depression during adolescence. Given this well-established pattern of findings in the adult literature and fairly established parallel pattern in the adolescent literature, I have examined both "internalizing" and "externalizing" disorders throughout this dissertation. However, I have yet to examine the ways in which the relationship between reflected self-esteem and this array of mental health outcomes depends on gender. In the next set of analyses, I take advantage of the panel data in order to assess whether gender interacts with changes in reflected self-esteem, resulting in a greater likelihood of girls experiencing change in perceived social support, loneliness, and depression and boys experiencing change in delinquent activity and substance use.

Tables 4.23-4.27 present the results of the gender interaction analyses. The variables included in each set of analyses are the same as those used in the analyses presented in Tables 4.3-4.7 with the exception that I do not include the role embracement variables in this set of analyses—here, I specifically focus on the potential way in which gender moderates the relationship between reflected self-esteem and mental health. Unlike the tables presented thus far in the paper, I include the coefficients for gender, as well as race/ethnicity, and age in Tables 4.23-4.27. In each set of analyses, the main effects are entered in model 1 and the gender interaction is added in model 2. Moreover, each table is divided into three main sections based on the role domains of family, school, and friends. Given that the main effects from previous analyses are replicated and given the number of interactions across the contiguous waves, across domains, and across mental health outcomes, I mainly focus on those interactions that are significant.

As shown in Table 4.23, among persons who experience a positive change in reflected self-esteem from parents across time, in general, girls experience a significant increase in social support compared to boys (time 1 to time 2 = -.08**; time 2 to time 3 = -.07*; time 6 to time 7 = -.08*). Although the gender interaction fails to reach significance at waves 4 and 5, there is only one interaction that suggests boys are more affected than girls by a change in reflected appraisals from parents on change in social support (wave 5-6 = .07+). Moving to the domain of school, increased positive appraisal from teachers elevates perceived social support significantly more for girls than boys (although this effect is only marginally significant for the wave 3 analysis). Finally, the interaction of change in reflected appraisals from friends with gender fails to reach significance with one exception: girls experience a greater positive change in social support as a result of a positive change in reflected self-esteem from friends from time 1 to time 2. Overall, while the relationship of reflected self-esteem with social support does not consistently depend on gender, all significant interactions but one support Hypothesis 14 that girls are more likely than boys to report a decrease in mental health problems in a "female typical" way—perceived social support.

Table 4.23. Change in Lack of Social Support Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.39***	.39***	.38***	.38***	.48***	.48***	.48***	.48***	.18***	.18***	.27***	.27***
Previous wave RSE from Parents	-.33***	-.33***	-.42***	-.42***	-.32***	-.33***	-.33***	-.33***	-.24***	-.24***	-.24***	-.24***
Change in RSE from Parents	-.37***	-.32***	-.40***	-.36***	-.34***	-.32***	-.34***	-.34***	-.17***	-.21***	-.23***	-.17***
Female	-.03+	.00	-.01	.03	-.04*	-.04*	-.04*	-.04*	-.10***	-.12***	-.04	-.04
Black[b]	.06**	.06**	.01	.01	.04*	.04*	.04*	.04*	-.04+	-.04	.01	.01
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.01	-.01	.00	.00	.02	.02	-.01	-.01	.01	.01
Age	-.01	-.00	-.02	-.02	.03	.03+	.02	.02	.03	.03	.03	.03
Change in RSE from Parents * Female	---	-.08**	---	-.07*	---	-.03	---	-.00	---	.07+	---	-.08*
Adjusted R^2	.459	.461	.500	.501	.533	.534	.537	.537	.163	.165	.187	.189
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1316	1316
Previous wave Lack of social support	.45***	.45***	.43***	.43***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.29***	-.29***	-.33***	-.33***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.28***	-.23***	-.28***	-.25***	---	---	---	---	---	---	---	---
Female	-.02	-.02	.00	.00	---	---	---	---	---	---	---	---
Black[b]	.06**	.06**	.02	.02	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.03	-.00	-.00	---	---	---	---	---	---	---	---
Age	-.00	-.00	-.02	-.02	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Female	---	-.08**	---	-.05+	---	---	---	---	---	---	---	---
Adjusted R^2	.409	.412	.417	.418	---	---	---	---	---	---	---	---
(N)	1540	1540	1437	1437								

Table 4.23. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.42***	.42***	.39***	.39***	.51***	.51***	.50***	.50***	---	---	---	---
Previous wave RSE from Friends	-.37***	-.37***	-.38***	-.38***	-.29***	-.29***	-.29***	-.29***	---	---	---	---
Change in RSE from friends	-.36***	-.29***	-.34***	-.32***	-.28***	-.29***	-.29***	-.30***	---	---	---	---
Female	-.01	-.01	.01	.01	-.03	-.03+	-.02	-.02	---	---	---	---
Black[b]	.05**	.05**	.01	.01	.05**	.05**	.03+	.03+	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	.00	.00	-.00	-.00	.02	.02	---	---	---	---
Age	-.01	-.01	-.01	-.01	.02	.02	.03	.03	---	---	---	---
Change in RSE from Friends * Female	---	-.09***	---	-.03	---	.02	---	.01	---	---	---	---
Adjusted R^2	.443	.447	.444	.444	.498	.497	.512	.511	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Moving to Table 4.24, the interactions for change in reflected self-esteem by gender on loneliness generally provide further support for Hypothesis 14 (with one exception). First, girls more than boys experience increased feelings of loneliness when there is a drop in reflected self-esteem from parents (at wave 2, -.10**). However, at wave 4 boys become significantly lonelier than girls in response to a negative change in reflected appraisals from parents. This finding is surprising, and one for which I do not have a ready explanation. The two remaining significant gender interaction effects support my initial hypothesis. Girls' feelings of loneliness decrease more than boys' with a positive change in reflected appraisals from teachers (shown in wave 2, -.09***). Finally, among those who experience a positive change in reflected self-worth from friends, girls' loneliness decreases more than boys' at Time 2 (-.08**). The findings from Table 4.25 are mentioned here next, given that depression is considered a "female" typed expression of mental health problems. As shown in this table, the interaction is not significant, suggesting that even though women/girls in general experience a significant increase in depressive symptoms from wave 6 to wave 7, the effect of change in reflected self-esteem from parents on change in depression does not differ substantially for boys and girls. In general, although few interaction coefficients are significant for perceived support, loneliness, and depression, and two have signs counter to my expectations, increases in reflected self-esteem produce decreases in emotional problems more for girls than for boys.

Table 4.24. Change in Loneliness Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.34***	.34***	.41***	.41***	.46***	.46***	.47***	.47***
Previous wave RSE from Parents	-.35***	-.35***	-.36***	-.36***	-.28***	-.27***	-.29***	-.29***
Change in RSE from Parents	-.34***	-.28***	-.33***	-.36***	-.28***	-.32***	-.31***	-.31***
Female	-.01	.02	.02	-.01	.00	-.00	.01	.01
Black[b]	.02	.02	-.01	-.01	-.03	-.03	.04*	.04*
Persons from Other Racial Backgrounds[b]	.00	.00	.01	.01	-.00	-.00	.00	.00
Age	.02	.02	.01	.01	.08***	.08***	.04*	.04*
Change in RSE from Parents * Female	---	-.10**	---	.05	---	.07**	---	.01
Adjusted R^2	.377	.380	.443	.443	.401	.403	.441	.441
(N)	1573	1573	1561	1561	1503	1503	1439	1439
Previous wave Loneliness	.35***	.36***	.41***	.41***	---	---	---	---
Previous wave RSE from Teachers	-.41***	-.41***	-.36***	-.36***	---	---	---	---
Change in RSE from teachers	-.35***	-.31***	-.35***	-.34***	---	---	---	---
Female	.00	.01	.04+	.04+	---	---	---	---
Black[b]	.01	.01	-.01	-.01	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.01	-.01	.01	.01	---	---	---	---
Age	.01	.01	.02	.02	---	---	---	---
Change in RSE from Teachers * Female	---	-.09***	---	-.02	---	---	---	---
Adjusted R^2	.377	.383	.431	.431	---	---	---	---
(N)	1538	1538	1490	1490				

Table 4.24. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.35***	.36***	.41***	.41***	.43***	.43***	.47***	.47***
Previous wave RSE from Friends	-.41***	-.41***	-.36***	-.36***	-.33***	-.32***	-.29***	-.29***
Change in RSE from friends	-.34***	-.29***	-.35***	-.35***	-.28***	-.30***	-.29***	-.30***
Female	.00	.01	.05*	.05*	.02	.02	.03	.03
Black[b]	.01	.01	-.01	-.01	-.01	-.01	.04+	.04+
Persons from Other Racial Backgrounds[b]	-.01	-.01	.02	.02	.00	.01	.00	.00
Age	.01	.01	.02	.02	.04*	.04*	.04*	.04*
Change in RSE from Friends * Female	---	-.08**	---	.01	---	.02	---	.00
Adjusted R^2	.377	.380	.436	.436	.410	.410	.431	.431
(N)	1570	1570	1560	1560	1508	1508	1447	1447

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Table 4.25. Change in Depression Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 7	
	(1)	(2)
Previous Wave of Depression	.42***	.42***
Previous wave RSE from Parents	-.12***	-.12***
Change in RSE from Parents	-.14***	-.14***
Female	.09***	.09***
Black[a]	.03	.03
Persons from Other Racial Backgrounds[a]	.02	.02
Age	-.08***	-.08***
Change in RSE from Parents * Female	---	.00
Adjusted R^2	.226	.226
(N)	1314	1314

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Whites are the excluded category.

Table 4.26 shows the gender interactions for delinquency and Table 4.27 for alcohol/drug use. If my expectations are supported, boys should be more affected by changes in reflected self-esteem in terms of delinquency and substance use than girls. Please note that for the ease of interpretation that for the analyses regarding delinquency and substance use, I have constructed the gender variable so that boys/men are coded 1. Overall, boys are significantly more likely to increase delinquent activity across time compared to girls (see the main effects of "male" on changes in delinquency in each model 1 of Table 4.26). However, among those teens who experience a positive change in reflected self-esteem from parents, teachers, and friends boys are significantly more likely than girls to decrease their delinquency over time—a finding consistent with expectations.

Table 4.26. Change in Delinquency Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.58***	.58***	.62***	.62***	.68***	.68***	.71***	.71***	.58***	.58***	.59***	.59***
Previous wave RSE from Parents	-.14***	-.14***	-.14***	-.14***	-.14***	-.14***	-.09***	-.09***	-.04*	-.04+	-.12***	-.13***
Change in RSE from Parents	-.23***	-.18***	-.19***	-.13***	-.15***	-.13***	-.17***	-.12***	-.12***	-.07*	-.15***	-.10***
Male	.09***	.13***	.09***	.14***	.04*	.04*	.06***	.07***	.12***	.14***	.08***	.08***
Black[b]	-.04*	-.04+	-.07***	-.07***	-.02	-.02	-.04*	-.04*	-.04*	-.04*	-.02	-.03
Persons from Other Racial Backgrounds[b]	-.01	-.01	-.02	-.02	.00	.00	-.01	-.01	-.03	-.03	-.01	-.01
Age	.01	.01	-.02	-.02	-.08***	-.08***	-.08***	-.08***	-.07***	-.07***	-.06**	-.06**
Change in RSE from Parents * Male	---	-.09**	---	-.09**	---	-.02	---	-.06**	---	-.07**	---	-.07*
Adjusted R^2	.479	.482	.530	.533	.567	.567	.594	.596	.432	.434	.442	.444
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Delinquency	.59***	.59***	.64***	.64***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.16***	-.16***	-.14***	-.14***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.21***	-.19***	-.19***	-.15***	---	---	---	---	---	---	---	---
Male	.09***	.09***	.08***	.09***	---	---	---	---	---	---	---	---
Black[b]	-.03+	-.03+	-.08***	-.08***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.01	-.01	-.02	-.02	---	---	---	---	---	---	---	---
Age	.02	.02	-.01	-.01	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Male	---	-.05*	---	-.11***	---	---	---	---	---	---	---	---
Adjusted R^2	.482	.483	.560	.569	---	---	---	---	---	---	---	---
(N)	1538	1538	1493	1493								

Table 4.26. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.59***	.59***	.62***	.62***	.68***	.68***	.71***	.71***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.15***	-.15***	-.15***	-.14***	-.14***	-.10***	-.10***	---	---	---	---
Change in RSE from friends	-.23***	-.17***	-.19***	-.14***	-.15***	-.15***	-.16***	-.12***	---	---	---	---
Male	.09***	.09***	.08***	.09***	.03	.03	.05**	.06**	---	---	---	---
Black[b]	-.04*	-.04*	-.07***	-.07***	-.02	-.02	-.04**	-.04**	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.03	-.03	-.00	-.00	-.01	-.01	---	---	---	---
Age	.01	.01	-.02	-.02	-.08***	-.08***	-.07***	-.07***	---	---	---	---
Change in RSE from Friends * Female	---	-.08**	---	-.07**	---	.01	---	-.06*	---	---	---	---
Adjusted R^2	.480	.483	.532	.534	.571	.571	.596	.598	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Next, I turn to the gender interactions for substance use presented in Table 4.27. Once again, in general, boys are more likely than girls to increase substance use across time, although there are a number of coefficients that fail to reach significance, suggesting that at least among this sample of respondents, boys increase delinquent activity more so than alcohol/drug use over time (at least relative to girls). In comparison to the interaction effects shown in Table 4.26 for changes in delinquency, there are far fewer interactions effects of change in reflected self-esteem with gender regarding changes in drinking and drug use. In fact, only two interaction effects are significant in this table. First, boys are significantly more likely to decrease their use of alcohol/drugs compared to girls by wave 4 as a result of a positive change in reflected self-esteem from parents (-.07**). Second, positive change in reflected appraisals from teachers results in decreased substance use relatively more so for boys than for girls (-.08***).

Table 4.27. Change in Alcohol/Drug Use Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug Use	.54***	.54***	.52***	.52***	.61***	.61***	.75***	.75***	.62***	.62***	.62***	.62***
Previous wave RSE from Parents	-.11***	-.11***	-.23***	-.23***	-.22***	-.22***	-.11***	-.11***	-.10***	-.10***	-.15***	-.16***
Change in RSE from Parents	-.16***	-.17***	-.17***	-.16***	-.16***	-.11***	-.10***	-.09***	-.09***	-.06*	-.11***	-.10***
Male	.00	.00	.05**	.06*	-.03+	-.03	.03*	.03*	.05**	.06**	.02	.03
Black[b]	-.06**	-.06**	-.11***	-.11***	-.11***	-.11***	-.06***	-.06***	-.06**	-.06**	-.04*	-.05*
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.02	-.02	-.02	-.02	-.03*	-.03*	.01	.01	-.06**	-.06**
Age	.09***	.09***	.20***	.20***	.05*	.04*	.01	.01	-.10***	-.10***	-.07***	-.07***
Change in RSE from Parents * Male	---	.01	---	-.02	---	-.07**	---	-.01	---	-.04	---	-.02
Adjusted R^2	.413	.413	.462	.462	.523	.525	.655	.655	.446	.447	.478	.478
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Alcohol/Drug Use	.54***	.54***	.52***	.52***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.14***	-.14***	-.23***	-.23***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.15***	-.15***	-.18***	-.15***	---	---	---	---	---	---	---	---
Male	-.00	.00	.03+	.04+	---	---	---	---	---	---	---	---
Black[b]	-.06**	-.06**	-.11***	-.10***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03+	-.03+	---	---	---	---	---	---	---	---
Age	.09***	.09***	.21***	.20***	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Male	---	-.01	---	-.08***	---	---	---	---	---	---	---	---
Adjusted R^2	.411	.410	.455	.459	---	---	---	---	---	---	---	---
(N)	1538	1538	1493	1493								

Table 4.27. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug Use	.53***	.53***	.52***	.52***	.61***	.61***	.76***	.76***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.15***	-.23***	-.23***	-.23***	-.23***	-.11***	-.11***	---	---	---	---
Change in RSE from friends	-.17***	-.16***	-.18***	-.16***	-.17***	-.18***	-.14***	-.11***	---	---	---	---
Male	.00	.00	.03+	.04+	-.04*	-.04*	.02	.02	---	---	---	---
Black[b]	-.07***	-.07***	-.10***	-.10***	-.11***	-.11***	-.06***	-.05***	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03	-.03	-.02	-.02	-.03+	-.03+	---	---	---	---
Age	.09***	.09***	.20***	.20***	.04*	.04*	.00	.00	---	---	---	---
Change in RSE from Friends * Female	---	-.01	---	-.03	---	.01	---	-.03	---	---	---	---
Adjusted R^2	.408	.407	.459	.459	.530	.530	.652	.652	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

In sum, Hypothesis 14 is supported: Changes in reflected self-esteem differentially affect boys and girls depending on the type of mental health outcome examined. Specifically, increased feelings of reflected self-worth are protective for girls' well-being in terms of reducing perceived lack of social support, feelings of loneliness, and depression, while increased feelings of reflected self-esteem are protective for boys' well-being in terms of reducing delinquency and substance use.

Race/Ethnicity Interactions

In the final two sets of longitudinal analyses, first, I explore the potential moderating effects of race/ethnicity in the relationship between change in reflected self-esteem and change in mental health. Then, I explore the interactions of change in reflected self-esteem with age on mental health. Given the lack of theoretical and empirical research on race/ethnicity, identity processes, and mental health in adolescence, I treat these analyses as exploratory, offering no specific hypotheses. An initial glance at the race/ethnicity interactions in Tables 4.28-4.32 suggests that there are very few moderating effects of changes in reflected self-esteem on changes in mental health, especially when examining social support and loneliness. However, there are some interesting patterns regarding race/ethnicity evident in this set of tables.

In Table 4.28, the main effects of race indicate that blacks are significantly more likely than whites to experience an increase in lack of perceived social support over time; however, persons from other racial backgrounds do not significantly differ from whites in change in social support over time. Turning to the interaction effects, there is only one significant finding across all role domains: among persons who have experienced a positive change in reflected appraisals from parents at wave 5, persons from other racial backgrounds experience a significant increase in perceived social support, compared to white adolescents. In Table 4.29, there are virtually no race/ethnic interactions that influence changes in loneliness, with one exception at Wave 2. Blacks are significantly more likely than whites to have reduced feelings of loneliness from time 1 to time 2 in response to a positive change in reflected self-esteem from parents. Turning to Table 4.30, the relationship between change in reflected self-worth from parents on change in depression is not dependent on race (with the exception of a marginally significant effect at Wave 7, where persons other than blacks and whites are slightly more likely to experience a reduction in depression due to

a positive change in reflected appraisals from parents). Overall, when the "female-typical" outcomes are examined, it appears that the effects of changes in reflected self-esteem (across domains) on alterations of social support and loneliness are not dependent on the race/ethnicity of the respondent.

Table 4.28. Change in Lack of Social Support Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.39***	.39***	.38***	.38***	.48***	.48***	.48***	.48***	.18***	.18***	.27***	.27***
Previous wave RSE from Parents	-.33***	-.33***	-.42***	-.42***	-.32***	-.33***	-.33***	-.33***	-.24***	-.24***	-.24***	-.25***
Change in RSE from Parents	-.37***	-.32***	-.40***	-.39***	-.34***	-.36***	-.34***	-.33***	-.17***	-.18***	-.23***	-24***
Female	-.03+	-.03	-.01	-.01	-.04*	-.04*	-.04*	-.04*	-.10***	-.10***	-.04	-.04
Black[b]	.06**	.06**	.01	.03	.04*	.04*	.04*	.04*	-.04+	-.05+	.01	.01
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.01	-.02	.00	.00	.02	.02	-.01	-.01	.01	.00
Age	-.01	-.01	-.02	-.02	.03	.03	.02	.02	.03	.03	.03	.03
Change in RSE from Parents * Black	---	.00	---	-.03	---	.03	---	.01	---	.01	---	.02
Change in RSE from Parents * Other Race	---	-.01	---	.02	---	.03+	---	-.06**	---	.04	---	.02
Adjusted R^2	.459	.458	.500	.500	.533	.543	.537	.539	.163	.163	.187	.186
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1316	1316
Previous wave Lack of social support	.45***	.45***	.43***	.43***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.29***	-.29***	-.33***	-.33***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.28***	-.27***	-.28***	-.28***	---	---	---	---	---	---	---	---
Female	-.02	-.02	.00	.00	---	---	---	---	---	---	---	---
Black[b]	.06**	.06**	.02	.03	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.03	-.00	-.00	---	---	---	---	---	---	---	---
Age	-.00	-.00	-.02	-.02	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Black	---	-.03	---	-.04	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Other Race	---	-.00	---	.03	---	---	---	---	---	---	---	---
Adjusted R^2	.409	.409	.417	.418	---	---	---	---	---	---	---	---
(N)	1540	1540	1437	1437								

Table 4.28. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.42***	.42***	.39***	.39***	.51***	.51***	.50***	.50***	---	---	---	---
Previous wave RSE from Friends	-.37***	-.37***	-.38***	-.38***	-.29***	-.29***	-.29***	-.30***	---	---	---	---
Change in RSE from friends	-.36***	-.35***	-.34***	-.32***	-.28***	-.29***	-.29***	-.28***	---	---	---	---
Female	-.01	-.01	.01	.01	-.03	-.03	-.02	-.02	---	---	---	---
Black[b]	.05**	.05**	.01	.02	.05**	.05**	.03+	.03+	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	.00	.00	-.00	-.00	.02	.01	---	---	---	---
Age	-.01	-.01	-.01	-.01	.02	.02	.03	.02	---	---	---	---
Change in RSE from Friends * Black	---	-.01	---	-.04	---	.01	---	-.01	---	---	---	---
Change in RSE from Friends * Other Race	---	-.02	---	-.00	---	.00	---	-.02	---	---	---	---
Adjusted R^2	.443	.443	.444	.444	.498	.497	.512	.511	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Table 4.29. Change in Loneliness Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.34***	.34***	.41***	.41***	.46***	.45***	.47***	.47***
Previous wave RSE from Parents	-.35***	-.35***	-.36***	-.36***	-.28***	-.28***	-.29***	-.30***
Change in RSE from Parents	-.34***	-.32***	-.33***	-.32***	-.28***	-.28***	-.31***	-.30***
Female	-.01	-.02	.02	.02	.00	.00	.01	.01
Black[b]	.02	.04	-.01	.01	-.03	-.03	.04*	.04*
Persons from Other Racial Backgrounds[b]	.00	.01	.01	.00	-.00	-.00	.00	.01
Age	.02	.02	.01	.01	.08***	.08***	.04*	.04*
Change in RSE from Parents * Black	---	-.05*	--	-.03	---	-.02	---	-.01
Change in RSE from Parents * Other Race	---	-.01	---	.01	---	.02	---	-.03
Adjusted R^2	.377	.378	.443	.442	.401	.401	.441	.441
(N)	1573	1573	1561	1561	1503	1503	1439	1439
Previous wave Loneliness	.38***	.37***	.44***	.44***	---	---	---	---
Previous wave RSE from Teachers	-.36***	-.36***	-.29***	-.29***	---	---	---	---
Change in RSE from teachers	-.34***	-.33***	-.29***	-.30***	---	---	---	---
Female	-.00	-.00	.02	.02	---	---	---	---
Black[b]	.02	.02	.01	.01	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.01	-.01	.02	.02	---	---	---	---
Age	.01	.01	.01	.01	---	---	---	---
Change in RSE from Teachers * Black	---	-.03	---	.05	---	---	---	---
Change in RSE from Teachers * Other Race	---	-.01	---	.03	---	---	---	---
Adjusted R^2	.370	.370	.400	.400	---	---	---	---
(N)	1540	1540	1437	1437				

Table 4.29. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.35***	.35***	.41***	.41***	.43***	.43***	.47***	.47***
Previous wave RSE from Friends	-.41***	-.41***	-.36***	-.36***	-.33***	-.33***	-.29***	-.29***
Change in RSE from friends	-.34***	-.34***	-.35***	-.36***	-.28***	-.29***	-.29***	-.30***
Female	.00	.00	.05*	.05*	.02	.02	.03	.03
Black[b]	.01	.01	-.01	-.01	-.01	-.00	.04+	.04+
Persons from Other Racial Backgrounds[b]	-.01	-.01	.02	.01	.00	.00	.00	-.00
Age	.01	.01	.02	.02	.04*	.04*	.04*	.05*
Change in RSE from Friends * Black	---	-.00	---	.02	---	-.01	---	.01
Change in RSE from Friends * Other Race	---	-.02	---	.03	---	.03	---	-.01
Adjusted R^2	.377	.376	.436	.436	.410	.410	.431	.430
(N)	1570	1570	1560	1560	1508	1508	1447	1447

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Table 4.30. Change in Depression Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 7	
	(1)	(2)
Previous Wave of Depression	.42***	.42***
Previous wave RSE from Parents	-.12***	-.12***
Change in RSE from Parents	-.14***	-.12***
Female	.09***	.09***
Black [a]	.03	.04
Persons from Other Racial Backgrounds [a]	.02	.03
Age	-.08***	-.08***
Change in RSE from Parents * Black	---	-.02
Change in RSE from Parents * Persons from Other Race	---	-.04+
Adjusted R^2	.226	.227
(N)	1314	1314

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Whites are the excluded category.

Tables 4.31 and 4.32 indicate that race/ethnicity moderates the relationships of reflected self-esteem with delinquency and substance use more so than in the cases of social support, loneliness, and depression. For example, blacks are generally significantly less likely than whites to increase their delinquent activity over time, and teens of other races do not significantly differ from whites in their delinquent activities. But among teens who had a positive change in reflected appraisals from parents (at wave 3) teens of races other than black or white declined more in delinquent activities than did whites (-.05*). This relationship is also marginally significant at wave 4. This same pattern holds for changes in reflected self-esteem from friends (see the last row of coefficients in the final panel in Table 4.31). At the same time, when examining the friendship domain, an opposite effect emerges for blacks. That is, among adolescents whose reflected self-esteem from friends goes up over time, blacks commit significantly more delinquent acts than whites at Wave 3 and at Wave 5 (Wave 3 = .04*; Wave 5 = .04*).

Table 4.31. Change in Delinquency Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.58***	.57***	.62***	.62***	.68***	.68***	.71***	.71***	.58***	.58***	.59***	.59***
Previous wave RSE from Parents	-.14***	-.14***	-.14***	-.14***	-.14***	-.14***	-.09***	-.09***	-.04*	-.04*	-.12***	-.13***
Change in RSE from Parents	-.23***	-.24***	-.19***	-.19***	-.15***	-.14***	-.17***	-.18***	-.12***	-.12***	-.15***	-.16***
Female	-.09***	-.09***	-.09***	-.09***	-.04*	-.04*	-.06***	-.06***	-.12***	-.12***	-.08***	-.08***
Black[b]	-.04*	-.05*	-.07***	-.09***	-.02	-.02	-.04*	-.04*	-.04*	-.05*	-.02	-.03
Persons from Other Racial Backgrounds[b]	-.01	-.02	-.02	.02	.00	.00	-.01	-.01	-.03	-.03	-.01	-.02
Age	.01	.01	-.02	-.02	-.08***	-.08***	-.08***	-.08***	-.07***	-.07***	-.06**	-.06**
Change in RSE from Parents * Black	---	.02	---	.02	---	-.01	---	.02	---	.01	---	.02
Change in RSE from Parents * Other Race	---	.01	---	-.05*	---	-.03+	---	-.01	---	.00	---	.01
Adjusted R^2	.479	.479	.530	.531	.567	.567	.594	.594	.432	.431	.442	.442
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Delinquency	.57***	.57***	.64***	.64***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.19***	-.19***	-.14***	-.14***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.20***	-.18***	-.20***	-.21***	---	---	---	---	---	---	---	---
Female	-.09***	-.09***	-.07***	-.07***	---	---	---	---	---	---	---	---
Black[b]	-.04+	-.03+	-.07***	-.07***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.02	-.02	---	---	---	---	---	---	---	---
Age	.03+	.03+	.01	.01	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Black	---	-.02	---	.02	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Other Race	---	-.02	---	.00	---	---	---	---	---	---	---	---
Adjusted R^2	.476	.476	.565	.564	---	---	---	---	---	---	---	---
(N)	1540	1540	1437	1437								

Table 4.31. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.59***	.59***	.62***	.62***	.68***	.68***	.71***	.71***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.15***	-.15***	-.15***	-.14***	-.14***	-.10***	-.10***	---	---	---	---
Change in RSE from friends	-.23***	-.28***	-.19***	-.20***	-.15***	-.13***	-.16***	-.18***	---	---	---	---
Female	-.09***	-.09***	-.08***	-.08***	-.03	-.03+	-.05**	-.05**	---	---	---	---
Black[b]	-.04*	-.04*	-.07***	-.07***	-.02	-.02	-.04**	-.04**	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.03	-.02	-.00	.00	-.01	-.01	---	---	---	---
Age	.01	.01	-.02	-.02	-.08***	-.08***	-.07***	-.07***	---	---	---	---
Change in RSE from Friends * Black	---	-.01	---	.04*	---	-.03	---	.04*	---	---	---	---
Change in RSE from Friends * Other Race	---	-.01	---	-.03+	---	-.04**	---	-.01	---	---	---	---
Adjusted R^2	.480	.482	.532	.534	.571	.573	.596	.597	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

Turning to the changes in alcohol/drug use, in general, whites are significantly more likely than blacks to increase alcohol and drug use over time (refer to the main effects for "blacks" in Table 4.32). Whites are also more likely to increase their substance use relative to teens of races other than black or white, although these effects are not as consistently significant as those for blacks. The interaction effect for blacks that was evident in Table 4.31 also holds in Table 4.32 with respect to substance use at Wave 6. Among persons with increased positive reflected appraisals from parents, blacks increase their use of substances from time 5 to time 6 more than their white counterparts.

At wave 2 white teens reduce their substance use more, and at waves 4, 5, and 7 (although the effect at wave 7 is only marginally significant), teens from racial backgrounds other than blacks or whites reduce their substance use more when reflected self-esteem from parents is raised. Finally, a positive change in reflected appraisals from friends from wave 3 to wave 4 is significantly associated with a decrease in substance use for teens of racial/ethnic backgrounds compared to whites (refer to the final panel in Table 4.32).

Table 4.32. Change in Alcohol/Drug Use Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.54***	.55***	.52***	.52***	.61***	.61***	.75***	.76***	.62***	.62***	.62***	.62***
Previous wave RSE from Parents	-.11***	-.11***	-.23***	-.23***	-.22***	-.22***	-.11***	-.11***	-.10***	-.10***	-.15***	-.15***
Change in RSE from Parents	-.16***	-.19***	-.17***	-.17***	-.16***	-.16***	-.10***	-.10***	-.09***	-.12***	-.11***	-.10***
Female	-.00	-.00	-.05**	-.05**	.03+	.03+	-.03*	-.03*	-.05**	-.05**	-.02	-.02
Black[b]	-.06**	-.07**	-.11**	-.11***	-.11***	-.11***	-.06***	-.06***	-.06**	-.08***	-.04*	-.04*
Persons from Other Racial Backgrounds[b]	-.02	-.06**	-.02	-.03	-.02	-.02	-.03*	-.03+	.01	.01	-.06**	-.05*
Age	.09***	.09***	.20***	.20***	.05*	.05**	.01	.01	-.10***	-.10***	-.07***	-.07***
Change in RSE from Parents * Black	---	.03	---	.01	---	.01	---	.03	---	.06*	---	-.01
Change in RSE from Parents * Other Race	---	.07**	---	.01	---	-.05**	---	-.04*	---	.01	---	-.04+
Adjusted R^2	.413	.416	.462	.462	.523	.525	.655	.656	.446	.448	.478	.479
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Alcohol/Drug use	.53***	.53***	.52***	.52***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.15***	-.15***	-.23***	-.23***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.17***	-.17***	-.19***	-.19***	---	---	---	---	---	---	---	---
Female	-.00	-.00	-.03	-.03	---	---	---	---	---	---	---	---
Black[b]	-.06***	-.07***	-.10***	-.10***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03	-.03	---	---	---	---	---	---	---	---
Age	.10***	.10***	.20***	.20***	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Black	---	.02	---	.01	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Other Race	---	.02	---	-.01	---	---	---	---	---	---	---	---
Adjusted R^2	.406	.406	.462	.461	---	---	---	---	---	---	---	---
(N)	1554	1554	1525	1525								

Table 4.32. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.53***	.53***	.52***	.52***	.61***	.61***	.76***	.76***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.15***	-.23***	-.23***	-.23***	-.23***	-.11***	-.11***	---	---	---	---
Change in RSE from friends	-.17***	-.19***	-.18***	-.19***	-.17***	-.16***	-.14***	-.15***	---	---	---	---
Female	-.00	-.00	-.03+	-.03+	.04*	.04*	-.02	-.02	---	---	---	---
Black[b]	-.07***	-.07***	-.10***	-.10***	-.11***	-.11***	-.06***	-.06***	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03	-.03	-.02	-.02	-.03+	-.03+	---	---	---	---
Age	.09***	.09***	.20***	.20***	.04*	.04*	.00	.00	---	---	---	---
Change in RSE from Friends * Black	---	.02	---	.01	---	.01	---	.03	---	---	---	---
Change in RSE from Friends * Other Race	---	.02	---	.01	---	-.05**	---	-.01	---	---	---	---
Adjusted R^2	.408	.408	.459	.458	.530	.532	.652	.652	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

On the whole, there are surprisingly few race/ethnic interactions among this sample of respondents. Perhaps the effects of reflected self-esteem and changes in reflected self-esteem shape adolescent experiences and ultimately their mental health regardless of race/ethnicity. At the same time, there are far fewer blacks and persons of other racial backgrounds in this sample than whites, which may play a role in my ability to adequately capture racial/ethnic effects in a sample of this size. I will return this potential limitation later in the dissertation.

Age Interactions

As with racial/ethnic variations in the effects of change in reflected self-esteem on mental health, I make no a priori predictions regarding possible age variations in these effects. Before turning to the results of the analyses presented in Tables 4.33-4.37, it is important to note that the age variable for these analyses was constructed differently than the continuous variable used in previous analyses. For each wave I created a dummy variable for younger person (yes = 1). The three youngest age groups at each wave were considered "younger." The four oldest age groups at each wave were considered "older." For clarity, younger persons at wave 2 are those respondents age 11-13 (older persons are age 14-17); younger persons at wave 2 are 12-14 years old (older persons are 15-18 years old); at wave 3 the younger are 13-15 (the older are 16-19); at wave 4 the younger are 14-16 (the older are 17-20); at wave 5 younger persons are 15-17 years old (older persons are 18-21 years old); at wave 6 persons 18-20 are considered younger (those age 21-24 are considered older); and, finally at wave 7 the younger are 21-23 years old (the older are 24-27 years old).

As shown in models 1 in Tables 4.33-4.37, age rarely influences change in emotional and behavioral problems over time. Moreover, of the 47 interactions tested over Tables 4.28-4.32, eight coefficients were significant, and six of those were negative in sign. Thus, when age moderates the association between change in reflected self-esteem and change in mental health, it is usually the case that younger persons' mental health problems decline more than older persons'.

In general, positive change in reflected self-esteem is more likely to reduce "female typical" mental health problems (i.e., lack of social support, loneliness, and depression) in girls/women and reduces "male typical" problems (i.e., delinquency and substance use) more so for boys/men than for girls. It

appears that race/ethnicity as well as age do not substantially alter the impact of changes in reflected self-esteem on mental health. In short, the identity processes examined in the previous and the present chapters appear to hold regardless of the gender, race/ethnicity, or age of the adolescent.

Table 4.33. Change in Lack of Social Support Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.39***	.39***	.38***	.38***	.48***	.48***	.48***	.48***	.18***	.18***	.27***	.27***
Previous wave RSE from Parents	-.33***	-.33***	-.42***	-.42***	-.32***	-.32***	-.33***	-.33***	-.24***	-.24***	-.24***	-.24***
Change in RSE from Parents	-.37***	-.36***	-.40***	-.44***	-.34***	-.34***	-.34***	-.34***	-.17***	-.16***	-.23***	-.18***
Female	-.03+	-.03+	-.01	-.01	-.04**	-.04**	-.04*	-.04*	-.10***	-.10***	-.04	-.04
Black[b]	.06**	.06**	.01	.01	.04*	.04*	.04*	.04*	-.04+	-.04+	.01	.01
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.01	-.01	.00	.00	.02	.02	-.01	-.01	.00	.00
Younger Persons[c]	.02	.04	.02	-.03	.00	.00	-.03+	-.03+	-.04	-.04	-.01	-.00
Change in RSE from Parents * Younger Persons	---	-.03	---	.07**	---	-.01	---	-.00	---	-.00	---	-.06+
Adjusted R^2	.459	.459	.500	.502	.533	.532	.538	.537	.163	.163	.186	.187
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1316	1316
Previous wave Lack of social support	.45***	.45***	.43***	.43***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.29***	-.30***	-.33***	-.33***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.28***	-.25***	-.28***	-.29***	---	---	---	---	---	---	---	---
Female	-.02	-.02	.00	.00	---	---	---	---	---	---	---	---
Black[b]	.06**	.06**	.02	.02	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.03	.00	.00	---	---	---	---	---	---	---	---
Younger Persons[c]	.02	.02	.01	.01	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Young Persons	---	-.05+	---	.01	---	---	---	---	---	---	---	---
Adjusted R^2	.409	.410	.416	.416	---	---	---	---	---	---	---	---
(N)	1540	1540	1437	1437								

Table 4.33. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.42***	.42***	.39***	.39***	.51***	.51***	.50***	.50***	---	---	---	---
Previous wave RSE from Friends	-.37***	-.37***	-.38***	-.38***	-.29***	-.29***	-.29***	-.29***	---	---	---	---
Change in RSE from friends	-.36***	-.33***	-.34***	-.35***	-.28***	-.25***	-.29***	-.27***	---	---	---	---
Female	-.02	-.01	.01	.01	-.03+	-.03+	-.02	-.02	---	---	---	---
Black[b]	.05**	.05**	.01	.01	.05**	.05**	.03+	.03+	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	.00	.00	-.00	-.01	.02	.02	---	---	---	---
Younger Persons[c]	.02	.03	-.00	-.01	.01	.01	-.04*	-.04+	---	---	---	---
Change in RSE from Friends * Young Persons	---	-.03	---	.02	---	-.05*	---	-.03	---	---	---	---
Adjusted R^2	.444	.444	.444	.444	.497	.498	.512	.513	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

[c] Older Persons are the excluded category.

Table 4.34. Change in Loneliness Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.35***	.35***	.41***	.41***	.46***	.46***	.48***	.48***
Previous wave RSE from Parents	-.35***	-.35***	-.36***	-.36***	-.28***	-.28***	-.29***	-.29***
Change in RSE from Parents	-.34***	-.31***	-.33***	-.36***	-.27***	-.28***	-.31***	-.32***
Female	-.01	-.01	.02	.02	.00	.00	.01	.01
Black[b]	.02	.02	-.01	-.01	-.03	-.03	.04*	.04*
Persons from Other Racial Backgrounds[b]	.00	.00	.01	.01	-.01	-.01	.00	.00
Younger Persons[c]	-.01	.01	-.01	-.04	.04*	-.04*	-.06**	-.06**
Change in RSE from Parents * Young Persons	---	-.05+	---	.06+	---	.01	---	.02
Adjusted R^2	.377	.378	.443	.443	.397	.396	.443	.442
(N)	1573	1573	1561	1561	1503	1503	1439	1439
Previous wave Loneliness	.36***	.36***	.41***	.41***	---	---	---	---
Previous wave RSE from Teachers	-.40***	-.40***	-.36***	-.36***	---	---	---	---
Change in RSE from teachers	-.34***	-.31***	-.35***	-.36***	---	---	---	---
Female	.01	.00	.04*	.04*	---	---	---	---
Black[b]	.01	.01	-.01	-.01	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.01	-.01	.02	.02	---	---	---	---
Younger Persons[c]	-.00	.01	-.02	-.03	---	---	---	---
Change in RSE from Teachers * Young Persons	---	-.08***	---	.02	---	---	---	---
Adjusted R^2	.379	.384	.436	.435	---	---	---	---
(N)	1554	1554	1548	1548				

Table 4.34. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.35***	.35***	.41***	.41***	.43***	.43***	.47***	.47***
Previous wave RSE from Friends	-.41***	-.41***	-.36***	-.36***	-.33***	-.33***	-.29***	-.29***
Change in RSE from friends	-.34***	-.33***	-.35***	-.35***	-.28***	-.30***	-.30***	-.27***
Female	.00	.00	.05*	.05*	.02	.02	.03	.03
Black[b]	.01	.01	-.01	-.01	-.01	-.01	.04+	.04+
Persons from Other Racial Backgrounds[b]	-.01	-.01	.02	.02	.00	.00	.00	.00
Younger Persons[c]	.00	.00	-.02	-.03	-.01	-.01	-.06**	-.06**
Change in RSE from Friends * Young Persons	---	-.03	---	.01	---	.02	---	-.04
Adjusted R^2	.377	.377	.436	.436	.408	.408	.432	.433
(N)	1570	1570	1560	1560	1508	1508	1447	1447

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

[c] Older Persons are the excluded category.

Table 4.35. Change in Delinquency Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.57***	.57***	.62***	.62***	.68***	.68***	.71***	.71***	.58***	.58***	.59***	.59***
Previous wave RSE from Parents	-.14***	-.14***	-.14***	-.14***	-.14***	-.14***	-.09***	-.09***	-.04+	-.04+	-.12***	-.12***
Change in RSE from Parents	-.23***	-.25***	-.19***	-.19***	-.15***	-.12***	-.17***	-.14***	-.12***	-.12***	-.15***	-.15***
Female	-.09***	-.09***	-.09***	-.09***	-.04*	-.04*	-.06***	-.06***	-.12***	-.12***	-.08***	-.08***
Black[b]	-.04*	-.04+	-.07***	-.07***	-.02	-.02	-.04*	-.04*	-.04*	-.04*	-.02	-.02
Persons from Other Racial Backgrounds[b]	-.01	-.01	-.02	-.02	.00	.00	-.01	-.01	-.03	-.03	-.01	-.01
Younger Persons[c]	-.02	-.03	-.01	-.01	.07***	.07***	.06***	.06***	.07**	.07**	.03	.03
Change in RSE from Parents * Young Persons	---	.04	---	.01	---	-.04+	---	-.03	---	-.01	---	-.01
Adjusted R^2	.479	.480	.530	.530	.566	.566	.592	.592	.431	.430	.440	.440
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Delinquency	.58***	.58***	.62***	.62***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.16***	-.16***	-.15***	-.15***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.23***	-.23***	-.19***	-.16***	---	---	---	---	---	---	---	---
Female	-.09***	-.09***	-.08***	-.08***	---	---	---	---	---	---	---	---
Black[b]	-.04+	-.04+	-.07***	-.06***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.01	-.01	-.03	-.03	---	---	---	---	---	---	---	---
Younger Persons[c]	-.02	-.02	-.01	-.01	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Young Persons	---	.01	---	-.06**	---	---	---	---	---	---	---	---
Adjusted R^2	.475	.475	.531	.533	---	---	---	---	---	---	---	---
(N)	1554	1554	1548	1548								

Table 4.35. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.59***	.59***	.62***	.62***	.68***	.68***	.71***	.71***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.15***	-.15***	-.15***	-.14***	-.14***	-.10***	-.10***	---	---	---	---
Change in RSE from friends	-.23***	-.28***	-.19***	-.17***	-.15***	-.15***	-.16***	-.14***	---	---	---	---
Female	-.09***	-.09***	-.08***	-.08***	-.03	-.03	-.05**	-.05**	---	---	---	---
Black[b]	-.04*	-.04*	-.07***	-.07***	-.02	-.02	-.04**	-.04**	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.02	-.02	-.02	-.02	-.00	-.00	-.01	-.01	---	---	---	---
Younger Persons[a]	-.01	-.01	-.01	-.01	.07***	.07***	.06**	.06***	---	---	---	---
Change in RSE from Friends * Young Persons	---	.00	---	-.02	---	-.00	---	-.03	---	---	---	---
Adjusted R^2	.480	.480	.532	.532	.570	.570	.594	.595	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

[c] Older Persons are the excluded category.

Table 4.36. Change in Alcohol/Drug Use Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.58***	.58***	.54***	.54***	.60***	.60***	.75***	.75***	.62***	.62***	.62***	.62***
Previous wave RSE from Parents	-.10***	-.11***	-.22***	-.22***	-.22***	-.22***	-.11***	-.11***	-.10***	-.10***	-.15***	-.15***
Change in RSE from Parents	-.16***	-.21***	-.17***	-.18***	-.16***	-.13***	-.10***	-.07**	-.09***	-.08**	-.11***	-.08**
Female	-.01	-.01	-.05*	-.05*	.03+	.03+	-.03*	-.03*	-.05**	-.05**	-.02	-.02
Black[b]	-.05**	-.05**	-.11***	-.11***	-.11***	-.11***	-.06***	-.06***	-.06**	-.06**	-.04*	-.04*
Persons from Other Racial Backgrounds[b]	-.02	-.03	-.03	-.02	-.02	-.02	-.03*	-.03+	.01	.01	-.05**	-.06**
Younger Persons[c]	-.03	-.06**	-.20***	.21***	-.07***	-.07***	-.01	-.01	.09***	.09***	.06**	.07***
Change in RSE from Parents * Young Persons	---	.08**	---	.01	---	-.05*	---	-.05*	---	-.01	---	-.04
Adjusted R^2	.408	.410	.462	.461	.526	.527	.655	.656	.445	.444	.477	.477
(N)	1573	1573	1561	1561	1503	1503	1439	1439	1345	1345	1317	1317
Previous wave Alcohol/Drug use	.57***	.57***	.54***	.54***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	-.14***	-.14***	-.22***	-.22***	---	---	---	---	---	---	---	---
Change in RSE from teachers	-.17***	-.18***	-.18***	-.16***	---	---	---	---	---	---	---	---
Female	-.00	-.00	-.03+	-.03	---	---	---	---	---	---	---	---
Black[b]	-.07***	-.07***	-.10***	-.10***	---	---	---	---	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03+	-.03+	---	---	---	---	---	---	---	---
Younger Persons[c]	-.03	-.03	-.20***	-.20***	---	---	---	---	---	---	---	---
Change in RSE from Teachers * Female	---	.02	---	-.06**	---	---	---	---	---	---	---	---
Adjusted R^2	.409	.409	.461	.463	---	---	---	---	---	---	---	---
(N)	1554	1554	1548	1548								

Table 4.36. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.57***	.57***	.54***	.54***	.60***	.60***	.75***	.76***	---	---	---	---
Previous wave RSE from Friends	-.15***	-.14***	-.22***	-.22***	-.23***	-.23***	-.11***	-.11***	---	---	---	---
Change in RSE from friends	-.17***	-.20***	-.18***	-.17***	-.17***	-.16***	-.14***	-.13***	---	---	---	---
Female	-.00	-.01	-.03	-.03	.05**	.05**	-.02	-.02	---	---	---	---
Black[b]	-.07***	-.07***	-.10***	-.10***	-.11***	-.11***	-.06***	-.06***	---	---	---	---
Persons from Other Racial Backgrounds[b]	-.03	-.03	-.03	-.03	-.02	-.02	-.03+	-.03+	---	---	---	---
Younger Persons[c]	-.03	-.03	.20***	.20***	-.07***	.07***	.01	-.01	---	---	---	---
Change in RSE from Friends * Young Persons	---	.04	---	-.02	---	-.02	---	-.02	---	---	---	---
Adjusted R^2	.402	.402	.460	.460	.533	.533	.652	.652	---	---	---	---
(N)	1570	1570	1560	1560	1508	1508	1447	1447				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

[b] Whites are the excluded category.

[c] Older Persons are the excluded category.

Table 4.37. Change in Depression Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 7	
	(1)	(2)
Previous Wave of Depression	.42***	.42***
Previous wave RSE from Parents	-.12***	-.12***
Change in RSE from Parents	-.14***	-.10**
Female	.09***	.09***
Black[a]	.03	.03
Persons from Other Racial Backgrounds[a]	.02	.01
Younger Persons[b]	.10***	.10***
Change in RSE from Parents * Young Persons	---	-.06
Adjusted R^2	.230	.231
(N)	1314	1314

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Note: Standardized coefficients are presented.

[a] Whites are the excluded category.

[b] Older Persons are the excluded category.

CHAPTER V

DISCUSSION

In this dissertation research, I have moved beyond the basic finding that global self-esteem ("the individual's positive or negative attitude toward the self as a totality" [Rosenberg, Schooler, Schoenbach, and Rosenberg 1995, p.141]),
is associated with psychological well-being (Rosenberg et al. 1989) and investigated whether *reflected self-esteem* and *specific sources* of a reflected sense of self matter for mental health. While Rosenberg (1979) conceptualized global self-esteem as a product of reflected self-esteem, social comparisons, and self-perceptions, the findings from this dissertation clearly show that reflected self-esteem in itself matters for mental health. The evidence both in the cross-sectional and longitudinal analyses is overwhelmingly clear—reflected self-esteem is an important factor associated with and determinant of whether adolescents experience an array of mental health problems.

A second major finding from this dissertation is that specific sources of reflected appraisals matter for mental health, more so than overall reflected self-esteem does. Specifically, cross-sectional results indicate that positive reflected self-esteem from parents, teachers, coworkers, and friends all are significantly related to perceptions of more social support, less loneliness, less depression, less delinquency, and less alcohol and drug use. Longitudinal analyses reveal that positive changes in reflected appraisals from parents, teachers, and friends lead to decreased perceptions of lacking social support, loneliness, depression, delinquent activities, and substance use. This finding contrasts with the research of Rosenberg et al. (1995) in that in their study specific self-esteem was correlated much more weakly with several psychological well-being measures compared to global self-esteem. This contrast may in part contribute to the need in future research to distinguish between specific and global self-esteem as well as global (and specific) self-esteem and reflected self-esteem (also distinguishing between specific and global). Taken together, the main findings on reflected self-esteem highlight the significance of boys' and girls' perceptions of how other persons evaluate the self during adolescence (and into young adulthood).

Finally, the patterns of reflected self-esteem from parents, friends, and teachers that persist across time reveal that all sources of reflected self-worth continue to matter as respondents progress through the adolescent years and transition into early adulthood—a finding that runs counter to the taken-for-granted assumption that parents play a significantly reduced role in their children's lives as they enter adolescence. Instead, all three sources of reflected self-esteem examined over time continue to act as significant sources in shaping the self, at least in terms of their impact on mental and behavioral problems.

In combination, the findings summarized above suggest that theoretical and empirical work on identity—at least that work focusing on identity processes occurring during adolescence—should pay particular attention to how persons perceive the evaluations of themselves through the eyes of important others. Furthermore, examining specific sources of reflected self-esteem should lead to a better understanding of the relationship between identity processes and a number of behavioral and mental health outcomes. Finally, the findings presented here compared to those of Rosenberg and colleagues (1995) indicate that identity processes leading to multiple measures of well-being may differ depending on whether *self-esteem* or *reflected self-esteem* is used as the key indicator of perceptions of self-worth.

I also expected that the corresponding salience of the role-identity and the time spent in the role associated with a specific source of reflected self-esteem would act as mediators in the relationship between reflected appraisals and well-being. In line with arguments from the symbolic interactionist perspective in general, the "self" is developed through social interaction, and in line with identity theory in particular, conceptions of our selves should largely be shaped by our perceptions of other persons' evaluations of our role performances. Moreover, others' evaluations should shape the importance/salience attached to a role-identity and the degree of involvement (as well as commitment) to the role. In other words, if a person feels that her parents evaluate her favorably, she should invest a greater amount of value and time and energy in behaviors involved in her identity as "daughter." However, the results of these analyses failed to support the expectation that the effects of reflected self-esteem on mental health are mediated by the salience of the role-identity and the amount of time spent in the role. Failure to find support for this expectation led me to explore the possibility that my theoretical model was misspecified. While exploratory analyses revealed that I did not misorder reflected self-esteem (the independent variable) and the role embracement variables (the mediating variables), regression analyses throughout the dissertation

indicated that rather than salience and time spent in the role serving as mediators, each of these factors had independent and positive effects on mental health along with reflected self-esteem. However, it is noteworthy that the effects of role importance and time involvement were not as consistently or significantly related to mental health as reflected self-esteem—either across waves, across role domains, or across outcomes. Thus, the effects of reflected self-esteem appear to be stronger predictors of mental health problems than those of the role embracement variables. That said, the general pattern indicates that role embracement (i.e., salience and time spent in the role) also positively influences mental health; therefore, researchers should continue to examine all three of these measures when examining identity processes and mental health.

At the same time, the relative significance of reflected appraisals on mental health compared to the role embracement variables deserves further attention. Perhaps, reflected self-esteem is a more powerful predictor of emotional and behavioral problems because factors that directly tie us to social roles are most important. For instance, reflected self-esteem is directly tied to the source of reflection from which it is drawn—in this dissertation, from parents, friends, teachers, and coworkers. Identity salience and the amount of time spent in roles are only relevant as a result of already holding the role-identity (or participating in the role). If this argument is correct, then regardless of how important the role is to the person or how much time he/she devotes to role-activities, these effects are never as strong as those measures directly tied to whether the individual has adopted the identity to begin with.

Another possibility is that reflected self-esteem is tapping something much more than simply a perception of self-worth based on how individuals think others evaluate them. Underlying reflected self-esteem may be a sense of "mattering"—where a positive reflected sense of self springs from feelings that one is important in the lives of others (Rosenberg and McCullough 1981). Although Rosenberg and McCullough's study (1981) is limited to examining how adolescents perceive that they matter to parents, their findings reveal that a sense of mattering is associated with higher levels of global self-esteem, less depression and unhappiness, less anxiousness and other negative affective states, and less delinquency. It can be inferred from their findings that if a person feels she matters to others, then she is likely to feel more socially integrated and in turn will experience psychological and behavioral well-being. Further research

may reveal that reflected self-esteem serves a more socially integrative function, perhaps operating similarly to mattering, than does the far more commonly used measure of global self-esteem.

It could also be argued that subjective perceptions of identities rather than objective measures of identity involvement act as stronger predictors of mental health problems, which in turn are often operationalized by subjective reports. In this dissertation, reflected self-esteem—a perception—has a much stronger influence on the various psychological outcomes compared to the amount of time spent in the role—a more objective measure. However, this alternative explanation fails to hold when the results for salience are taken into account: ratings of the importance of the role activities tied each role-identity are based on subjective rather than objective reports, and identity salience ratings were more weakly linked to mental health outcomes than measures of reflected self-esteem.

Perhaps the most plausible explanation for why it is that reflected self-esteem plays a more influential role in mental health compared to identity salience and time-involvement reflects the way in which I designed the analyses in this research, i.e., I examined identities one by one. Reflected self-esteem from particular sources may differentially impact mental and behavioral problems depending on the *relative* importance of multiple role-identities. In order to explore this possibility, analyses would need to include measures that capture the relative salience of role-identities within the same model. Likewise, analyses would need to capture the association between the relative salience of each role-identity (compared to the salience of the other identities) as well as the relative effects of reflected appraisals (from each source) on the salience of each identity. Returning to the findings of Rosenberg and his colleagues (1995), an important discovery of their research assessing the relationship between global and specific (role-based) self-esteem was that specific self-esteem was a significant determinant of global self-esteem when the role was deemed important. So, for example, they found that self-esteem based on school performance had a significant positive impact on global self-esteem only among those persons who valued school. This implies that the relative impact of reflected appraisals from different sources on a number of behavioral and emotional outcomes may be dependent upon the relative importance of those role-identities—this would seem to be a much needed and fruitful next step in this work.[24] In sum, further

[24] It is noteworthy that the findings from Rosenberg et al (1995) are based on a sample of boys. Therefore, future research assessing the relative effects of the factors discussed above should pay attention to potential gender differences in this process as well.

theoretical and empirical research are needed in order to more fully understand why reflected self-esteem is a stronger predictor of mental health than are aspects of role embracement (i.e., the salience of the role-identity and the amount of time spent in the role).

Finally, in this dissertation, I also expected that boys and girls would manifest their distress in gender-typical ways—low levels of reflected self-esteem would lead to behavioral problems among boys and emotional problems among girls. Indeed, negative changes in reflected self-esteem led to increased delinquency and substance use more so for boys than for girls and to increased feelings of lacking social support, loneliness, and depression more so among girls than boys. While the phenomenon of gender differences in the expression of distress is nothing new in the stress and mental health literature, this is the first time (to my knowledge) that these gender specific forms of expression have been tied to identity processes among adolescents. Cross-sectional analyses also revealed patterns of delinquency based on whether friends were engaged in delinquent behavior; individuals with delinquent friends were more likely to commit delinquent acts than those persons without delinquent friends. This set of findings not only supports Hirschi's (1969) control theory, but also has implications for future research on identity theory and the co-occurrence of emotional and behavioral outcomes. While Hirschi's theory (1969) provides a basis for understanding the result of detachment from conventional roles and increased delinquent activity, to my knowledge, co-occurring as well as prolonged emotional effects of detachment from conventional roles has not been examined within the broader context of identity and social control.

Although, the main findings from this dissertation demonstrate for the first time the importance of examining *reflected* self-esteem as an important variable to understanding identity processes and mental health among adolescents, there are a number of data limitations worth noting. First, the data are fairly old, based on interviews conducted between the years of 1976 and 1986. It could be argued that adolescents no longer face the same struggles both regarding perceptions of self-worth and mental health as they did two to three decades ago. However, while the content of adolescents' experiences may have changed over the past twenty or thirty years, I argue that there are no indications within either the adult or adolescent literatures that identity processes have changed much over the past few decades. In addition, epidemiological studies indicate that, if anything, mental health problems among younger populations are increasing. So, while the conclusions from this dissertation cannot be directly generalized to the current

generation of adolescents, I argue that if recent data were available to re-test the main hypotheses outlined in this research, the same identity processes would be expected and reflected self-esteem should continue to be an important predictor of adolescents' mental health.

Second, there are very few non-whites in this sample, making it hard to examine racial/ethnic differences in identity processes and mental health. There were very few racial/ethnic differences found in the relationship between changes in reflected self-esteem and changes in mental health; the lack of significant interactions could be due, in large part, to the small number of cases of blacks and especially persons from racial/ethnic backgrounds other than black or white. Future research should oversample racial/ethnic minorities to allow for meaningful comparisons across groups. In addition, the ability to control for social class across waves would increase confidence that the findings reported here are not specific to persons in families facing socioeconomic disadvantage.

Third, not all questions regarding the variables examined in this dissertation were asked in all of the seven interviews, limiting the comparisons I could make regarding identity processes across time. For instance, reflected self-esteem from coworkers was only asked during the fifth wave of interviews. Also, although the original investigators asked respondents about the importance and time spent in a number of other roles, such as athletics and extra-curricular activities, there were no corresponding items assessing reflected self-esteem from others within these domains. Future research ideally would capture the identity process through adolescence and into early adulthood using the same sets of measures at each point in time and would include corresponding measures of reflected self-esteem, role-identity salience, and time involvement in the role that are all captured within each domain. Furthermore, it could be argued that perceived social support and feelings of loneliness do not well capture psychological distress. Ideally, these data would have included measures of depression and anxiety at every wave. Yet social support, loneliness, and depression were significantly correlated, and the identity processes examined in this dissertation produced consistent results across all three of these "female-typical" expressions of mental health problems, which greatly increases my confidence in the conclusion that perceived lack of social support and feelings of loneliness operate as indicators of mental health problems in the same manner as does depression. And it could be argued that social support and loneliness, if anything, would fail to capture variations in reflected self-esteem given these two indicators may not capture mental health

problems to the extent/severity that more commonly utilized measures do, such as depression and anxiety. However, as repeatedly shown throughout this dissertation, reflected appraisals are significantly related to all types of outcomes examined. Given measurement limitations, I was also unable to assess reflected self-esteem scores for persons who do not hold the role-identities. While holding social roles are typically more beneficial for mental health than not holding any roles, future research should include comparisons of the identity process between persons who occupy specific role-identities and those who do not.

Despite these potential limitations, this dissertation sheds light on identity processes involved in adolescence, and lends itself to a number of further research questions. For instance, future research should examine the effects of stability and instability of identities and mental health. My expectation is that more stable reflected self-esteem and role-identity involvements over time (in terms of occupying the role, the salience of the role, and the time spent in the role) should result in greater well-being when occupancy, salience, and time spent remain high; instability in role-identities should increase the likelihood of experiencing psychological and behavioral problems. By following persons through the adolescent years and into young adulthood, the long-term mental health consequences of role stability could be assessed. In addition, examining the *particular* domains of stability and/or instability may also shed light on variations in the overall impact of stability across time on behavioral and psychological well-being.

Future research should also explore whether experiencing mental health problems is dependent on individuals' abilities to compensate for losses in one role domain by gaining increased reflected self-esteem, augmenting the importance of an identity, and increasing the amount of time spent in an alternative role-identity. For example, persons who experience a drop in reflected self-esteem from teachers may be able to compensate for the negative effects of this loss on their mental health by placing more importance and spending more time in roles in which they are able to feel a greater sense of reflected self-worth from important others, such as parents and friends. Kaplan (1996) argues that while individuals are socialized to be invested in and evaluative of self in terms of their abilities to succeed in conventional roles, repeated negative reinforcement, at first resulting in negative feelings about the self, may eventually lead persons to reduce involvement in conventional roles and can ultimately lead to the complete abandonment of the role(s). Therefore, at the same time that we expect individuals who experience negative feelings regarding their role performance to experience more psychological distress (and more behavioral problems as argued

and shown throughout this dissertation), abandonment of roles could lead to the adoption of non-conventional (i.e., deviant) role-identities, such as delinquent and substance user, but these persons may not experience a corresponding rise in psychological distress. Kaplan's theoretical arguments as well as some empirical support for this idea (e.g., Kaplan 1996; Matsueda 1992) suggest that research on identity and mental health should also explore variability in the *co-occurrence* of emotional and behavioral outcomes across persons who are more and less invested in conventional roles (i.e., who vary in perceptions of reflected self-esteem, identity salience, and time spent in corresponding role activities). However, while there may be relatively short-term benefits for some teens who are able to decrease the importance and time spent in a particular conventional role while increasing investment in non-conventional roles, research examining the effects of negative self-feelings over long periods of time clearly indicates that adolescents who experience negative self-feelings at earlier points in their lives (e.g., during seventh grade) are more likely to continue to have these feelings and are more likely to experience psychological distress as they continue through adolescence and transition into adulthood (see, for example, Kaplan, Robbins, and Martin 1983). Still others have speculated that delinquent behaviors, such as drug use, may be coping strategies for dealing with (or improving) their mental health (see Gove, Geerken, and Hughes 1979). In sum, identity processes in combination with multiple types of outcomes would be a valuable step of future research.

Future research should also assess the potential effects of positive reflected self-esteem on role accumulation across time. While the results of this dissertation show that a positive sense of reflected-esteem is associated with increased salience and time spent in a role (although not consistently so in the friendship domain), we do not know whether this domain-specific impact of reflected self-esteem translates to a wider array of role involvements. In other words, do persons who hold positive reflected self-esteem from parents participate in relatively more activities, such as athletics and extra-curricular activities, compared to those adolescents whose perceptions of reflected self-worth from parents is lower?

Finally, reflected appraisals are clearly important during adolescence when persons are typically in the process of undergoing a number of new experiences and change in their lives. This research suggests that it would be worthwhile to investigate whether reflected self-esteem continues to play such a significant role as persons continue through adulthood and even as they transition into old age.

The direct effects of reflected self-esteem on mental health clearly evidenced in this dissertation have implications for future theoretical work on stress, identity, and mental health. Researchers working from a stress process framework have largely treated self-esteem as either a mediating or moderating variable in the relationship between stressors and mental health (Pearlin 1989; Turner and Lloyd 1995). However, reflected self-esteem may serve as an important independent variable influencing the stress process. In fact, perceptions of little/low reflected self-worth, a decline in reflected self-esteem, or instability in reflected appraisals over time could all be conceptualized as "stressors" acting as threats to the self, which are likely to lead both to emotional and behavioral problems.

Conclusion

This study moves beyond previous research by focusing on *reflected* self-esteem as an important predictor of emotional and behavioral problems during adolescence and places this research within the broader context of identity and stress research. Despite some of the data limitations discussed above, the results of this dissertation offer empirical evidence that adolescence is a particular time in the life course when perceptions of how others evaluate them have major implications for individuals' psychological well-being, and these perceptions continue to matter as teens transition into adulthood.

Note: In Tables A.1-A.11, "X" means the question was present for that wave of the survey, "-" means that the question was not available for that wave of the survey.

DEPENDENT VARIABLES

Table A.1. Psychological Distress Proxy- Social Support*

	Waves 1-3	Wave 4	Wave 5	Wave 6	Wave 7
Family:					
My family is willing to listen if I have a problem. (reverse coded)	X	X	X	-	-
I feel like an outsider with my family.	X	X	X	-	-
I feel close to my family. (reverse coded)	X	X	X	-	-
My family doesn't take much interest in my problems.	X	X	X	-	-
How much warmth and affection have you received from your parents? (reverse coded)	-	-	-	- X	- X
How much support and encouragement have you received From your parents? (reverse coded)	-	-	-	X	X
Friends:					
My friends are willing to listen if I have a problem. (reverse coded)	X	X	X	-	-
My friends don't take much interest in my problems.	X	X	X	-	-
I feel close to my friends. (reverse coded)	X	X	X	-	-
How much warmth and affection have you received from your friends? (reverse coded)	-	-	-	X	X
How much support and encouragement have you received From your friends? (reverse coded)	-	-	-	X	X
School:					
I often feel like nobody at school cares about me.	X	X	X	-	-
Relationship:					
I feel like my spouse/boyfriend/girlfriend is willing to listen if I have a problem (reverse coded).	-	X	X	-	-
I feel close to my spouse/boyfriend/girlfriend (reverse coded)	-	X	X	-	-
I feel like my spouse/boyfriend/girlfriend doesn't care about me.	-	X	X	-	-
Only for those who have been living with their spouse/ boyfriend/ girlfriend:					
How much warmth and affection have you received from your spouse/boyfriend/girlfriend? (reverse coded)	-	-	-	X	X
How much support and encouragement have you received from your spouse/boyfriend/girlfriend? (reverse coded)	-	-	-	X	X
Work:					
I feel like people at work are not interested in my ideas	-	X	X	-	-
I feel like nobody at work cares about me.	-	X	X	-	-

* The response categories for the items in Waves 1-5 are: 1 = strongly disagree; 2 = disagree; 3 = neither; 4 = agree; 5 = strongly agree. The response categories for the items in Waves 6-7 are: 1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal

Table A.2. Psychological Distress Proxy- Lonely*

	Wave 1	Waves 2-3	Waves 4-5	Wave 6	Wave 7
Family:					
Sometimes I feel lonely when I'm with my family.	X	X	X	-	-
Friends:					
I don't feel that I fit in very well with my friends.	X	X	X	-	-
Even though there are lots of kids around, I often feel lonely at school.	X	X	X	-	-
Sometimes I feel lonely when I'm with my friends.	X	X	X	-	-
School:					
Teachers don't call on me in class, even when I raise my hand.	X	X	X	-	-
I don't feel as if I really belong at school	X	X	X	-	-
Teachers don't ask me to work on special classroom projects.	X	X	X	-	-
I'm not asked to take part in school activities as often as I'd like to be.	X	X	X	-	-
Relationship:					
I often feel lonely when I'm with my spouse/boyfriend/girlfriend	-	-	X	-	-
Work:					
I feel a real part of things at work (reverse coded)	-	-	X	-	-
The people at work don't ask me when they need extra help	-	-	X	-	-
I often feel lonely at work	-	-	X	-	-

*The response categories for the items in Waves 1-5 are: 1 = strongly disagree; 2 = disagree; 3 = neither; 4 = agree; 5 = strongly agree.

Table A.3. Psychological Distress*

	Waves 6 and 7
General[a]	X
Appetite[b]	X
Appetite Control[c]	X
Appetite Gain[d]	X
Too Little Sleep[e]	X
Too Much Sleep[f]	X
Tired[g]	X
Slow[h]	X
Restless[i]	X
Lost Interest in Sex[j]	X
Trouble Concentrating[k]	X
Trouble Thinking[l]	X
Worthless[m]	X
Thoughts of Death[n]	X

* "In the next set of questions, I'd like to ask about some of your feelings and beliefs. Please tell me how much you agree or disagree with these statements about you…"
(1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree)

[a] "In the past three years (wave 7)/lifetime (wave 6) have you had two weeks or more during which you felt sad, blue, depressed, or when you lost all interest and pleasure in things that you usually cared about or enjoyed?" (0 = no; 1 = yes)

[b] If said "yes" to "General": "During the past three years (wave 7)/ Has there ever (wave 6) has there ever been a period of two weeks or longer when you lost your appetite (can be positive even if food intake is normal)?" (0 = no; 1 = yes)

[c] If said "yes" to "General": "During the past three years (wave 7)/Have you ever (wave 6) have you lost weight without trying to—as much as two pounds a week for several weeks (or as much as 10 pounds altogether?" (0 = no; 1 = yes)

[d] If said "yes" to "General": "Have you had a period when your eating increased so much that you gained as much as two pounds a week for several weeks (or 10 pounds altogether)?" (0 = no; 1 = yes)

[e] If said "yes" to "General": During the past three years (wave 7)/lifetime (wave 6) have you had a period of two weeks or longer when you had trouble falling asleep, staying asleep, or with waking up too early?" (0 = no; 1 = yes)

[f] If said "yes" to "General": "During the past three years (wave 7)/lifetime (wave 6) have you had a period of two weeks or longer when you were sleeping too much?" (0 = no; 1 = yes)

[g] If said "yes" to "General": "During the past three years (wave 7)/has there ever (wave 6) has there been a period of two weeks or more when you felt tired out all of the time?" (0 = no; 1 = yes)

[h] If said "yes" to "General": "During the past three years (wave 7)/have you ever (wave 6) has there been a period of two weeks or more when you talked or moved more slowly than is normal for you?" (0 = no; 1 = yes)

[i] If said "yes" to "General": "During the past three years (wave 7)/has there ever (wave 6) has there been a period of two weeks or more when you had to be moving all the time—that is, you couldn't sit still and paced up and down?" (0 = no; 1 = yes)

[j] If said "yes" to "General": "During the past three years (wave 7)/has there ever (wave 6) has there been a period of several weeks when your interest in sex was a lot less than usual?" (0 = no; 1 = yes)

[k] If said "yes" to "General": "During the past three years (wave 7)/has there ever (wave 6) has there been a period of two weeks or more when you had a lot more trouble concentrating than is normal for you?" (0 = no; 1 = yes)

[l] If said "yes" to "General": "Have you had a period when your thoughts came much slower than usual or seemed mixed up?" (0 = no; 1 = yes)

[m] If said "yes" to "General": "During the past three years (wave 7)/has there ever (wave 6) has there been a period of two weeks or more when you felt worthless, sinful or guilty?" (0 = no; 1 = yes)

[n] If said "yes" to "General": "During the past three years (wave 7)/have you ever (wave 6) has there been a period of two weeks or more when you thought a lot about death—either your own, someone's else's or death in general?" (0 = no; 1 = yes); "During the past three years (wave 7)/have you ever (wave 6) has there been a period of two weeks or more when you felt that you wanted to die?" (0 = no; 1 = yes); "During the past three years (wave 7)/have you ever (wave 6) have you felt so low you thought of committing suicide?" (0 = no; 1 = yes); "During the past three years (wave 7)/have you ever (wave 6) have you attempted suicide?" (0 = no; 1 = yes)

Table A.4. Delinquency*

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Purposely damaged or destroyed property belonging to your PARENTS or other family MEMBERS	X	X	X	X	X	X	X
Purposely damaged or destroyed property belonging to a SCHOOL	X	X	X	X	X	X	-
Purposely damaged or destroyed OTHER PROPERTY that did not belong to you (not counting family or school property)	X	X	X	X	X	X	X
Stolen (or tried to steal) a MOTOR VEHICLE, such as a car or motorcycle	X	X	X	X	X	X	X
Stolen (or tried to steal) something worth more than $50	X	X	X	X	X	X	X
Knowingly bought, sold or held stolen good (or tried to do any of these things)	X	X	X	X	X	X	X
Thrown objects (such as rocks, snowballs, or bottles) at cars or people	X	X	X	X	X	X	-
Run away from home	X	X	X	X	X	X	-
Lied about your age to gain entrance or to purchase something, for example, lying about your age to buy liquor or get into a movie	X	X	X	X	X	X	-
Carried a hidden weapon other than a plain pocket knife	X	X	X	X	X	X	X
Stolen (or tried to steal) things worth $5 or less	X	X	X	X	X	X	X
Attacked someone with the idea of seriously hurting or killing him/her	X	X	X	X	X	X	X
Been paid for having sexual relations with someone	X	X	X	X	X	X	X
Had sexual intercourse with a person of the opposite sex other than your wife/husband	X	X	X	X	X	X	-
Been involved in gang fights	X	X	X	X	X	X	X
Sold marijuana or hashish (“pot”, “grass”, “hash”)	X	X	X	X	X	X	X
Cheated on school tests	X	X	X	X	X	X	-
Hitchhiked where it was illegal to do so	X	X	X	X	X	X	X
Stolen money or other things from YOUR PARENTS or OTHER MEMBERS OF YOUR FAMILY	X	X	X	X	X	X	X
Hit (or threatened to hit) a TEACHER or other adult at school	X	X	X	X	X	X	-
Hit (or threatened to hit) one of your PARENTS	X	X	X	X	X	X	X
Hit (or threatened to hit) other STUDENTS	X	X	X	X	X	X	-
Been loud, rowdy, or unruly in a public place (disorderly conduct)	X	X	X	X	X	X	X
Sold hard drugs such as heroin, cocaine, and LSD	X	X	X	X	X	X	X
Taken a vehicle for a ride(drive) without the owner’s permission	X	X	X	X	X	X	X
Bought or provided liquor for a minor	X	X	X	X	X	X	X
Had (or tried to have) sexual relations with someone against their will	X	X	X	X	X	X	X
Used force (strong-arm methods) to get money or things from other STUDENTS	X	X	X	X	X	X	-

Used force (strong-arm methods) to get money or things from a TEACHER or other adult at school	X	X	X	X	X	X	-
Used force (strong-arm methods) to get money or things from OTHER PEOPLE (not students or teachers)	X	X	X	X	X	X	X
Avoided paying for such things as movies, bus or subway rides, and food	X	X	X	X	X	X	X
Been drunk in a public place	X	X	X	X	X	X	X
Stolen (or tried to steal) things worth between $5 and $50	X	X	X	X	X	X	X
Stolen (or tried to steal) something at school, such as someone's coat from a classroom, locker, or cafeteria, or a book from the library	X	X	X	X	X	X	-
Broken into a building or vehicle (or tried to break in) to steal something or just to look around	X	X	X	X	X	X	X
Begged for money or things from strangers	X	X	X	X	X	X	X
Skipped classes without an excuse	X	X	X	X	X	X	-
Failed to return extra change that a cashier gave you by mistake	X	X	X	X	X	X	X
Been suspended from school	X	X	X	X	X	X	-
Made obscene telephone calls, such as calling someone and saying dirty things	X	X	X	X	X	X	X
Pressured or pushed someone such as a date or friend to do more sexually than they wanted to do	-	-	X	X	X	-	-
Physically hurt or threatened to hurt someone to get them to have sex with you	-	-	X	X	X	-	-
Used checks illegally or used phone money to pay for something (includes intentional overdrafts)	-	-	-	X	X	X	X
Tried to cheat someone by selling them something that was worthless or not what you said it was	-	-	-	X	X	X	X
Used or tried to use credit cards without the owner's permission	-	-	-	X	X	X	X
Purposely set fire to a building, a car, or other property or tried to do so	-	-	-	-	X	X	X
(If working) Purposely damaged or destroyed property belonging to your employer	-	-	-	-	-	X	X
Paid someone to have sexual relations with you	-	-	-	-	-	X	X
Stolen money, goods, or property from the place where you work	-	-	-	-	-	X	X
(If working) Hit or threatened to hit your supervisor or other employee	-	-	-	-	-	X	X
Hit or threatened to hit anyone else (other than teachers, students, parents, persons at work)	-	-	-	-	-	X	X
Snatched someone's purse or wallet or picked someone's pocket	-	-	-	-	-	X	X
Embezzled money, that is, used money or funds entrusted to your care for some purpose other than that intended	-	-	-	-	-	X	X
Used force or threat of force to rob a person, store, bank, or other business establishment	-	-	-	-	-	X	-
Burglarized a residence, building, house, business or warehouse	-	-	-	-	-	X	-

* Waves 1-7: "How many times in the last year have you…" (0 = never; 1 = 1 or more times)

Table A.5. Drug and Alcohol Use*

	Wave 1	Waves 2-7
Alcohol		
Used alcoholic beverages, beer, wine, hard liquor?	X	X
Drugs		
Used marijuana or hashish (grass, pot, hash)?	X	X
Used hallucinogens (lsd, acid, peyote, mescaline, psilocybin, etc)?	X	X
Used amphetamines, uppers, speed, pep pills or bennies (Dexedrine, Benzedrine, dexamil, diet pills, etc)?	X	X
Used barbiturates, downers, reds, yellows, blues, rainbows or goofballs?	X	X
Used cocaine, coke, or crack?	X	X
Used tranquilizers such as valium, librium, thorazine, miltown, equanil, etc?	-	X
Used tobacco	-	X
Used psychedelics	-	X
Used codeine	-	X
Used heroin	-	X
Used angel dust	-	X
Used other substances	-	X

* Waves 1-7: "How many times in the last year have you…" (0 = never; 1 = 1 or more times)

INDEPENDENT VARIABLES

Table A.6. Reflected Self-Esteem*

	WAVES 1-2			WAVE 3			WAVE 4		WAVE 5			WAVES 6-7
	P	F	T	P	F	T	P	F	P	F	W	P
Are Well-liked	X	X	X	X	X	X	X	X	X	X	X	X
Need help (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Are a bad kid (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Are often upset (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Are a good citizen	X	-	X	X	-	X	X	-	X	-	X	X
Get along well w/other people	X	X	X	X	X	X	X	X	X	X	X	X
Are messed up (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Break rules (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Have a lot of personal problems (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Get into trouble (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X
Are likely to succeed	-	X	X	X	X	X	X	X	X	X	X	X
Do things that are against the law (reverse coded)	X	X	X	X	X	X	X	X	X	X	X	X

* "I'd like to know how others would describe you. I'll read a list of phrases and for each will ask you to tell me how much you think your parents/friends/teachers/people at work would agree with that description of you." (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree)
* P = Parents; F = Friends; T = Teachers; W = People at Work

Table A.7. Role-Identities: Salience

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Friend[a]	X	X	X	X	X	X	X
Student[b]	X	X	X	X	X	X	X
Worker[c]	X	X	X	X	X	X	X
Family Member[d]	X	X	X	X	X	X	X

[a] "How important has it been to you to have a group of friends and be included in their activities?"
[b] "How important has your school work/college work been to you?"
[c] "How important has this job been to you?" (referring to job R spends most hours at)
[d] "How important have the things you've done with your family been to you?"

(1 = not important at all; 2 = not too important; 3 = somewhat important; 4 = pretty important; 5 = very important)

Table A.8. Role-Identities: Time Involvement

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Friend[a]	X	X	X	X	X	X	X
Student[b]	X	X	X	X	X	X	X
Worker[c]	-	-	-	X	X	X	X
Family Member[d]	X	X	X	X	X	X	X

[a] "On the average, how many weekday afternoons, Monday through Friday, from 5:00pm or the end of work to dinner, have you spent with your friends?" (0-5); "On the average, how many weekday evenings, Monday through Friday, from dinnertime to bedtime, have you spent with your friends?" (0-5); "On the weekends, how much time have you generally spent with your friends?" (1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal)
[b] "On the average, how many weekday afternoons Monday through Friday, from the end of school or work to dinner, have you/did you spent/spend studying?" (0-5); "On the average, how many weekday evenings, Monday through Friday, from dinnertime to bedtime, have you/did you spent/spend studying?" (0-5); "On the weekends, how much time did you spend studying/have you spent studying?" (1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal)
[c] (A previous question asks details of jobs, then…) "If any of the above jobs involved 10 hours a week or more, circle YES." (1 = less than 10 hours per week; 2 = 10 hours or more per week)
[d] "On the average, how many weekday afternoons, Monday through Friday (school week), from 5pm or the end of school or work to dinner, have you spent playing, talking, or working with members of your family?" (0-5); "On the average, how many weekday evenings, Monday through Friday (during the school week) from dinnertime to bedtime, have you spent playing, talking, or working with members of your family?" (0-5); "On the weekends, how much time have you generally spent playing, talking, or working with members of your family?" (1 = very little; 2 = not too much; 3 = some; 4 = quite a bit; 5 = a great deal)

TableA.9. Friends' Delinquent Behaviors.

Waves 1-5:
"Think of the people you listed as your close friends. During the last year how many of them have…"

purposely damaged or destroyed property that did not belong to them?
hit or threatened to hit someone without any reason?
broken into a vehicle or building to steal something?
sold hard drugs such as heroin, cocaine, and LSD?
stolen something worth more than $50?

Waves 2-5:
sold or give alcohol to kids under 18?

CONTROL VARIABLES

Table A.10. Controls

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
Sex[a]	X	-	X	X	X	X	X
Race[b]	X	-	X	X	X	X	X
Age[c]	X	-	X	X	X	X	X

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	Wave 7
ROLE-OCCUPANCY:							
Friend[d]	X	X	X	X	X	X	X
Social Person[e]	X	X	X	X	X	-	-
Athlete[f]	X	X	X	X	X	-	-
School Activities Member[g]	X	X	X	X	X	-	-
Club/Community Participant[h]	X	X	X	X	X	-	-
Student[i]	X	X	X	X	X	X	X
Worker[j]	X	X	X	X	X	X	X
Spouse/Boyfriend/Girlfriend[k]	-	-	-	X	X	X	X
Family Member[l]	X	X	X	X	X	X	X
Parent[m]	-	-	-	-	-	X	X
Churchgoer[n]	-	-	-	X	X	X	X

[a] Waves 1, 3-7: (0 = male; 1 = female)

[b] Wave 1-7: (dummy variables: white; black; and persons of other racial backgrounds)

[c] Wave 1 (11-18); Wave 3 (13-20); Wave 4 (14-21); Wave 5 (15-22); Wave 6 (16-23); Wave 7 (19-26)

[d] "Was there a particular group of friends you ran around with (in past year)?" (0 = no; 1 = yes)

[e] "How many evenings in an average week, including weekends, have you gone on dates, to parties, or to other social activities?" (0 = none; 1 = 1 or more)

[f] "Have you been a member of any athletic team at school?" (0 = no; 1 = yes)

[g] "Have you taken part in any school activities, for example, service clubs, recreational or hobby clubs, student government, newspaper or yearbook (not athletic teams or honor societies)?" (0 = no; 1 = yes)

[h] "Have you been a member of any groups in the community such as service clubs, religious groups, recreational or hobby clubs, and athletic teams (includes scouts, little league, ym/ywca, etc., but no informal activities such as sandlot baseball)?" (0 = no; 1 = yes)

[i] "Did you attend any school program between Christmas a year ago and Christmas just past?" (0 = no; 1 = yes); for wave 7: "Were you in high school, college, or university degree program, a business/vocational school program or some other educational program at any time during 1986?"
(0 = no; 1 =academic program or business/vocational school or other)

[j] Waves 1-3: "Have you had a job or jobs in the community such s working at a store, a service station, or babysitting for pay?" (0 = no; 1 = yes); Waves 4-5: "Have you had a job or jobs, such as being in the military, working at a store, office, or service station, or babysitting for pay?"
(0 = no; 1 = yes); Waves 6-7: "Have you had a job or jobs (includes any job for pay including military but not "allowance")?" (0 = no; 1 = yes)

[k] Waves 4-5: "Have you been living with your (girlfriend/boyfriend) (opposite sex) or spouse?" (0 = no: 1 = spouse, boyfriend/girlfriend, both); Waves 6-7: "Was the person you were living with most recently your spouse or a girlfriend/boyfriend?" (0 = spouse; 1 = girlfriend/boyfriend; (only wave 7-- 3 = girlfriend/boyfriend (same sex))

[l] "On the average, how many weekday afternoons, Monday through Friday (school week), from 5pm or the end of school or work to dinner, have you spent playing, talking, or working with members of your family?" (0 = 0 hours; 1 = more than 0 hours)

[m] "During an average week in the past year, how many hours have you spent with your child/children?" (0 = 0 hours; 1 = more than 0 hours)

[n] "During the past year, how often did you attend church, synagogue, or other religious services?" (0 = never; 1 = more than never)

Table B.1. Unstandardized Coefficients of OLS Regression Analyses of Lack of Social Support Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	-.05*** (.00)	-.04*** (.00)	-.05*** (.00)	-.04*** (.00)	-.05*** (.00)	-.05*** (.00)	-.05*** (.00)	-.04*** (.00)	-.05*** (.00)	-.04*** (.00)	-.04*** (.00)	-.03*** (.00)	-.05*** (.00)	-.04*** (.00)
Salience of Family	---	-.08*** (.01)	---	-.07*** (.01)	---	-.10*** (.01)	---	-.11*** (.01)	---	-.09*** (.01)	---	-.26*** (.02)	---	-.33*** (.03)
Time Spent with Family	---	-.01** (.00)	---	-.01*** (.00)	---	-.00 (.00)	---	-.00 (.00)	---	-.00 (.00)	---	-.00 (.00)	---	.00 (.01)
Adjusted R^2	.269	.297	.343	.373	.391	.425	.409	.453	.404	.436	.199	.312	.216	.342
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	---	---	---	---	---	---	---	---
Salience of School	---	-.02+ (.01)	---	-.01 (.01)	---	-.03* (.01)	---	---	---	---	---	---	---	---
Time Spent Studying	---	.00 (.00)	---	-.01* (.00)	---	-.01* (.00)	---	---	---	---	---	---	---	---
Adjusted R^2	.21	.21	.240	.242	.263	.269	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	-.05*** (.00)	-.05*** (.00)	-.05*** (.00)	-.05*** (.00)	-.06*** (.00)	-.06*** (.00)	-.05*** (.00)	-.05*** (.00)	-.06*** (.00)	-.06*** (.00)	---	---	---	---
Salience of Friends	---	-.04* (.02)	---	-.05** (.02)	---	-.04* (.02)	---	-.02 (.02)	---	-.02 (.02)	---	---	---	---
Time Spent w/ Friends	---	-.01+ (.01)	---	-.01* (.01)	---	-.01 (.01)	---	-.01* (.00)	---	-.02*** (.00)	---	---	---	---
Adjusted R^2	.264	.275	.299	.315	.420	.426	.373	.379	.397	.414	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.05*** (.00)	-.05*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	-.04*** (.00)	---	---	---	---
Salience of Friends	---	-.01 (.01)	---	-.03* (.02)	---	-.06*** (.01)	---	-.05*** (.01)	---	-.05*** (.01)	---	---	---	---
Time Spent w/ Friends	---	-.01** (.00)	---	-.01** (.00)	---	-.00 (.00)	---	-.01+ (.00)	---	-.01* (.00)	---	---	---	---
Adjusted R^2	.233	.238	.240	.248	.252	.269	.292	.309	.242	.261	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table B.1. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from	---	---	---	---	---	---	---	---	-.04***	-.04***	---	---	---	---
Workers									(.00)	(.00)				
Salience of	---	---	---	---	---	---	---	---	---	-.03*	---	---	---	---
Work										(.01)				
Time Spent at	---	---	---	---	---	---	---	---	---	.00+	---	---	---	---
Work										(.00)				
Adjusted R^2	---	---	---	---	---	---	---	---	.329	.332	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table B.2. Unstandardized Coefficients of OLS Regression Analyses of Loneliness Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from	-.05***	-.05***	-.05***	-.05***	-.05***	-.05***	-.04***	-.04***	-.05***	-.05***	---	---	---	---
Parents	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.02	---	.00	---	-.03+	---	-.05***	---	-.00	---	---	---	---
Family		(.02)		(.02)		(.02)		(.02)		(.02)				
Time Spent	---	-.00	---	-.01*	---	.00	---	-.00	---	.00	---	---	---	---
with Family		(.00)		(.00)		(.00)		(.00)		(.00)				
Adjusted R^2	.219	.220	.277	.279	.306	.307	.256	.262	.278	.277	---	---	---	---
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250				
RSE from	-.04***	-.04***	-.05***	-.05***	-.05***	-.05***	---	---	---	---	---	---	---	---
Teachers	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)								
Salience of	---	-.03+	---	-.00	---	-.03+	---	---	---	---	---	---	---	---
School		(.02)		(.02)		(.02)								
Time Spent	---	.00	---	-.01	---	.00	---	---	---	---	---	---	---	---
Studying		(.00)		(.00)		(.00)								
Adjusted R^2	.193	.193	.250	.250	.240	.240	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from	-.05***	-.05***	-.06***	-.06***	-.07***	-.07***	-.05***	-.05***	-.06***	-.06***	---	---	---	---
Friends	(.01)	(.01)	(.01)	(.01)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.03	---	-.05*	---	-.01	---	-.01	---	-.03	---	---	---	---
Friends		(.02)		(.02)		(.02)		(.02)		(.02)				
Time Spent	---	.01	---	-.01	---	-.01+	---	-.01+	---	-.00	---	---	---	---
with Friends		(.01)		(.01)		(.01)		(.01)		(.01)				
Adjusted R^2	.216	.217	.249	.257	.371	.373	.260	.263	.329	.331	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from	-.04***	-.04***	-.05***	-.05***	-.05***	-.05***	-.05***	-.05***	-.04***	-.04***	---	---	---	---
Friends	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.00	---	-.00	---	-.03*	---	-.02	---	-.02	---	---	---	---
Friends		(.02)		(.02)		(.02)		(.02)		(.02)				
Time Spent	---	-.00	---	-.01	---	-.01	---	-.01	---	-.01**	---	---	---	---
with Friends		(.01)		(.01)		(.00)		(.00)		(.00)				
Adjusted R^2	.177	.176	.203	.203	.216	.220	.248	.250	.180	.189	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table B.2. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
RSE from Workers	---	---	---	---	---	---	---	---	-.05*** (.00)	-.05*** (.00)	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	-.04** (.01)	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	-.00 (.00)	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.261	.267	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table B.3. Unstandardized Coefficients of OLS Regression Analyses of Delinquency Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.00***	-.00***	-.00***	-.00***
Parents	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Salience of	---	-.01***	---	-.01***	---	-.01***	---	-.01*	---	-.01*	---	-.00	---	.01+
Family		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)
Time Spent	---	-.01***	---	-.00***	---	-.00***	---	-.00***	---	-.00***	---	-.00**	---	-.00**
with Family		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)
Adjusted R^2	.207	.234	.210	.236	.232	.259	.202	.222	.177	.193	.191	.198	.151	.160
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	---	---	---	---	---	---	---	---
Teachers	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)								
Salience of	---	-.02***	---	-.02***	---	-.02***	---	---	---	---	---	---	---	---
School		(.00)		(.00)		(.00)								
Time Spent	---	-.00***	---	-.00***	---	-.00***	---	---	---	---	---	---	---	---
Studying		(.00)		(.00)		(.00)								
Adjusted R^2	.237	.264	.219	.251	.248	.290	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from	-.00***	-.00***	-.00***	-.00***	-.00**	-.00***	-.00***	-.00***	-.00***	-.00***	---	---	---	---
Friends	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.00	---	-.00	---	-.00	---	-.00	---	-.00	---	---	---	---
Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Time Spent	---	.00*	---	.00***	---	.00***	---	.00***	---	.00***	---	---	---	---
with Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Adjusted R^2	.123	.131	.059	.076	.048	.067	.030	.049	.046	.081	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	---	---	---	---
Friends	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.00	---	-.00	---	-.00	---	-.00	---	-.00	---	---	---	---
Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Time Spent	---	.01***	---	.01***	---	.01***	---	.01***	---	.01***	---	---	---	---
with Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Adjusted R^2	.216	.259	.209	.230	.225	.278	.217	.271	.193	.237	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table B.3. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	-.01*** (.00)	-.01*** (.00)	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	-.00 (.00)	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	-.00 (.00)	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.189	.189	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table B.4. Unstandardized Coefficients of OLS Regression Analyses of Alcohol/Drug Use Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from	-.01***	-.01***	-.01***	-.00***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***
Parents	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Salience of	---	-.01*	---	-.01	---	-.01**	---	-.01*	---	-.01**	---	-.01*	---	-.00
Family		(.00)		(.01)		(.01)		(.00)		(.00)		(.01)		(.01)
Time Spent	---	-.01***	---	-.01***	---	-.01***	---	-.01***	---	-.01***	---	-.00***	---	-.00
with Family		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)		(.00)
Adjusted R^2	.280	.309	.055	.067	.201	.239	.213	.242	.191	.219	.162	.185	.156	.154
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from	-.01***	-.01***	-.01***	-.00***	-.01***	-.01***	---	---	---	---	---	---	---	---
Teachers	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)								
Salience of	---	-.02***	---	-.02**	---	-.02***	---	---	---	---	---	---	---	---
School		(.00)		(.01)		(.01)								
Time Spent	---	-.00***	---	-.00	---	-.00*	---	---	---	---	---	---	---	---
Studying		(.00)		(.00)		(.00)								
Adjusted R^2	.296	.316	.053	.060	.205	.223	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from	-.01***	-.00***	-.00	-.00	-.00**	-.00**	-.00***	-.00***	-.01***	-.01***	---	---	---	---
Friends	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.01	---	-.00	---	-.01	---	-.00	---	-.00	---	---	---	---
Friends		(.01)		(.01)		(.01)		(.00)		(.00)				
Time Spent	---	.00	---	.01**	---	.01***	---	.00*	---	.00***	---	---	---	---
with Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Adjusted R^2	.276	.277	.015	.026	.105	.134	.204	.210	.146	.161	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	-.01***	---	---	---	---
Friends	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)				
Salience of	---	-.01+	---	.00	---	-.01*	---	-.01*	---	-.01+	---	---	---	---
Friends		(.01)		(.01)		(.01)		(.01)		(.01)				
Time Spent	---	.01***	---	.01***	---	.01***	---	.01***	---	.01***	---	---	---	---
with Friends		(.00)		(.00)		(.00)		(.00)		(.00)				
Adjusted R^2	.306	.330	.074	.085	.200	.246	.219	.270	.186	.222	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table B.4. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	-.01*** (.00)	-.01*** (.00)	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	---	.01* (.01)	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	---	.00* (.00)	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.144	.151	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table B.5. Unstandardized Coefficients of OLS Regression Analyses of Depression Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 6		Wave 7	
	(1)	(2)	(1)	(2)
RSE from Parents	-.07***	-.07***	-.10***	-.10***
	(.01)	(.01)	(.02)	(.02)
Salience of Family	---	-.13	---	-.02
		(.08)		(.12)
Time Spent with Family	---	-.01	---	-.04+
		(.02)		(.02)
Adjusted R^2	.063	.064	.080	.082
(N)	1015	1015	659	659

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

Table C.1. Standardized Coefficients of OLS Regression Analyses of Lack of Social Support Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	---	-.46***	---	-.50***	---	-.56***	---	-.55***	---	-.55***	---	-.29***	---	-.33***
Salience of Family	-.22***	-.15***	-.26***	-.14***	-.32***	-.19***	-.37***	-.21***	-.35***	-.19***	-.45***	-.36***	-.48***	-.38***
Time Spent with Family	-.12***	-.06**	-.14***	-.08***	-.08**	-.01	-.08**	-.03	-.05+	-.00	-.04	-.01	-.00	.01
Adjusted R^2	.102	.297	.150	.373	.149	.425	.199	.453	.179	.436	.244	.312	.250	.342
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	---	-.43***	---	-.44***	---	-.49***	---	---	---	---	---	---	---	---
Salience of School	-.15***	-.05+	-.16***	-.02	-.18***	-.06*	---	---	---	---	---	---	---	---
Time Spent Studying	-.04+	.01	-.10***	-.05*	-.12***	-.05*	---	---	---	---	---	---	---	---
Adjusted R^2	.052	.214	.078	.242	.077	.269	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	---	-.51***	---	-.55***	---	-.64***	---	-.59***	---	-.60***	---	---	---	---
Salience of Friends	-.13**	-.09*	-.14**	-.10**	-.18***	-.08*	-.10*	-.04	-.15***	-.05	---	---	---	---
Time Spent w/ Friends	-.02	-.07+	-.05	-.08*	-.05	-.04	-.07+	-.07*	-.15***	-.12***	---	---	---	---
Adjusted R^2	.037	.275	.030	.315	.047	.426	.052	.379	.073	.414	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	---	-.45***	---	-.46***	---	-.49***	---	-.52***	---	-.48***	---	---	---	---
Salience of Friends	-.06+	-.03	-.12***	-.06*	-.19***	-.13***	-.20***	-.12***	-.18***	-.12***	---	---	---	---
Time Spent w/ Friends	-.04	-.07**	-.03	-.08**	.01	-.04	.01	-.05+	-.01	-.06*	---	---	---	---
Adjusted R^2	.038	.238	.043	.248	.043	.269	.060	.309	.049	.261	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table C.1. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	---	-.55***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	-.11***	-.06*	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	.07*	.05+	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.047	.332	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table C.2. Standardized Coefficients of OLS Regression Analyses of **Loneliness** Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	---	-.44***	---	-.51***	---	-.54***	---	-.48***	---	-.52***	---	---	---	---
Salience of Family	-.11***	-.04	-.12***	.00	-.17***	-.05+	-.23***	-.09***	-.16***	-.01	---	---	---	---
Time Spent with Family	-.07**	-.02	-.12***	-.05*	-.06*	.01	-.05+	-.01	-.04	.01	---	---	---	---
Adjusted R^2	.038	.220	.051	.279	.047	.307	.069	.262	.046	.277	---	---	---	---
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250				
RSE from Teachers	---	-.41***	---	-.49***	---	-.48***	---	---	---	---	---	---	---	---
Salience of School	-.15***	-.04+	-.15***	-.00	-.17***	-.05+	---	---	---	---	---	---	---	---
Time Spent Studying	-.04	.01	-.09**	-.04	-.05+	.01	---	---	---	---	---	---	---	---
Adjusted R^2	.041	.193	.050	.250	.047	.240	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	---	-.44***	---	-.50***	---	-.61***	---	-.51***	---	-.57***	---	---	---	---
Salience of Friends	-.09*	-.05	-.12**	-.09*	-.11*	-.02	-.07	-.01	-.16***	-.06	---	---	---	---
Time Spent with Friends	.10*	.05	-.02	-.04	-.08+	-.07+	-.07	-.07+	-.05	-.02	---	---	---	---
Adjusted R^2	.036	.217	.023	.257	.028	.373	.020	.263	.031	.331	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	---	-.41***	---	-.45***	---	-.47***	---	-.50***	---	-.44***	---	---	---	---
Salience of Friends	-.04	-.00	-.06+	-.01	-.12***	-.06*	-.12***	-.04	-.08*	-.03	---	---	---	---
Time Spent with Friends	.01	-.02	-.00	-.05	.00	-.04	.01	-.04	-.05	-.10**	---	---	---	---
Adjusted R^2	.012	.176	.003	.203	.013	.220	.014	.250	.012	.189	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table C.2. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	---	-.51***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	-.12***	-.07**	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	-.02	-.04	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.027	.267	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table C.3. Standardized Coefficients of OLS Regression Analyses of Delinquency Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	---	-.30***	---	-.33***	---	-.34***	---	-.35***	---	-.31***	---	-.30***	---	-.31***
Salience of Family	-.13***	-.08***	-.16***	-.08***	-.18***	-.10***	-.15***	-.05*	-.15***	-.06*	-.14***	-.04	-.03	.06+
Time Spent with Family	-.16***	-.13***	-.15***	-.11***	-.16***	-.12***	-.17***	-.13***	-.14***	-.11***	-.12***	-.09**	-.11**	-.10**
Adjusted R^2	.153	.234	.142	.236	.159	.259	.119	.222	.114	.193	.122	.198	.081	.160
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	---	-.34***	---	-.31***	---	-.34***	---	---	---	---	---	---	---	---
Salience of School	-.21***	-.13***	-.24***	-.15***	-.26***	-.18***	---	---	---	---	---	---	---	---
Time Spent Studying	-.13***	-.09***	-.12***	-.09***	-.13***	-.08***	---	---	---	---	---	---	---	---
Adjusted R^2	.163	.264	.171	.251	.196	.290	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	---	-.21***	---	-.17***	---	-.15***	---	-.17***	---	-.23***	---	---	---	---
Salience of Friends	-.08+	-.06	-.05	-.04	-.04	-.02	-.03	-.02	-.05	-.01	---	---	---	---
Time Spent with Friends	.13**	.10*	.16***	.15***	.15***	.16***	.15***	.15***	.19***	.20***	---	---	---	---
Adjusted R^2	.091	.131	.050	.076	.049	.067	.024	.049	.032	.081	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	---	-.32***	---	-.37***	---	-.39***	---	-.39***	---	-.35***	---	---	---	---
Salience of Friends	-.04	-.02	-.08*	-.03	-.05+	-.01	-.09**	-.03	-.08*	-.04	---	---	---	---
Time Spent with Friends	.24***	.22***	.19***	.16***	.28***	.24***	.28***	.24***	.26***	.22***	---	---	---	---
Adjusted R^2	.159	.259	.096	.230	.132	.278	.126	.271	.127	.237	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table C.3. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	---	-.33***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	-.06+	-.02	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	-.01	-.02	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.087	.189	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table C.4. Standardized Coefficients of OLS Regression Analyses of Alcohol/Drug Use Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Parents	---	-.20***	---	-.12***	---	-.24***	---	-.32***	---	-.30***	---	-.31***	---	-.36***
Salience of Family	-.09***	-.05*	-.05*	-.02	-.13***	-.07**	-.16***	-.06*	-.16***	-.07**	-.16***	-.07*	-.13***	-.02
Time Spent with Family	-.18***	-.16***	-.13***	-.11***	-.21***	-.18***	-.19***	-.16***	-.18***	-.15***	-.18***	-.15***	-.03	-.02
Adjusted R^2	.273	.309	.056	.067	.187	.239	.155	.242	.142	.219	.109	.185	.046	.154
(N)	1664	1664	1616	1616	1603	1603	1386	1386	1250	1250	1015	1015	659	659
RSE from Teachers	---	-.24***	---	-.13***	---	-.28***	---	---	---	---	---	---	---	---
Salience of School	-.16***	-.10***	-.12***	-.08**	-.19***	-.12***	---	---	---	---	---	---	---	---
Time Spent Studying	-.12***	-.09***	-.05+	-.04	-.10***	-.06*	---	---	---	---	---	---	---	---
Adjusted R^2	.267	.316	.048	.060	.158	.223	---	---	---	---	---	---	---	---
(N)	1659	1659	1575	1575	1495	1495								
R w/Non-Del Friends:														
RSE from Friends	---	-.18***	---	-.06	---	-.13**	---	-.25***	---	-.29***	---	---	---	---
Salience of Friends	-.07+	-.06	-.01	-.01	-.09*	-.07	-.06	-.03	-.08*	-.03	---	---	---	---
Time Spent with Friends	.07+	.05	.13**	.12**	.19***	.19***	-.10*	.10*	.13**	.14***	---	---	---	---
Adjusted R^2	.248	.277	.025	.026	.121	.134	.152	.210	.082	.161	---	---	---	---
(N)	474	474	484	484	497	497	519	519	543	543				
R w/Del Friends:														
RSE from Friends	---	-.23***	---	-.16***	---	-.27***	---	-.36***	---	-.35***	---	---	---	---
Salience of Friends	-.06*	-.04+	-.01	.01	-.09**	-.06*	-.12***	-.07*	-.09**	-.05+	---	---	---	---
Time Spent with Friends	.18***	.16***	.13***	.12***	.25***	.22***	.27***	.23***	.24***	.20***	---	---	---	---
Adjusted R^2	.280	.330	.061	.085	.175	.246	.148	.270	.107	.222	---	---	---	---
(N)	984	984	901	901	997	997	907	907	837	837				

Table C.4. Cont.

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
RSE from Workers	---	---	---	---	---	---	---	---	---	-.35***	---	---	---	---
Salience of Work	---	---	---	---	---	---	---	---	.03	.06*	---	---	---	---
Time Spent at Work	---	---	---	---	---	---	---	---	.08*	.07*	---	---	---	---
Adjusted R^2	---	---	---	---	---	---	---	---	.036	.151	---	---	---	---
(N)									1076	1076				

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models; [a] Separate analyses were conducted for each domain examined (i.e, family, school, work, and friends). For interpretation ease, results across domains are presented together in this table.

Table C.5. Standardized Coefficients of OLS Regression Analyses of **Depression** Regressed on Sources of Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 6		Wave 7	
	(1)	(2)	(1)	(2)
RSE from Parents	---	-.19***	---	-.23***
Salience of Family	-.11***	-.05	-.08*	-.01
Time Spent with Family	-.04	-.02	-.08+	-.07+
Adjusted R^2	.036	.064	.037	.082
(N)	1015	1015	659	659

Note: Gender, Race/Ethnicity, and Age are controlled for in all of the models.

Table D.1. Change in Lack of Social Support Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.50***	.38***	.50***	.35***	.55***	.43***	.61***	.48***	.22***	.17***	.38***	.34***
Previous wave RSE from Parents	---	-.31***	---	-.39***	---	-.29***	---	-.31***	---	-.15***	---	-.21***
Change in RSE from Parents	---	-.33***	---	-.38***	---	-.31***	---	-.31***	---	-.14***	---	-.24***
Previous wave Salience of Family	-.22***	-.15***	-.20***	-.14***	-.25***	-.19***	-.18***	-.12***	-.43***	-.39***	-.33***	-.26***
Change in Salience of Family	-.21***	-.14***	-.20***	-.14***	-.23***	-.16***	-.17***	-.11***	-.37***	-.34***	-.37***	-.33***
Previous wave Time Spent with Family	-.04	-.01	-.04	.02	-.05+	-.02	.04	.06*	-.02	-.00	.05	.04
Change in Time Spent with Family	-.10***	-.07***	-.08***	-.04+	-.07**	-.04+	-.06**	-.03	-.04	-.03	-.01	-.01
Adjusted R^2	.382	.481	.370	.518	.481	.569	.490	.581	.276	.305	.358	.407
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Lack of social support	.54***	.46***	.53***	.43***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	---	-.28***	---	-.31***	---	---	---	---	---	---	---	---
Change in RSE from teachers	---	-.27***	---	-.27***	---	---	---	---	---	---	---	---
Previous wave Salience of School	-.11***	-.02	-.13***	-.04	---	---	---	---	---	---	---	---
Change in Salience of School	-.12***	-.04+	-.07**	-.02	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	-.05*	-.03	-.04	-.02	---	---	---	---	---	---	---	---
Change in Time spent studying	-.06**	-.05+	-.07**	-.05+	---	---	---	---	---	---	---	---
Adjusted R^2	.351	.416	.343	.418	---	---	---	---	---	---	---	---
(N)	1534	1534	1433	1433								

Table D.1. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Lack of social support	.53***	.41***	.56***	.40***	.61***	.49***	.61***	.48***	---	---	---	---
Previous wave RSE from Friends	---	-.36***	---	-.37***	---	-.31***	---	-.29***	---	---	---	---
Change in RSE from friends	---	-.34***	---	-.33***	---	-.29***	---	-.28***	---	---	---	---
Previous wave Salience of Friends	-.08**	-.05+	-.11***	-.07**	-.08**	-.04+	-.10***	-.07**	---	---	---	---
Change in Salience of Friends	-.08**	-.05+	-.17***	-.12***	-.07**	-.05*	-.09***	-.06**	---	---	---	---
Previous wave Time Spent w/Friends	.00	-.05+	.02	-.03	-.02	-.05*	-.02	-.05*	---	---	---	---
Change in Time Spent w/ Friends	-.02	-.05*	-.01	-.03	-.02	-.05*	-.04+	-.07**	---	---	---	---
Adjusted R^2	.313	.428	.345	.463	.416	.504	.418	.500	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table D.2. Change in Loneliness Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.48***	.35***	.54***	.41***	.52***	.45***	.56***	.46***
Previous wave RSE from Parents	---	-.36***	---	-.35***	---	-.25***	---	-.33***
Change in RSE from Parents	---	-.33***	---	-.32***	---	-.26***	---	-.32***
Previous wave Salience of Family	-.08**	.02	-.08**	-.00	-.16***	-.08**	-.11***	-.01
Change in Salience of Family	-.11***	-.03	-.10***	-.04	-.14***	-.07**	-.08**	.00
Previous wave Time Spent with Family	-.04	-.01	-.07**	-.02	-.04	-.02	.03	.05+
Change in Time Spent with Family	-.09***	-.06*	-.04+	-.01	-.04	-.01	-.04	-.01
Adjusted R^2	.267	.383	.332	.442	.340	.404	.346	.449
(N)	1563	1563	1553	1553	1357	1357	1197	1197
Previous wave Loneliness	.47***	.36***	.55***	.42***	---	---	---	---
Previous wave RSE from Teachers	---	-.40***	---	-.34***	---	---	---	---
Change in RSE from teachers	---	-.33***	---	-.33***	---	---	---	---
Previous wave Salience of School	-.09***	.00	-.13***	-.04	---	---	---	---
Change in Salience of School	-.09***	-.02	-.10***	-.05*	---	---	---	---
Previous wave Time Spent Studying	-.07*	-.04	.01	.03	---	---	---	---
Change in Time spent studying	-.05+	-.03	-.04	-.01	---	---	---	---
Adjusted R^2	.266	.380	.339	.440	---	---	---	---
(N)	1531	1531	1454	1454				

Table D.2. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Loneliness	.49***	.37***	.58***	.42***	.57***	.44***	.58***	.48***
Previous wave RSE from Friends	---	-.39***	---	-.36***	---	-.34***	---	-.28***
Change in RSE from friends	---	-.34***	---	-.33***	---	-.29***	---	-.27***
Previous wave Salience of Friends	-.07*	-.03	-.07**	-.02	-.07**	-.03	-.08**	-.04+
Change in Salience of Friends	-.06*	-.02	-.09***	-.04	-.05+	-.02	-.07*	-.03
Previous wave Time Spent w/Friends	-.01	-.06*	.00	-.04+	.02	-.02	-.04	-.07**
Change in Time Spent w/ Friends	.02	-.01	.02	-.01	.01	-.02	-.02	-.04
Adjusted R^2	.254	.378	.343	.456	.344	.438	.358	.437
(N)	1224	1224	1284	1284	1333	1333	1279	1279

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table D.3. Change in Delinquency Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.60***	.56***	.64***	.60***	.69***	.66***	.70***	.70***	.54***	.54***	.59***	.56***
Previous wave RSE from Parents	---	-.12***	---	-.12***	---	-.14***	---	-.04+	---	-.04	---	-.13***
Change in RSE from Parents	---	-.20***	---	-.17***	---	-.15***	---	-.16***	---	-.10***	---	-.16***
Previous wave Salience of Family	-.06*	-.02	-.08**	-.05*	-.05+	-.00	-.10***	-.08***	-.05	-.03	-.01	.05
Change in Salience of Family	-.10***	-.06*	-.08***	-.05*	-.04+	-.00	-.04+	-.02	-.09**	-.07*	.01	.05
Previous wave Time Spent with Family	-.07**	-.06*	-.07**	-.05*	-.05+	-.04	-.05+	-.04	-.06+	-.06	-.07+	-.08*
Change in Time Spent with Family	-.07***	-.06**	-.09***	-.07***	-.04+	-.03	-.04+	-.03	-.02	-.02	-.05	-.05
Adjusted R^2	.445	.477	.506	.531	.522	.544	.572	.593	.379	.388	.411	.432
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Delinquency	.60***	.57***	.65***	.62***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	---	-.13***	---	-.12***	---	---	---	---	---	---	---	---
Change in RSE from teachers	---	-.20***	---	-.18***	---	---	---	---	---	---	---	---
Previous wave Salience of School	-.14***	-.10***	-.10***	-.08**	---	---	---	---	---	---	---	---
Change in Salience of School	-.11***	-.07**	-.12***	-.10***	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	-.02	-.01	-.05*	-.05*	---	---	---	---	---	---	---	---
Change in Time spent studying	-.06**	-.05*	-.06**	-.05*	---	---	---	---	---	---	---	---
Adjusted R^2	.468	.497	.549	.575	---	---	---	---	---	---	---	---
(N)	1531	1531	1454	1454								

Table D.3. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Delinquency	.63***	.59***	.65***	.59***	.71***	.65***	.71***	.68***	---	---	---	---
Previous wave RSE from Friends	---	-.16***	---	-.15***	---	-.15***	---	-.11***	---	---	---	---
Change in RSE from friends	---	-.23***	---	-.20***	---	-.14***	---	-.17***	---	---	---	---
Previous wave Salience of Friends	-.01	.01	-.02	-.00	-.04+	-.02	-.03	-.01	---	---	---	---
Change in Salience of Friends	-.02	-.00	-.04+	-.02	-.05*	-.04+	-.03	-.01	---	---	---	---
Previous wave Time Spent w/Friends	.09***	.08**	.12***	.12***	.14***	.14***	.08***	.08***	---	---	---	---
Change in Time Spent w/ Friends	.09***	.08**	.11***	.11***	.13***	.12***	.09***	.08***	---	---	---	---
Adjusted R^2	.473	.513	.512	.548	.573	.593	.577	.601	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table D.4. Change in Alcohol/Drug Use Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role[a]

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.53***	.52***	.52***	.50***	.61***	.57***	.71***	.69***	.59***	.56***	.65***	.60***
Previous wave RSE from Parents	---	-.08***	---	-.18***	---	-.20***	---	-.09***	---	-.09**	---	-.17***
Change in RSE from Parents	---	-.15***	---	-.15***	---	-.16***	---	-.10***	---	-.08**	---	-.12***
Previous wave Salience of Family	-.10***	-.06*	-.13***	-.08***	-.10***	-.03	-.08***	-.05*	-.04	-.01	-.05	.01
Change in Salience of Family	-.06*	-.03	-.06**	-.03	-.05+	.00	-.02	.00	-.10**	-.08*	-.04	-.01
Previous wave Time Spent with Family	-.10***	-.09***	-.14***	-.11***	-.11***	-.10***	-.09***	-.08***	-.09*	-.08*	-.04	-.04
Change in Time Spent with Family	-.09***	-.08***	-.12***	-.11***	-.07**	-.05*	-.04+	-.03	-.10***	-.10**	.04	.04
Adjusted R^2	.400	.417	.446	.476	.482	.515	.594	.603	.407	.416	.456	.473
(N)	1563	1563	1553	1553	1357	1357	1197	1197	873	873	591	591
Previous wave Alcohol/Drug use	.54***	.52***	.53***	.50***	---	---	---	---	---	---	---	---
Previous wave RSE from Teachers	---	-.13***	---	-.18***	---	---	---	---	---	---	---	---
Change in RSE from teachers	---	-.14***	---	-.16***	---	---	---	---	---	---	---	---
Previous wave Salience of School	-.11***	-.08**	-.18***	-.12***	---	---	---	---	---	---	---	---
Change in Salience of School	-.11***	-.08**	-.11***	-.08***	---	---	---	---	---	---	---	---
Previous wave Time Spent Studying	-.03	-.03	-.07**	-.06*	---	---	---	---	---	---	---	---
Change in Time spent studying	-.03	-.03	-.09***	-.07**	---	---	---	---	---	---	---	---
Adjusted R^2	.388	.405	.433	.463	---	---	---	---	---	---	---	---
(N)	1531	1531	1454	1454								

Table D.4. Cont.

	Wave 2		Wave 3		Wave 4		Wave 5		Wave 6		Wave 7	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Previous wave Alcohol/Drug use	.55***	.51***	.52***	.49***	.64***	.56***	.77***	.74***	---	---	---	---
Previous wave RSE from Friends	---	-.15***	---	-.21***	---	-.24***	---	-.11***	---	---	---	---
Change in RSE from friends	---	-.16***	---	-.17***	---	-.17***	---	-.15***	---	---	---	---
Previous wave Salience of Friends	-.05+	-.03	-.09***	-.06*	-.06**	-.03	-.03	-.01	---	---	---	---
Change in Salience of Friends	-.04	-.02	-.08***	-.05*	-.07**	-.06**	-.03	-.02	---	---	---	---
Previous wave Time Spent w/Friends	.13***	.12***	.19***	.17***	.16***	.16***	.08***	.08***	---	---	---	---
Change in Time Spent w/ Friends	.11***	.10***	.18***	.17***	.12***	.11***	.06**	.05**	---	---	---	---
Adjusted R^2	.400	.424	.434	.476	.506	.553	.637	.657	---	---	---	---
(N)	1224	1224	1284	1284	1333	1333	1279	1279				

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

[a] Separate analyses were conducted for each domain examined (i.e, family, friends, and school). For interpretation ease, results across domains are presented together in this table.

Table D.5. Change in Depression Regressed on Changes in Reflected Self-Esteem, Salience, and Time Spent in the Role

	Wave 7	
	(1)	(2)
Previous Wave of Depression	.52***	.50***
Previous wave RSE from Parents	---	-.13**
Change in RSE from Parents	---	-.14***
Previous wave Salience of Family	-.05	.00
Change in Salience of Family	-.07	-.04
Previous wave Time Spent w/Family	-.04	-.04
Change in Time Spent with Family	-.04	-.04
Adjusted R^2	.289	.304
(N)	591	591

+ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed)

Notes: Gender, Race/Ethnicity, and Current Age are controlled for in all of the models; Standardized coefficients are presented.

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