ADOLESCENT PERCEPTIONS OF MATTERING

IN THE SCHOOL MENTORING CONTEXT

by

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Abstract

This study examines adolescent perceptions of mentoring relationships with unrelated adults and suggests a typology of mentor behaviors that promote a sense of mattering to a mentor. A pretest/posttest quasi-experimental design was used with a sample of adolescents (n=34) enrolled in two rural high school social studies classes requiring their selection of a volunteer mentor. The selective influence of significant unrelated adult mentors was explored, with the hypothesis that mentors perceived as credible and valuable would exert the most positive influence on a perception of mattering. While this hypothesis was supported, the adolescent's perception of mentor behaviors had a mediating effect on the relationship between credibility and value and mattering to the mentor at time two. Taking a pattern-centered approach to analysis, the mentor's challenge, expectations, pressure and support were examined using cluster analysis. Two patterns emerged with differential effects on the development of perceived mattering: Autonomy supportive and directive. Autonomy supportive mentoring was characterized by scores that were slightly below the mean on mentor pressure and above the mean on mentor support and expectations and mentor challenge. Adolescent perception of these behaviors was positively associated with a perception of the credibility and value of the mentor and perceived mattering to the mentor. Conversely, directive mentor behaviors were negatively associated with adolescents' perceptions of the credibility and value of the mentor and a sense of mattering to their mentor. Scores that were above the mean on mentor pressure and well below the mean on mentor support, challenge and expectations characterized this pattern. Findings are discussed in terms of their importance for theory building and conceptualization for both the mattering theoretical framework and consideration of the influence of mentoring on adolescent development.

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William James (1892) said "we all have an innate propensity to get ourselves noticed . . . by our kind. No more fiendish punishment could be devised, than that one should be turned loose in society and remain absolutely unnoticed by all the members thereof" (p.293).

Thanks to all of you who have noticed, cared and mentored me through this life-changing process. . .

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Introduction

William James (1892) noted that "we all have an innate propensity to get ourselves noticed . . . by our kind. No more fiendish punishment could be devised, than that one should be turned loose in society and remain absolutely unnoticed by all the members thereof" (p.293).

The notion of recognition from others is suggestive of the perception that the individual matters to another person. Rosenberg and McCullough (1981) and Marshall (1998) note that the tendency to view the self as mattering to others is an aspect of self-concept. Marshall (1998) defines perceived mattering to others as "the psychological tendency to evaluate the self as significant to specific other people" (p.13). Research findings have demonstrated the association between adolescent psychosocial well being and perceived mattering to parents (Rosenberg & McCullough, 1981; Marshall, 1997) and peers (Marshall, 1997). However, a systematic archival search revealed that the development of adolescent perceived mattering to unrelated adults has not been examined.

Harter (1990) points out that the task of adolescent identity formation involves consolidation of self-attributes as well as societal roles. As such, the task of identity formation must take place in the larger context of society. There must be a sense of mutuality between the adolescent's conception of the self and those that significant others hold about him or her (Harter, 1990).

In view of the suggested importance of recognition from significant others for psychosocial development (Rosenberg & McCullough, 1981; Marshall, 1997), an examination of the formation of perceived mattering is likely to expand knowledge of self-concept development, particularly during adolescence. More specifically, since adolescents are expanding their network of relationships to include a greater number of unrelated adults, examination of

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adolescents' formation of a sense of mattering to an unrelated adult may be critical to understanding identity development during the period of transition from adolescence to adulthood.

Researchers and theoreticians attempting to understand the role of unrelated adults in adolescents' lives have begun to examine adult-youth mentoring processes (Hamilton & Darling, 1989; Philips & Hendry, 1996). The reason for increased interest in mentoring emerges partially from studies of *resilient* youth that appear to thrive in circumstances that provide formidable challenges for most individuals. Research findings suggest that youth who overcome serious obstacles by successfully negotiating the transition to adulthood are often guided by strong, supportive adults (Garmezy, 1987; Rutter, 1987). Mentoring by an unrelated adult may be one context in which a member of society outside the family notices and recognizes an adolescent in a way that is beneficial for that adolescent's psychosocial development. However the influence of mentoring on adolescent self-concept development has received little attention.

Recent popularization of mentoring has not allowed adequate time for theory building and conceptualization (Freedman, 1993; Rhodes, 1994). To date much of the adolescent mentoring literature has focused on the benefits of mentors to the protege and on the individual attributes of those who have mentors or serve as mentors (Hamilton & Darling, 1989; Rutter, 1987). Consequently, the linkage of adolescents' formation of perceived mattering to the mentoring context is likely to enhance understanding of the influence of unrelated adults on adolescent self-concept formation.

Rosenberg and McCullough's (1981) and Marshall's (1997) work on the formation of perceived mattering has relied on cross-sectional, retrospective data from adolescents about their perception of the relationship with their parents and friends. The parenting role is a prescribed role or relationship, and as such does not involve choice for the adolescent. Consideration of friendship relationships, while affording the opportunity to examine a relationship that involves

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choice on the part of the adolescent, often has no definitive point of beginning or ending. In addition, both parent-child and friendship relationships develop slowly over time. Consequently, it is difficult to capture and observe the process of the formation of perceived mattering.

On the other hand, the mentoring relationship of interest to this study is a relationship of choice with a specific beginning and ending point. As such this study affords the opportunity to take snapshot views of the relationship between an adolescent and unrelated adult mentor and observe the development and maintenance of perceived mattering across time.

Review of the Literature

Description of Mentors and Proteges

Research on adolescent development reveals that having a positive relationship with at least one caring adult, not necessarily the parent, is one of the most important elements in protecting youth from multiple risks (Blinn-Pike, Kuschel, McDaniel, Mingus, & Mutti, 1998; Scales & Gibbons, 1996; Werner & Smith, 1982). An examination of the extant literature on mentoring (Scales & Gibbons, 1996; Hamilton & Darling, 1989; Philip & Hendry, 1996) reveals evidence of the influence mentors have on adolescents, who the mentors are and how adolescents describe them. However Scales and Gibbons (1996) report that there is surprisingly limited empirical research focused on adolescent relations with unrelated adults.

Examination of the extant empirical research reveals which adolescents are likely to have a mentor, who these mentors are and some defining characteristics of mentors. In a study of university and high school students, retrospective accounts revealed that while females have a greater number of relationships with significant others, they are significantly less likely than males to have an unrelated adult mentor (Hamilton & Darling, 1989). Findings suggest that although males are less likely to have an unrelated significant adult in their lives, when they do mention one, it is more likely to be a mentor. In comparable data collected from 74 eighth graders, eleventh graders and college students, findings revealed that 60% of eleventh grade and

college students who named adult associates described at least one of them as a mentor, but eighth graders were less likely to do so (25%) (Hamilton & Darling, 1989). The majority of adult associates filling the role were parents who accounted for 58% of adult mentors. Unrelated adults were the next largest category, at 34%, with relatives other than the parents accounting for only 7% of the mentors. The category of interest in this present study is that of unrelated adults.

In a retrospective study of students, including 126 university students, 40 eighth grade and 34 eleventh grade students, Hamilton and Darling (1989) found that several of the respondents described at least one unrelated adult mentor. Hamilton and Darling (1989) suggest that overall there are three components most often reported when describing the mentoring role between adolescents and unrelated adults: teacher, role model, and challenger. Of those who reported an unrelated adult mentor, 68% of respondents reported at least one who performed activities described as teacher. In addition 67% of respondents listed role model and 56% of respondents listed challenger to describe the activities of the mentor. The teacher category consisted of activities described as learning by watching the mentor do a task and acquiring knowledge, information and skills from the mentor. Role model was identified as the mentor being a model of achievement and values for the protege and a response by the protege of admiration for the mentor. Challenger was identified as challenging the protege's ideas, pushing the protege to do a good job and to work independently, and offering the protege constructive criticism.

Subsequent related research conducted by Darling (1991) asked eighth and eleventh grade students to describe the characteristics of their relationships with unrelated adults. Findings indicate that unrelated adults were less likely to be described as antagonists or controllers than were other associates, and were identified as less supportive than parents. When a broader range of relationship qualities was added, including instrumental functions, unrelated adults took on more prominent roles as teachers, role models, challenger and guides than did

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peers or siblings. Parents were reported as more important to the respondents among early adolescents, but unrelated adults held greater importance among later adolescents.

Lempers and Clark-Lempers' (1992) study of adolescents' relationship with mothers, fathers, siblings, best friends and most important teachers describes how relationships with teachers may have a complimentary effect to mentoring by parents. Research findings suggest that relations with teachers were ranked lowest for affection, reliable alliance, companionship, intimacy and nurturance, but moderately high in instrumental aid. This is consistent with Galbo's (1984) findings that adolescents do not perceive teachers as important to them, especially if they have parents or other relatives who are supportive. However, Lempers and Clark-Lempers (1992) caution that it is important not to underestimate the impact of teachers as mentors. Overall, teachers are most important with regard to providing instrumental aid to adolescents. It is likely that the same is true of mentors.

In summary, it may be profitable to understand the influence of unrelated adults on adolescent development. While parents are most often listed in the mentoring role, among later adolescents, mentoring by unrelated adults gains importance. Provision of instrumental aid is considered the most important contribution unrelated adults offer adolescents. However, while much has been written about who mentors are and the benefits of being mentored for adolescents, there is little agreement as to how mentors and mentoring should be defined (Hamilton & Darling, 1989). In addition, little has been done to describe the optimal mentoring context.

Defining and Describing the Mentoring Process

The prototypic mentor is an unrelated adult who takes on the responsibility of socializing a youth above and beyond the requirements of the mentor's social role. A teacher or counselor, for example may become a mentor, but the role of teaching does not assume mentoring by definition. Mentoring entails a depth of commitment and breadth of involvement that exceeds

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professional norms (Hamilton & Darling, 1989). Mentors provide both the ideals that are necessary for identity formation and the skills to realize those ideals (Hamilton & Darling, 1989).

Early mentoring literature was concerned with defining mentoring by describing the participants, often according to affective qualities. Darling, Hamilton and Niego (1994) suggest that in order to really understand the processes through which unrelated adults influence adolescent development, researchers need to expand the characterization of relationships beyond descriptions of purely affective qualities.

Philip and Hendry (1996), seeking to further understand the mentor relationship, investigated various mentoring contexts to establish a typology of mentoring forms. Findings from a sample of adolescents suggest that a range of forms of mentoring are considered valuable by young people in various contexts: 1) *classic mentoring* - a one-to one relationship between an unrelated adult and an adolescent where the older, experienced mentor provides a role-model, support, advice and challenge in such a way that the protege perceives he or she is a "special" person; 2) *individual-team mentoring* where a group looks to an individual or a small number of individuals for support, advice and challenge; 3) *friend-to-friend mentoring* which often provides a safety net, especially for a young person who may be distrustful of adults; 4) *peer-group mentoring* where an ordinary friendship group takes on a mentoring role at a specific time, and 5) *long-term relationship mentoring* which is similar to classic mentoring except that risk-taking adults who have a history of rebellion and challenging authority and are perceived by the young person as resisting adult definition of the social world, mentor a young person (p.192).

In essence, Philip and Hendry (1996) broadened the working definition of "mentoring". Moving away from the traditional definition that merely described the structure and participants, they have proposed several interpersonal processes by which young people feel they have been supported and challenged by individuals or groups. This typology suggests increased emphasis on the functional aspects of the relationship.

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Previous attempts to define mentoring have begun to allude to both the structural and functional aspects of the mentoring relationship. However, in an attempt to further clarify and define mentoring, it is important to clearly distinguish the use of the term mentor as it describes a social role or the structural aspect, from its use describing the instrumental role or the functional aspect. Hamilton and Darling (1989) suggest that using "mentor" to describe a social role places the focus on the structure of the relationship, more specifically, who the people are. On the other hand, when the term mentor refers to the functional aspect of the role, the focus is on the content of the role, rather than primarily on the structure. Referring to the functional aspect of the role, a mentor is one who performs the act of mentoring and the focus is placed on the behaviors and emotional tone within the dyad (Hamilton & Darling, 1989).

Further examination of the functional aspect of the mentoring role is evident in Daloz's (1986) suggestion that mentoring is reciprocal. Not only must the mentor perform in a particular way, but the adolescent must accept and look to the mentor as a role model. The mentoring role, then, is defined both by behaviors enacted by the mentor and by the adoption of the mentor as a role model by the protege. Consequently, it is the relationship between the two participants that defines mentoring, not simply the behaviors or the psychological events experienced by either participant (Hamilton & Darling, 1989).

Edlind and Haensly (1985) suggest it is critical to differentiate between the structural and functional aspects of the role in order to avoid tension created by misunderstanding the purpose of the relationship. They point out that the social role is easily established; program directors can arrange for two individuals with similar interests to come together and provide the opportunity for mentoring to happen. However the functional aspect, the instrumental, affective and reciprocal nature of the role may or may not develop within a particular mentoring relationship (Hamilton & Darling 1989).

In summary, besides examination of the structural aspect of the role, consideration of the functional aspect of the role including both the affective and instrumental, is critical in defining mentoring. The social role places the focus of mentoring on descriptions of the participants. When described only by the social role, any two people involved in a mentoring program would be defined as mentors and proteges, without consideration of the quality of that particular mentoring relationship. In addition, it fails to consider the reciprocal nature of the mentoring relationship.

Consideration of the functional aspect of the role enhances a description of mentoring by examining the behavior and emotional tone within the dyad. In addition, inclusion of focus on the functional aspects of mentoring affords the opportunity to explore and describe the process of mentoring from the perspective of both the mentor and the protege. This allows examination of the reciprocal, interactive nature of the relationship. Emphasis on the functional aspects of the mentoring role has been encouraged by Rutter (1987) who argues that we need to investigate the mechanisms and processes that protect youth from risk, not simply broadly define variables or the attributes of individuals involved in the mentoring relationship. Further, it is the functional component (i.e. the activity-centered characteristics) that distinguishes mentoring by unrelated adults from that of significant others in other social roles. Consequently, any consideration of affective qualities needs to be made in concert with examination of the instrumental component of the mentoring relationship.

Developing and Expanding the Definition of Mentoring

Philip and Hendry's (1996) description of "classic" mentoring best describes the type of relationship of interest to this study. Classic mentoring is a one-to-one relationship between an unrelated adult and an adolescent where the older, experienced mentor provides a role-model, support, advice and challenge in such a way that the protege perceives he or she is a "special" person (Philip & Hendry, 1996).

This definition of mentoring first defines the social role as an unrelated, older, experienced adult interacting with an adolescent. It addresses the functional aspect of the role, describing the behaviors of the mentor as providing a role model, support, advice and challenge to the protege. The affective component of the functional aspect of mentoring is addressed by describing the possible effect on the protege, that is the perception by the adolescent that he or she is a "special" person (Philip & Hendry, 1996). Beyond that, what is meant by "special" is not examined. It may be that in the process of feeling "special" the adolescent gains a sense of mattering to the mentor. Linking mentoring to perceived mattering may further clarify and describe how the adolescent comes to perceive him or herself as "special" through the formation of a sense of mattering to the mentor.

Perceived Mattering and Mentoring

Perceived mattering is an aspect of the self-concept that is constructed in the context of interpersonal relationships. Marshall (1998) suggests that the individual develops a perception of mattering to a specific other as the individual recognizes patterns in the other's behavior as attention that is directed toward him or her. These patterns are referred to as *attending behaviors* of specific others. An individual's perceived significance to another person involves the assignation of meaning to these patterns of behavior. As the adolescent protege interacts with the mentor, and works on the chosen or assigned tasks, the adolescent may detect patterns in the mentor's behavior, directed toward him or herself. The adolescent may notice, for example, that the mentor takes time to listen to his or her ideas, or is excited about the project the adolescent is working on. As the adolescent assigns meaning to the mentor's behaviors, he or she may imagine that those behaviors on the part of the mentor indicate that the mentor evaluates the adolescent with some degree of significance or mattering.

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Marshall's (1998) theoretical framework describing the development of perceived mattering suggests that there are four types of intrapersonal events involved in the formation of a sense of mattering: perceptual events, comparative processes, role taking and self-attribution.

Perceptual events. The adolescent's recognition of the mentor's behaviors toward the adolescent are subject to the mechanisms of perception. Selective attention, one mechanism of perception, prevents the individual from being overwhelmed by vast amounts of information encountered in the environment. Harre and Gillett (1990) suggest that perception is intentional in that individuals selectively attend to information in the environment that is in accordance with the skills needed to enable interaction with the world and others. This idea builds on Luria's (1973) work that suggests that attention is a social act, learned through interaction with others, which develops into the complex regulation of selective perception.

Comparative processes. Marshall (1998) suggests that individuals may employ *social comparisons* to generate information that contributes to the sense that self matters to another. The principle of social comparison suggests that individuals may judge their degree of significance by comparing themselves to others. In the case of perceived mattering, the individual may draw conclusions about the degree to which they are significant to specific others by using social comparisons. For example, in the mentoring context proteges may compare perceptions of attention from mentors with perceptions of the attention mentors direct to others.

Adolescents may also make comparisons between current perceptions of attention from their mentor and past experiences (Marshall, 1998). Utilizing reflexive cognitions (Rosenberg, 1989), adolescents can compare past events with present events to inform the evaluation of their significance to the mentor. If, presently, adolescents perceive that the mentor is directing more or less attention to them compared with past events, the adolescents can make a judgment about their current perception of mattering to their mentor.

Role-taking. Once the individual has assigned meaning of the attention to the specific other's behaviors, *role-taking* and *self-attribution* further link these behaviors to a description of the self (Marshall, 1998). Individuals may use the information gathered from perceptions and comparative processes to make judgments about their imagined significance to the other (Marshall, 1998). This is the process described by Cooley's (1902) concept of the "looking glass self" whereby the individual first imagines his or her appearance to the specific other and from that, imagines the evaluation of that appearance by the specific other. More specifically, the adolescent takes the role of the mentor and imagines the mentor's judgement of him or herself. The adolescent then uses this imagined judgment to evaluate his or her significance to the mentor.

Mead (1934) elaborated on Cooley's ideas suggesting that the individual may take on the *generalized other*, a blend of the attitudes and opinions that several significant others take toward him or her. According to Mead, these attitudes are internalized and accompany and control the individual's behavior. It may be that the perception of mattering to a parent influences the perception of mattering to unrelated adults by way of the adolescent's *generalized other*. This study will examine adolescent perceived mattering within the family context to determine whether the proposed perception of significance to mentors makes a unique contribution or simply results from the *generalized other* learned in the family context.

Self-Attributions. Finally, the perception of attending behaviors, comparative events and role-taking must be linked to the individual's description of his or her self (Marshall, 1998). This may be achieved through the process of *self-attributions*. Attributions occur when the individual assigns properties to the self. More specifically, the individual's imagined judgements of the mentor may be assigned to the self, providing the adolescent is concerned with such judgments. This attribution results in the adolescent's evaluation of his or her degree of significance to the mentor.

In summary, the adolescent's perception of the mentor's attending behavior patterns contributes to the formation of perceived mattering to the mentor. The patterns of attending behaviors that are most pertinent to the development of perceived mattering are those that are interpreted by the adolescent as attention from the mentor. After assigning meaning to the mentor's attending behaviors, the adolescent may employ comparisons to generate additional information. Comparison of the perceived attention from the mentor toward the adolescent and other objects in the environment help the adolescent to estimate his or her degree of importance to the mentor.

Using the information from these perceptual and comparative events, the adolescent may take the role of the mentor to imagine his or her appearance to the mentor. In this process, the adolescent infers the evaluation of the mentor regarding his or her significance. If the adolescent attributes the imagined evaluation of significance to the self, a perception of mattering to the mentor becomes integrated into the self-concept as a sense of mattering to the other.

Credibility and Value: Importance of the Mentor

Marshall (1998) suggests that selective attention and assignment of meaning are perceptual processes that influence the development of perceived mattering. However, Rosenberg (1973) posits that not all significant others are equally significant and those who are more significant should have greater influence on the individual's self-concept because of their credibility and value. Therefore, it is likely that the adolescent's view of the credibility and value of the mentor will influence the formation of the adolescent's sense of mattering to the mentor by affecting the degree to which the adolescent places importance on the mentor's evaluations. Value refers to the extent to which individuals desire the other to think well of them (Rosenberg, 1973). Credibility refers to the extent to which individuals place faith in the truth or validity of the other person's evaluation (Rosenberg, 1973). This study extends Marshall's (1998)

theoretical framework of mattering by addressing the varying influences that significant others may have on the perceptual processes of the individual.

If perceived as credible and valuable by the adolescent, the mentor's evaluations of the protege are likely to increase in importance for the protege. This may occur as the mentor performs the functions of a reference group, that of orienting an individual's attitude or a change of behavior along a certain course (Kemper, 1968). Reference groups have two functions that may apply to mentoring. The first function of a reference group that a mentor may fulfill is that of a role model (Daloz, 1986). Kemper (1968) defines a role model as "one who possesses skills and displays techniques which the actor lacks (or thinks he or she lacks) and from whom, by observation and comparison with his own performance, the actor can learn (p.33)". It is not merely mentors' skills that qualify them as role models. Adolescents must respond to the mentors and adopt them as role models.

Mentors perceived as credible and valuable by the adolescent may also perform another function of reference groups. Proteges may assimilate the values of a mentor if they experience the mentor as providing an audience. Kemper's concept of the audience includes "those for whom one performs in an attempt to assure recognition" (Kemper, 1968, p.33). Depending on the adolescent's perception of the value and credibility of the mentor, the adolescent may attribute values to the audience (the mentor) and attempt to behave in accordance with those values in an effort to elicit the mentor's attention (Darling et al., 1994). As the credibility and value of mentor increases, it is likely that the adolescent will perform in a way to gain the mentor's attention. If the mentor responds to the adolescent's performance, it is likely to facilitate development of the adolescent's sense of mattering to the mentor.

A significant unrelated adult may increase in importance (value) to an adolescent for a variety of reasons. It may be that the adolescent perceives qualities in that person he or she admires and wants to emulate or because the person holds a vision for the adolescent that the

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adolescent wants to share (Darling et al., 1994). The qualities may be either personal or entirely skill-related. This admired person's validation of the adolescent's abilities may be especially valuable if the adolescent believes that the evaluation is unbiased by prior emotional bonds (Darling et al., 1994). More specifically, the praise of a parent or best friend is in some senses to be expected, whereas praise from an unrelated adult is less easy to dismiss and more likely to be taken to heart. Findings suggest that this is particularly true when it refers to observable performance (Darling et al., 1994).

In the consideration of the selective influence of significant others it is possible that the adolescent's perception of the credibility and value of the mentor may change over time. For example, if mentors behave in a way that does not support and validate adolescents, they may diminish in importance for the adolescents. This may occur through what Rosenberg (1973) refers to as the motive to protect one's self-esteem. The individual is not merely a passive lump of clay molded by the interpersonal environment; rather the individual reacts in a selective way to protect his or her self-esteem (Rosenberg, 1973). In addition, Rosenberg suggests that one way individuals protect their self-esteem is to respect the judgment of those who think well of them, but to believe that those who are critical or unsupportive have little understanding of who the individual really is. It is likely that over time, if the mentor treats the adolescent in an unsupportive and controlling fashion, those behaviors would result in a diminishing of the adolescent's perception of the credibility and value of the mentor, and ultimately undermine the adolescent's perception of mattering to the mentor. In essence, adolescents in this type of relationship may decide that they no longer desire to have that person think well of them, and may even begin to perceive them as less credible in order to protect their self-esteem.

Consequently, in the mentoring relationship, the protege's perception of the credibility and value of the mentor and the relationship of that perception to the adolescent's sense of mattering to the mentor is likely to be mediated by the adolescent's perception of the mentor's

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behaviors. This may occur as the adolescent responds to the mentor's behaviors, adjusting the perception of the credibility and value of the mentor to protect and enhance the self-concept. This in turn would effect the adolescent's perception of the mentor's behaviors toward him or her, ultimately influencing the formation and maintenance of a perception of mattering to that mentor.

Quality of the Relationship and Perceived Mattering

Perceived mattering develops in the interpersonal context from the perception of attending behaviors (Marshall, 1998). In initial research Marshall demonstrated the potential influence of attending behaviors of parents and friends. However, specification of attending behaviors of unrelated adults and their influence on the development of perceived mattering have not been addressed. This study will utilize Darling's (1991) research and Philip and Hendry's (1996) definition of mentoring to specify attending behaviors of mentors that are likely to promote the development of adolescents' sense of mattering.

Careful attention to existing research lends support to the effort to describe a mentoring context that is likely to promote a sense of mattering. Philip and Hendry's (1996) definition of classic mentoring suggests that the mentor provides challenge and support. Darling's (1991) definitions of challenge and support are useful guides in defining these attending behaviors. *Challenge* refers to the extent to which an associate pushes the student, both by introducing new concepts and ideas and by demanding rigor in thought and excellence in performance.

Darling's (1991) research findings suggest that the experience of challenge, or being pushed beyond that which is known, having one's ideas examined and questioned, and being introduced to new ideas and experiences is an important mechanism through which individuals learn new and more efficient strategies of operating on their environments. In essence, Darling's (1991) research is suggestive of Piaget's (1954) idea of the dialectic whereby the developing child comes into contact with new information that does not match current ways of

understanding. The cognitive discomfort alerts the child to the realization that he or she can no longer assimilate the information into existing schemes of understanding. This prompts the child to achieve resolution by adjusting or creating new schemes that can be used to assimilate the information. Consequently, the process continues in a back and forth movement between equilibrium and disequilibrium. As such, challenge may provide the impetus or disequilibrium that promotes development in the adolescent. However, challenge must be accompanied by emotional support to insure its benefit (Darling, 1991; Maccoby & Martin, 1983).

Support refers to an emotional bond characterized by encouraging and caring behaviors, such as talking and sharing ideas, giving of advice and offering protection from hurt (Darling, 1991). The importance of emotional warmth and support for the adolescent is prevalent in research on parenting. A study of 2,400 adolescents revealed that when adolescents reported feeling autonomous yet characterized their relationships with parents as unsupportive, adolescents showed poor psychological adjustment (Darling, 1991). However, autonomy achieved in the context of warm, supportive parent-child ties was associated with advantages for the adolescent including positive self-concept development (Lamborn & Steinberg, 1993).

While the importance of the affective dimension of relationships with adolescents is well documented, Darling et al. (1994) suggest that significant relationships with unrelated adults are characterized more by instrumental aspects than by the affective. However, this is not to suggest that these relationships are without affect. When considering the characteristics of support in the mentoring context it stands to reason that support needs to be conceptualized in a different manner from the conceptualization of support in relations with parents. As suggested previously, consideration of the affective component of the mentoring relationship must be done in concert with consideration of the instrumental aspects of the relationship. It may be that support provided by unrelated adults is more closely tied to the instrumental aspects of the relationship.

Darling et al. (1994) suggest that challenging, teaching and pushing adolescents to do their best is an expression of caring in the mentoring relationship as is the emotional warmth associated with emotional bonds in the parenting relationships. Further, what distinguishes relationships between adolescents and unrelated adults is that the proteges' emotional relationship grows out of mentors' validation of the adolescents' effort and ability (Darling et al., 1994). Consequently, it may be that in the mentoring context, the adolescent may interpret the mentor's attending behaviors offering challenge and support to indicate recognition and encouragement of his or her effort and ability. This in turn may inform the adolescent of his or her degree of significance to the mentor.

Philip and Hendry's (1996) definition of mentoring has recognized the importance of the mentor's attending behaviors of challenge and support for the adolescent protege. However, the definition fails to suggest when challenge and support may become intrusive. This may occur if the mentor does not offer the challenge and support in an appropriate manner. Deci and Ryan (1991) contribute to an understanding of what is meant by appropriate. They suggest that adolescents benefit from an environment that provides a sense of support that respects the adolescent's autonomy. Autonomy refers to one's own actions being self-initiated and self-regulated (Deci, Vallerand, Pelletier, & Ryan, 1991). Challenge, as defined by Darling (1991) is one behavior on the part of the mentor that respects and encourages the adolescent's autonomy. It is the convergence of the involvement of significant others and autonomy support that promotes adolescent development. Contexts in which others are both supportive and involved are optimal for self-concept development, whereas those that are controlling by virtue of contingent approval can pit autonomy and relatedness against each other and impair development.

The link between psychological control in a particular environment and self-concept can be understood from parenting literature through the effect that such control has on the

development of psychological autonomy. Such behavior is unresponsive to the psychological needs of children (Maccoby & Martin, 1983). Children controlled in such a way are likely to exhibit passive, inhibited characteristics because they fail to learn to be aware of or to express personal initiative or self-reliance (White, 1989). In essence, they have learned that they have little power or control in their interactions with others (Seligman & Peterson, 1986). Children who are unequipped with awareness or confidence in their own worth and identity or who have learned that the expression of psychological autonomy is unacceptable are likely to turn inward or withdraw, as they encounter the stresses and pressures of social interaction (Barber, Olsen and Shagle, 1994). The results of controlling behavior on the part of the mentor may have similar results in the mentoring context. Indeed, excessive psychological control is related broadly to poor adolescent functioning (Eccles, Early, Fraser, Belansky, & McCarthy, 1997).

Controlling behaviors on the part of the mentor may influence the formation of perceived mattering to the mentor. Marshall's (1997) research of the perception of mattering to parents reveals that adolescents' reports of parental psychological control are negatively related to a sense of mattering. This type of control is likely to leave adolescents feeling that, as unique individuals, they do not matter much to their parents. In contrast, reports of parents' supportive behaviors provide an overall impression of adolescents' perception of positive attention from mothers and fathers, and as such are positively related to adolescents' perceived mattering to parents. It is likely that in the mentoring context, the outcome would be similar.

An additional behavior on the part of the mentor that may influence adolescents' formation of a sense of mattering to a mentor relates to the expression of expectations. Similar to the mentor's use of challenge and support, expectations expressed by the mentor may be perceived by the adolescent as expressions of caring. Darling (1991) suggests that in the mentoring relationship, such expressions may indicate validation or belief in the adolescents'

abilities by the mentor. In turn, this expression of caring behavior may inform adolescents' of their degree of significance to their mentor.

Here again, it is important to distinguish between the expression of expectations that are perceived as supportive of the adolescent's autonomy and those that become intrusive. Expressed expectations that recognize adolescents' efforts and abilities and encourage the adolescent to use them to reach their goals on a target project are likely to be perceived by the adolescent as supportive. In addition, such behaviors on the part of the mentor may serve as a form of challenge for the adolescent. Kemper (1968) suggests that mentors may serve as an audience for the adolescent. In that case, the mentor's expectations could be a form of challenge as well as a supportive or caring expression.

On the other hand, expressed expectations by the mentor which are based solely on a pre-determined set of standards or on comparison with other adolescents' performance without consideration of the adolescent's unique abilities may be perceived by the adolescent as intrusive and unrealistic. Such behavior on the part of the mentor is unresponsive to the adolescent's need for autonomy and is likely to be perceived by the adolescent as a form of pressure.

A Typology of Mentor Behaviors

It has been mentioned previously that the adolescent perception of being "special" could be extended and further explained by linking specific behaviors or patterns of behavior on the part of the mentor to the development of the adolescent's perceived mattering to the mentor. Much of the mentoring literature has considered specific behaviors without considering the relationship between such behaviors. This study suggests patterns of behaviors that characterize the mentor's involvement rather than specific attending behaviors. Darling's (1994) suggestion that challenge and support work in concert to promote adolescent development indicates that there is a context for optimal mentoring. Description of this context may be enhanced by observations from the parenting literature commonly referred to as parenting styles.

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Baumrind (1971) identified three styles of parenting (authoritative, authoritarian and permissive) after observing preschool children and their parents. Maccoby and Martin (1983) further conceptualized parenting styles by identifying the patterns of parenting along two dimensions using Baumrind's three parenting styles and identifying an additional style, uninvolved parenting. The two aspects of parenting identified by Maccoby and Martin (1983) as important throughout childhood and adolescence are parental responsiveness and parental demandingness. Parental responsiveness refers to the degree to which the parent is responsive to the child and displays encouragement and affection. Parental demandingness refers to the regulation and demands imposed on the child by the parent. By combining the two dimensions Maccoby and Martin (1983) have proposed four parenting styles: responsive/demanding (or "authoritative"); responsive/undemanding (or "permissive"); unresponsive/demanding (or "authoritarian") and unresponsive/undemanding (or "uninvolved").

Mentoring behaviors may fall along similar patterns as the parenting styles proposed by Baumrind (1971) and Maccoby and Martin (1983). As such, this study will use the parenting typology as a starting point to explore patterns in mentors' attending behaviors and begin consideration of an optimal mentoring context for self-concept development.

Drawing from previously identified mentor behaviors (Darling, 1991; Philip & Hendry, 1996) associated with mentoring for adolescents, these behaviors will be identified by dimension. Mentor challenge, expectations, pressure and support are dimensions of demandingness and responsiveness. Support characterizes the responsive aspect of the mentoring relationship. This describes the ability of the mentor to recognize and respect the abilities and interests of the adolescent and offer encouragement in response to the adolescent's individual characteristics. Challenge and pressure are indicators of demandingness. Challenge is a form of demandingness that recognizes and respects the adolescent's autonomy. Pressure is a controlling form of demandingness that is characterized by the mentor's lack of attention to the

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abilities and interests of the adolescent and a lack of respect for the adolescent as an individual. As such, it does not offer support for the adolescent's autonomy. In addition, positive expectations on the part of the mentor may be considered a form of demandingness when they become a source of challenge to the adolescent who views the mentor as an audience to which he or she performs. Challenge and expectations describe aspects of the relationship that place demands of varying intensity on the adolescent. The area of interest in this study is the interface of the responsiveness and demandingness dimensions. In other words, the way in which the indicators of demandingness (i.e. challenge, expectations and pressure) are accompanied by mentor responsiveness, as indicated in this study by mentor support. It is likely that the relationship between these four variables will describe the interface between the two dimensions of responsiveness and demandingness. This study will endeavor to identify various patterns between the variables where demandingness moves from being a positive motivational force in the relationship and is perceived as unsupportive. Or where supportiveness is present, without accompanying demandingness, resulting in the adolescent's perception of little interest or understanding on the part of the mentor. As such, this study will seek to identify the characteristics of the interface between responsiveness and demandingness that are most optimal for adolescent self-concept development.

The manner in which the mentor is involved with the adolescent exhibiting these behaviors is likely to influence adolescent development. Darling (1991) suggests that it is the convergence of involvement by a significant other with support for autonomy that promotes adolescent development. Therefore, when behaviors along the demandingness dimension are combined with responsiveness that recognizes and encourages the adolescent's autonomy, it is likely that adolescent self-concept development will be facilitated.

The following four patterns of mentoring behaviors can be proposed, using various combinations of the four mentor behaviors measured in this study, reflecting the dimensions of

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responsiveness and demandingness. The first combination of mentoring behaviors referred to as *autonomy supportive* is similar to authoritative parenting. In a relationship characterized as responsive and demanding, the mentor is likely to be highly supportive of the adolescent, and hold high expectations for adolescents' performance. In addition the mentor is expected to use appropriate challenge that is responsive to the adolescent's needs for autonomy. Further, the mentor is likely to use very little pressure in an attempt to motivate the adolescent. This pattern is likely to be an optimal combination of mentoring behaviors.

A second combination of behaviors referred to as *directive* is similar to authoritarian parenting. Characterized as unresponsive yet demanding, the mentor is likely to be more rigid in interactions with the adolescent, applying higher amounts of pressure in an effort to get the adolescent to perform. This behavior on the part of the mentor will result in lower incidence of appropriate challenge in the relationship, and a greater perception of pressure on the part of the adolescent. It is likely that expectations on the part of the mentor will remain somewhat high, also increasing the possibility for a sense of pressure on the part of the adolescent. This mentor is likely to be more unresponsive to the adolescent, or less supportive than mentors using the autonomy supportive style.

The third pattern of mentoring referred to as *accommodating* is similar to permissive parenting. Characterized as responsive but undemanding, the mentor concentrates on the affective aspects of the relationship and is therefore highly supportive of the adolescent. The emphasis on the affective is likely to result in little structure or demandingness in the relationship.

The final combination of mentoring behaviors referred to as *uninvolved* is similar to uninvolved parenting. Characterized as unresponsive and undemanding, the mentor is likely to display very little, if any support, pressure or challenge, or to have any expectations of the adolescent. Maccoby & Martin (1983) suggest that this pattern is likely to be displayed by

parents who have either rejected the adolescent or are overwhelmed with their own stresses and don't have adequate time or energy to devote to the parenting relationship. It is likely that mentors in a similar situation would demonstrate such behaviors.

This study will focus on the adolescent's perception of the mentor's behaviors. From a symbolic interaction perspective, it is less relevant to establish the nature of the actual environment individuals are exposed to than to ascertain the distinguishing features of the adolescent's perceived world (Mboya, 1994). Since adolescents interpret the interaction between themselves and their mentors, their own definition of the situation is most significant to them, and will be most informative about reasons for any benefit that relationship may hold for the adolescent's self-concept development.

Frequency of Contact

In addition to defining the quality of the attending behaviors of the mentor toward the adolescent, examination of the quantity of such behaviors is likely to further explicate the role that the quality and quantity of attending behaviors play in the formation of perceived mattering. An examination of the frequency of contact with the mentor may help to explain the relative importance of the quantity of contact and the quality of such contact and to determine optimal levels of contact.

In his definition of social networks, Milardo (1988) suggests that closeness and frequency of interaction need not be highly correlated. Further, there may be little correspondence between those individuals perceived as significant and the frequency of interaction reported. Milardo (1988) further describes relationships with significant others by distinguishing between active and passive ties and their relative value for the target individual. Active ties are described as "routine interactions which may involve the exchange of direct aid, advice and criticism, support and interference" (Milardo, 1988, p.23). Passive ties are described as similar to active ties, only infrequent in occurrence. However, passive ties may be equally supportive or influential to the

degree that the target individual expresses support from the significant other, or expresses the reassurance that it would be forthcoming if the need arose (Milardo, 1988).

Milardo (1988) suggests that the quality of interaction between the significant other and the target individual may be more informative in understanding the relationships than judging the relationships solely by the frequency of contact or the quality of contact. In the mentoring context, infrequent contact with the adolescent by a mentor that is characterized as autonomy supportive is likely to be more beneficial in the formation and maintenance of self-significance than frequent, but controlling behavior on the part of a mentor. This may especially be the case for confident, well-organized adolescents. More frequent contact may seem unnecessary and indicate to such an adolescent that the mentor does not recognize his or her unique abilities or talents. This may result in the adolescent's perception that the mentor is attempting to control him or her, thereby diminishing the adolescent's perception of mattering to the mentor.

Conversely, for the adolescent who feels peripheral to the social context, infrequent contact may indicate a lack of interest or attention on the part of the mentor. Consequently, this may have a negative influence on the adolescent's perception of significance to that mentor. Thus, it may be that the relationship between frequency of contact and perceived mattering is curvilinear. Contact may be beneficial up to some optimal point, after which it may be viewed as unnecessary or controlling.

Understanding the relative importance of the frequency of contact may facilitate a greater understanding of the influence of the mentoring context on adolescents' development of perceived mattering to a mentor. Since a credible and valuable mentor may have increased ability to influence the protege, and considering the varying needs and characteristics of adolescents, it is likely that the quality of the interactions may bear on the amount of contact that is optimal. Consequently, a question of interest in the consideration of frequency of contact and the mentoring process is how many interactions are sufficient or optimal for the development of

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a sense of mattering? In addition, does the quality of interaction, based on the adolescent's perception of the mentor's behaviors have greater influence than the amount of contact?

Summary

In summary, this study recognizes the importance of adolescents' perceived mattering to unrelated adults. Consideration of the extant literature on mentoring reveals the benefit of mentoring by an unrelated adult for adolescent self-concept development. Using Marshall's (1998) theoretical framework for the development of mattering to others, this study suggests the linkage of the development of adolescent self-concept, specifically the formation of perceived mattering, to the mentoring context. To more fully understand the formation of a sense of mattering in the mentoring context with unrelated adults, this study expands Marshall's (1998) theoretical framework through consideration of the adolescent's perception of the credibility and value of the mentor and the resulting selective influence that perception carries to the relationship. In addition this study will observe the quality of the relationship across time to specify behavior patterns of mentors that provide the optimal context for the development of perceived mattering.

Further, in this study, Philip and Hendry's (1996) definition of classic mentoring is expanded to include description of the quality of relationship between the adolescent and the unrelated adult mentor from the adolescent's perspective. Extrapolating from the parenting literature, four patterns of mentor behavior are suggested: Autonomy supportive, directive, accommodating and uninvolved. This study examines and describes the relationship between expectations, challenge and support provided by the mentor. There is a need to distinguish between challenge and expectations that are perceived by the adolescent as autonomy supportive, as well as behaviors on the part of the mentor exhibiting challenge and expectations that the adolescent perceives as pressure, and therefore controlling. Further, when challenge,

expectations and support are in a complimentary relationship, the resulting context is likely to allow the autonomy of the adolescent to develop in concert with a sense of ongoing relatedness.

Research Questions and Hypotheses

The preceding literature review supports the following research questions and hypotheses:

Research Question 1. It is difficult to predict whether adolescents' perceived mattering to parents will generalize to relationships with unrelated adults, more specifically mentors. This study will explore that question by examining mattering to parents and to mentor at Time 1. If perceived mattering to parents is found to generalize to unrelated adults (i.e. mentor), mattering to mother and father will be controlled for in subsequent analyses.

Research Question 2. Rosenberg (1973) suggests that those who are more significant to individuals should have greater influence on the individuals' self-concept because of both the value they place on their opinion and because of their credibility. However, it is difficult to predict whether an initial positive perception of mentors' credibility and value by adolescents would be sufficient to impute a perception of mattering to the mentor at the onset of the relationship. Consequently, the relationship between adolescents' initial perceptions at Time 1 of the credibility and value of mentors and initial perceptions (Time1) of mattering to mentors will be explored.

Hypothesis 1a. At Time 2, adolescents' sense of the value and credibility of their mentor will be positively associated with adolescents' perception of mattering to their mentor.

Hypothesis 1b. The change from Time 1 to Time 2 in adolescents' sense of the value and credibility of their mentor will be positively associated with the change from Time 1 to Time 2 in adolescents' perception of mattering to their mentor.

Hypothesis 2. It is expected that at Time 2 four patterns of mentoring behaviors will develop along dimensions of mentor responsiveness and mentor demandingness. As such it is possible to suggest that the following patterns of mentoring behavior will emerge:

The autonomy supportive pattern of mentoring behaviors, characterized as responsive/demanding is expected to exhibit high scores in support and expectations, moderate challenge scores and low pressure scores. The directive pattern of mentoring behaviors, characterized as unresponsive/demanding, is expected to exhibit high scores in pressure, moderate challenge and expectation scores, and low support scores. The accommodating pattern of mentoring behaviors, characterized as responsive/undemanding, is expected to exhibit high support scores, moderate expectation scores and low challenge and pressure scores. The uninvolved pattern of mentoring behaviors, characterized as unresponsive/undemanding, is expected to exhibit low scores in support, challenge, pressure and expectations.

Hypothesis 3. Between Time 1 and Time 2, adolescents' perception of mattering to their mentor will alter as a function of the quality of relationship with the mentor. More specifically, at Time 2, a mentor who exhibits autonomy supportive mentoring behaviors will enhance the adolescent's perception of mattering to that mentor over the other three patterns. It is expected that the uninvolved pattern of mentoring behavior would be least likely to be positively associated with adolescents' sense of mattering to the mentor. It would be difficult for adolescents to perceive that they are significant when they perceive themselves as unnoticed by the mentor.

This study will explore the relative benefits of the remaining two patterns of behaviors. Between the accommodating and directive patterns of mentor behaviors, it is difficult to determine which would be more beneficial for developing a sense of mattering. It is likely that in the mentoring relationship, the perception of the mentor's behaviors may be effected by the specified program, and the characteristics and needs of the adolescent. In the accommodating

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style, the lack of demandingness could be perceived by the adolescent as lack of care and concern on the part of the mentor, about his or her success on the project, causing the support to seem shallow. On the other hand, for the adolescent who is deprived of other supportive relationships, the attention from the mentor will be the focus for that young person's sense of mattering, possibly compensating for a lack of support elsewhere.

The outcome of the directive pattern of mentoring behaviors for the adolescent is likely to be based on the adolescent's perception of pressure and lack of support for autonomy. For capable, thriving adolescents, the rigid structure and increased level of demandingness may be perceived as excessive and intrusive, thereby producing a deleterious effect on the development of the adolescent's sense of mattering. On the other hand, for the adolescent who is less organized and not as highly motivated, the increased demandingness may be perceived by the adolescent as an indication of the mentor's care and concern.

Hypothesis 4. Between Time 1 and Time 2, adolescents' perception of the credibility and value of their mentor will alter as a function of the quality of the relationship with their mentor. More specifically, at Time 2, a mentor who exhibits Autonomy Supportive mentoring behaviors will enhance the adolescent's perception that the mentor is credible and valued more than the other three patterns. The effects of the other three patterns on the perception of the mentor as credible and valuable will be similar to the effects on development of the adolescent's perceptions of self-significance described in Hypothesis 4 above.

Hypothesis 5. At Time 2 the adolescent's perception of the mentor's behaviors will mediate the relationship between the adolescent's perception of the credibility and value of the mentor and the adolescent's perception of mattering to the mentor.

Hypothesis 6. There is a minimum amount of contact required for development of the adolescent's perceived mattering to the mentor. However there may be an optimal threshold of

contact for the adolescent's perception of significance to develop. Therefore, at Time 2, frequency of contact may hold a curvilinear relationship with perceived mattering.

Hypothesis 7. While frequency of contact may contribute to the development of perceived mattering, at Time 2 the quality of the relationship and the adolescent's perception of the credibility and value of the mentor will hold a stronger relationship with perceived mattering than frequency of contact.

Method

Participants

The original pool of participants (n=46) was part of a two wave (three-month intervals) longitudinal study of grade 12 students from two rural school districts in Northwest Washington State. As partial requirement for a social studies course, students selected and worked with a volunteer community mentor on a community project. The criteria for inclusion in the study were that students had completed both waves of measurement and had been mentored by a non-parental adult. Five students listing a parent as their mentor were excluded from the study. In addition, one student withdrew from the class at mid-term, 2 students declined to participate at the time of administration of the Time 2 survey and 4 surveys contained missing or incomplete responses (1 at Time 1 and 3 at Time 2). These 12 respondents were excluded from the study.

The sample consisted of a greater proportion of females (70.6%, n=24) than males (29.4%, n=10). These students ranged in age from 17 to 19 years, with an average age of 17.5 years. A majority of the students were white (73.5%, n=25) and the remainder of the sample listed Hispanics (14.7%, n=5) and other ethnic backgrounds (11.7%, n=4). Fifty percent (n=17) of the students reported living with two biological parents, 23.5% (n=8) reported living with one biological parent and a step parent, 17.7% (n=6) reported living with one biological parent and

8.8% (n=3) reported living with another family member or in other circumstances (e.g. living independently).

Procedure

The administrative staff of each School District was contacted to obtain permission to conduct research within the two selected schools. Classroom teachers introduced this study to the students and provided a letter describing the project and a parental consent form for each student (see Appendix A). Active consent by the adolescent's guardian was obtained prior to administration of the survey.

Surveys were administered to groups of students during a regular class session. Prior to administration, students were assisted in understanding the contents of the informed consent letter (see Appendix B). Students were asked for permission to be recontacted for administration of the survey at the end of their mentoring project. Students were assured of the confidentiality of their responses, and provided with the opportunity to decline from participating in the study at any time. No participants received remuneration for participation.

Measures

Demographic Information. At Time 1 of data collection adolescents were asked to indicate their age, gender, grade, overall marks in school, and living circumstances as displayed in Appendix C.

Mattering to Others Questionnaire (MTOQ; Marshall, 1997) is an 11-item scale that assesses the adolescent's perception of mattering to specific others (see Appendix D, E). The referent is easily altered and in the present study two versions were administered: Mattering to mother and father. Participants are instructed to rate nine statements regarding the perception of parents attention and interest toward the adolescent on a five point Likert-type scale with responses ranging from "not much" to "a lot". Sample items from this portion of the scale are "My _____ notices my feelings" and "I matter to my _____." Items 10 and 11 assess

adolescents' perception of their relative importance on an imagined list of things mother and father would think, or be concerned about. Responses are recorded on a five point Likert-type scale marking their relative position from "top" to "bottom" of the list. The MTOQ for mother and father was administered at Time 1. In the present study, Cronbach's alphas are .96 for maternal mattering and .97 for paternal mattering.

Mattering to Others Questionnaire-Mentor (MTOQ-mentor) is a seven-item instrument that assesses the individual's perception of mattering to his or her mentor (see Appendix F). Participants are instructed to rate agreement with the seven items (e.g., "I feel respected by my mentor") on a five point Likkert-type scale with responses ranging from "strongly disagree" to "strongly agree". The scale was developed for this study by modifying the MTOQ to assess perception of significance to one's mentor. The MTOQ-mentor was administered at Time 1 and Time 2.

A pilot administration of the survey was conducted at one of the participating high schools in order to assess the validity and reliability of the measures created for the purpose of this study. During this pilot project a focus group of interested students involved in the mentoring project was contacted. These students assisted in the evaluation and assessment of this measure. During the pilot project administration of this scale 100% of the adolescents agreed that the items were worded appropriately for adolescents.

The consistency of participants' responses to items was examined to establish empirical evidence for selecting and retaining the items used in the scale. Item to total correlations were above .71 for all items on the MTOQ-mentor at all administrations. Data from the pilot study with 40 high school students revealed a Cronbach's alpha for the scale of .94. In the present study, Cronbach's alphas are .93 at Time 1 and .96 at Time 2.

Credibility and Value of Mentor Scale (CV-mentor) is a six-item scale that assesses the extent to which the adolescent perceives his or her mentor to be credible and valuable (see

Appendix G). Credibility, defined as the extent to which the individual places faith in the truth or validity of the other person's evaluation (Rosenberg, 1973) is assessed by a subscale of three items (e.g., "My mentor is very knowledgeable in the area of my project"). Value, defined as the extent to which individuals desire the other to think well of them (Rosenberg, 1973) is assessed by subscale of three items (e.g., "I want my mentor to be impressed with my abilities"). Participants are instructed to rate agreement with the seven items on a five point Likert-type scale with responses ranging from "strongly disagree" to "strongly agree". The PCVM was administered at Time 1 and Time 2.

This scale was developed for the purpose of this study. Ten adult raters were provided with a copy of the two subscales and definitions of each construct. Raters were asked to identify whether the items reflect credibility or value and to appraise the viability of each item. In addition, adult raters were asked if items were worded appropriately for adolescents. This group of raters includes two professionals (a school administrator and teacher) whose occupations are focused on serving adolescent populations. The remaining eight raters are students in a graduate Family Studies Program at the University of British Columbia (see Appendix H).

The evaluations of the measure of credibility and value of the mentor helped to determine if adjustments to the instrument were necessary. In addition, these evaluations helped to establish the validity and reliability of the instrument. Of the three items in the credibility sub-scale, 100% of the adult raters agreed that items 2, 6 and 7 reflected the credibility construct. Uncertainty as to whether item 1 of the credibility subscale reflected credibility was expressed by 10% (n=1) of the adult raters. Of the three items in the value sub-scale, 100% of the adult raters agreed that items 3, 4 and 5 reflected the value construct. In addition, 100% of the adult raters agreed that the items were worded appropriately for the adolescent population. Further, during the pilot project administration of this scale 100% of the adolescents agreed that the items were worded appropriately for adolescents.

Data from a pilot study with 15 high school students was used to assess the internal consistency of each subscale. Cronbach's alphas for the credibility and value subscales were .80 and .78 respectively. In the present study, high correlations (T1, r=.91, T2, r=.84) between the two scales indicated a possible lack of differentiation between the constructs. Therefore, the items were used to create one scale. Cronbach's alphas in the present study were .96 at Time 1 and .92 at Time 2.

Support, Interest and Encouragement Scale (Mboya, 1994) is a subscale of the Perceived Teacher Behavior Inventory (PTBI, 1994). The SIE is a 10-item scale that assesses the student's perception of their teacher as being helpful, supportive and a source of encouragement (see Appendix I). The scale was adapted for this study for use with mentors. One item "my teacher cares about me" was removed from the scale because of overlap with the MTOQ-Mentor. Sample items from the scale adapted for mentors are "My mentor encourages me to use my own ideas" and "My mentor praises me for trying, even if I do not succeed". Participants are instructed to rate agreement with the nine items on a four point Likert-type scale with responses ranging from "strongly disagree" to "strongly agree". The PTBI:SIE was administered at Time 2 only. In the present study, Cronbach's alpha was .96.

Pressure Scale (Campbell, 1994) is a subscale of the Inventory of Parental Influence (IPI, 1994). The PS is a 13-item instrument that assesses the child's perception of parental control, suggesting a demanding parent who exerts pressure to retain high levels of performance (see Appendix J). The scale was adapted for this study to assess the adolescent's perception of the mentor's controlling behaviors. Two items were eliminated which applied specifically to parents, "My parents don't believe me when I tell them I have no homework" and "My parents are pleased only if I get 100% on tests". Sample items from the scale adapted for mentors are "I thought I did well on this project, but my mentor thinks I could do better" and "My mentor pressured me too much about getting my work done". Response categories for the 11 items are

on a four point Likert-type scale with responses ranging from "strongly disagree" to "strongly agree". The IPI:PS was administered at Time 2 only. In the present study, Cronbach's alpha was .88.

Challenge Scale. Darling's (1991) challenge scale is a six-item scale that assesses the extent to which a mentor pushes a protege by introducing new concepts and ideas and by demanding rigor in thought and excellence in performance (see Appendix K). One item was reworded for clarity and one item was dropped because it was inappropriate for this study. Sample items from the scale are "My mentor questioned my ideas and asked me to think again" and "My mentor gave my constructive criticism". Participants were instructed to rate agreement with the five items on a five point Likert-type scale with responses ranging from "strongly disagree" to "strongly agree". The challenge scale was administered at Time 2 only. In the present study, Cronbach's alpha was .91.

Expectations Scale (Mboya, 1994) is a subscale of the Perceived Teacher Behavior Inventory (PTBI, 1994). The ES is a six-item scale that assesses the student's perception of their teacher's positive expectations (see Appendix L). The scale was adapted for this study to assess the adolescent's perception of the mentor's expectations. One item was removed because of its emphasis on continuing education after high school that is not consistent with the mentoring relationship. Sample items from the scale adapted for mentors are "My mentor thinks I can do well on this project" and "My mentor thinks I can continue to be involved in the community after I am finished with this project". Participants are instructed to rate agreement with the five items on a four point Likkert-type scale with responses ranging from "strongly disagree" to "strongly agree". The PTBI:ES will be administered at Time 2 only. In the present study, Cronbach's alpha was .95.

Frequency of Contact. Adolescents responded to one fill-in-the-blank item asking them to report total estimation of the hours spent with the mentor. This included time spent both in

person and on the phone. Adolescents were asked for frequency of contact information at Time 2 only.

Results

Summary statistics and correlations among all of the measures are presented in Table 1. The bivariate relations among the analysis variables exhibited a predictable pattern of results with the exception of the frequency of contract. Contact with the mentor, indicating the total amount of time spent with the mentor, was not significantly associated with any of the other analysis variable.

Table 1
Summary Statistics and Bivariate Correlations for Perceived Mattering, Mentor Credibility and Value, Mentor Behaviors and Control Variables

Variable	Time	1	2	3	4	5	6	7	8	9	10	11
1. Mattering to Mentor	T1	--										
2. Mattering to Mentor	T2	.464**	--									
3. Credibility/Value	T1	.321	.375*	--								
4. Credibility/Value	T2	.331	.908**	.462**	--							
5. Mentor Pressure	T2	-.254	-.618**	-.123	-.572**	--						
6. Mentor Challenge	T2	.216	.629**	.309	.651**	-.257	--					
7. Mentor Expectations	T2	.281	.867**	.373*	.885**	-.479**	.709**	--				
8. Mentor Support	T2	.322	.938**	.372*	.869**	-.595**	.681**	.908**	--			
9. Frequency of Contact	T2	.307	.346	.214	.229	.145	.350	.295	.330	--		
10. Mattering to Mother	T1	.146	.478**	-.029	.447**	-.582**	.217	.402*	.447**	.051	--	
11. Mattering to Father	T1	.170	.057	-.064	.150	-.221	.030	.147	.036	-.047	.396*	--
M		4.31	4.22	4.15	4.35	1.42	3.81	4.45	4.34	24.26	4.36	4.35
SD		.64	.80	1.04	.79	.49	1.07	.76	.75	47.32	.91	1.28

N=34

*p<.05   **p<.01

Note: Behavior Clusters were created using standardized scores on measures of support, expectations, challenge and pressure. Cluster analysis was conducted to identify existing patterns of relationship between variables. Two clusters were identified: autonomy supportive and directive. The mentor behavior clusters were coded to create a dichotomous variable. The autonomy supportive cluster was given a value of one, and the directive cluster was coded 0.

Research Question 1 sought to explore whether adolescents' mattering to parents would generalize to relationships with their mentors. Mattering to mentors at Time 1 was entered as the dependent variable and mattering to mother and father at Time 1 as the independent variables in a multiple regression. This provided evidence that mattering to parents does not generalize to the mentoring relationship. The model was not significant, F (2, 29) = .515, p = .603. Therefore mattering to mother and father were not included as controls in subsequent analyses.

Research Question 2 was concerned with the adolescent's sense of the credibility and value of their mentor and their perception of mattering to the mentor at Time 1. Multiple regression analysis was conducted with mattering to mentor at Time 1 as the dependent variable and adolescents' perception of the degree to which their mentor is credible and valuable at Time 1 as the independent variable. The model was not significant, F (1, 32) = 3.67 p = .064, indicating that the adolescent's initial perception of the credibility and value of the mentor does not predict development of a sense of mattering to the mentor.

Hypothesis 1a was concerned with the adolescent's sense of the credibility and value of their mentor and their perception of mattering to the mentor at Time 2. Multiple regression analysis was conducted with mattering to mentor at Time 2 as the dependent variable and adolescents' perception of the degree to which their mentor is credible and valuable at Time 2 as the independent variable. Results of the model offered support for the proposition, F (1, 32) = 151.16, p < .01. The perception of the credibility and value of the mentor was positively associated with mattering to the mentor at Time 2 (β = .908, p = < .01).

Hypothesis 1b predicted change across time in the relationship between mattering and credibility and value. Change was measured using residual change scores. These scores were obtained by first regressing each variable on respective previous scores and saving the residuals. For example, to compute change in mattering between time one and time two, time two mattering scores were regressed on time one scores and the residual score was saved. This

residual represents the variation in time two mattering that is not predictable from the time one

mattering score, in other words, the *change* in mattering (Bereiter, 1963; Lord, 1963).

An examination of the bivariate scatter plots suggested a curvilinear association between

mattering at T1 and mattering at T2. To test this assumption, multiple regression using curve

estimation was conducted using mattering at T1 as the dependent variable and mattering at T2 as

the independent variable. A quadratic relationship between the two variables was found to be

statistically significant, $\underline{F}$ (2,32) = 7.55, $\underline{p}$ < .05. Some students dropped slightly in their

perception of mattering to the mentor between Time 1 and Time 2. Others experienced no

change over time, maintaining a moderately high sense of mattering to the mentor. In addition,

there were students who began the relationship with the mentor with a moderate level of

mattering at Time 1 and experienced an increase over time. The residual from the quadratic

equation for mattering to the mentor and the residual from the regression of credibility and value

to the mentor was used in subsequent analyses.

Hypothesis 1b proposed changes in the scores of the adolescent's perception of

mattering to the mentor and the adolescents' sense of the value and credibility of their mentor to

be positively associated across time. Multiple regression analyses were conducted with the

change score for mattering to mentor as the dependent variable and the change score for the

adolescent's sense of the value and credibility of the mentor as the independent variable. Results

of the model were significant, $\underline{F}$ (1, 32) = 32.39, p <.01. There was a positive association

between the change scores of the perception of the credibility and value of the mentor and a

sense of mattering to the mentor (β = .709, $\underline{p}$ < .01), offering support for this hypothesis.

Hypothesis 2 suggests the development of four patterns of mentoring behaviors described

in this study *as autonomy supportive, directive, accommodating* and *uninvolved.* Cluster

analysis was used to classify the respondents into groups on the basis of the quality of

relationship with their mentor. Cluster analysis uses a pattern-centered approach to examine

relationships between variables. This type of analysis is particularly useful for creating homogenous groups of cases with different patterns of scores on the original variables (Borgen & Barnett, 1987).

Using the standardized scores for mentor's support, challenge, expectations and pressure, Ward's hierarchical agglomerative clustering method was used to explore patterns of relationships between the variables that may indicate a pattern for optimal mentoring. According to Borgen & Barnett (1987), the first step of Ward's clustering method involves calculating the proximity between each pair of student scores using squared Euclidean distance. This is calculated by finding the difference for each set of scores, squaring the distance and summing the values over the profile to create a proximity matrix. Next, Ward's method scans the matrix and groups the two individuals with the smallest distance value. The method continues merging groups in a way that results in the smallest amount of within-group variance. Once all students are grouped, a tree-like diagram (dendogram) displays the hierarchical structure of the data. This method provides an index of within-group error at each stage of grouping based on the fusion coefficients. Examination of the dendograms and fusion coefficients led to selecting a two-cluster solution that provided the most interpretable, non-overlapping, theoretically viable cluster pattern. Plotting the fusion coefficients demonstrated that the two-cluster solution provided the most intracluster homogeneity compared to intercluster diversity.

Two clusters are clearly identifiable by variations in the patterns of mentor support, challenge, expectations and pressure. The results of the cluster analysis do not fully support the proposal of four distinct patterns of behaviors in Hypothesis three. However, the two dimensions proposed, one characterized by mentor support or responsiveness and the other characterized by mentor challenge, expectations, pressure or demandingness are consistent with two specified patterns: autonomy supportive, with high responsiveness and moderate demandingness and directive, characterized by low responsiveness and high demandingness.

The first cluster (N =24) revealed the predicted pattern of autonomy supportive mentor behaviors (See Figure 1). Adolescents in this group scored slightly below the mean on mentor pressure, and above the mean on mentor support and expectations. In addition, they scored slightly above the mean on mentor challenge. The results offer support for Hypothesis 2a, the pattern of autonomy supportive mentor behaviors.

The second cluster (N =10) revealed the predicted pattern of directive mentor behaviors. Adolescents in this group scored above the mean on mentor pressure and well below the mean on mentor support and expectations. In addition, they scored below the mean on mentor challenge. The results offer support for Hypothesis 2b.

Figure 1. Mentor Behavior Clusters: Directive and Autonomy Supportive
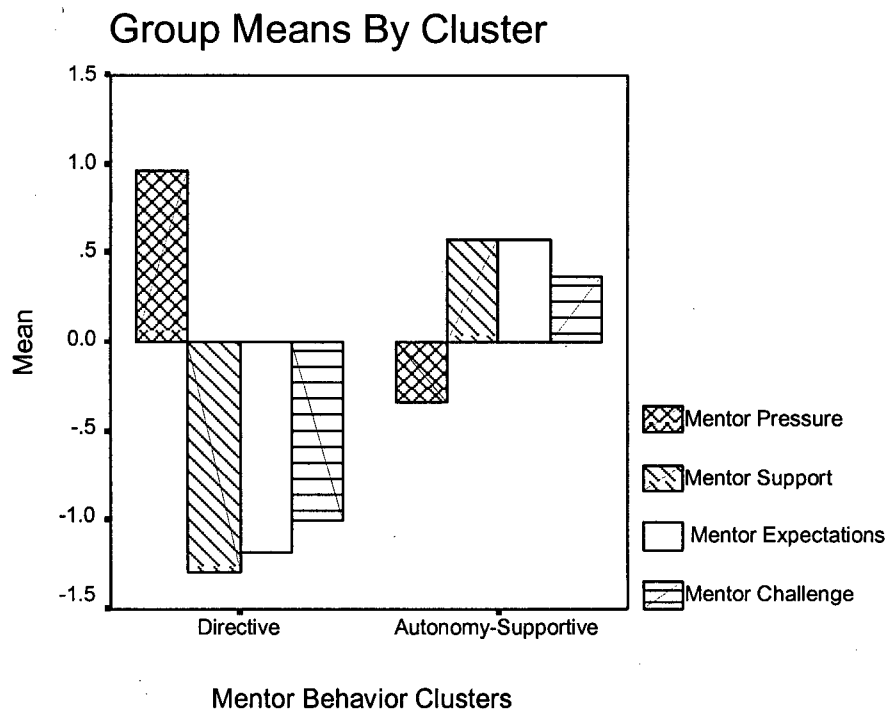
The results of this study failed to offer support for Hypotheses 2c and 2d, and the patterns of accommodating and uninvolved mentor behaviors.

The mentor behavior clusters were coded to create a dichotomous variable representing the mentors' behaviors. That is, the autonomy supportive mentoring behavior cluster was given a value of one, and the directive mentoring behavior cluster was coded as 0. This mentor behavior variable was used as a dichotomous variable in subsequent analyses.

Hypothesis 3 proposed that mentors exhibiting the autonomy supportive pattern of behaviors would enhance adolescents' perception of mattering to their mentors. Multiple regression analysis was conducted with change scores for mattering to mentors as the dependent variable and the patterns of mentoring behaviors as the independent variable. The model was significant, $F(1, 32) = 62.527$, $p < .01$. The results reveal a stronger positive effect of the autonomy supportive pattern of mentoring behavior on mattering than the directive pattern, as expected ($\beta = .813$, $p < .01$).

Hypothesis 4 proposed that adolescents' perception of the credibility and value of their mentors would be most enhanced by mentors exhibiting the autonomy supportive pattern of behaviors. Multiple regression analysis was conducted with change scores for credibility and value of the mentor as the dependent variable and the patterns of mentoring behavior as the independent variable. The model was significant, $F(1, 32) = 29.156$, $p < .01$, offering support for this proposition. The results reveal a stronger positive effect for the autonomy supportive pattern of mentoring behavior on credibility and value as expected ($\beta = .690$, $p < .01$).

Hypothesis 5 predicted that the adolescent's perception of the mentor's behaviors would mediate the relationship between the adolescent's perception of the credibility and value of the mentor and mattering. Stepwise regression analyses were conducted with the change scores for mattering to the mentor entered as the dependent variable and the change scores in credibility and value entered in step one as the independent variable and the mentoring behavior patterns entered in step two as the independent variable. Table 2 presents the results of these regressions

below. The Model was significant $\underline{F}$ (1,32) = 32.392, $\underline{p}$ < .01. Results of Model 1 indicate that credibility and value has a positive association with mattering (β = .709, $\underline{p}$ < .01), as predicted. In Model 2, the addition of mentoring behavior patterns as a control had a significant diminishing effect on the relationship between the adolescent's perception of the credibility and value of the mentor and mattering (β = .282, $\underline{p}$ .045). This finding offers support for the hypothesis that perception of the mentor's behaviors mediates between the credibility and value of the mentor and adolescents' sense of mattering to the mentor. While the positive effect of the credibility and value on mattering does not drop to nonsignificance, it is significantly reduced and the positive effect of mentor behaviors on mattering is also significant (β = .618, $\underline{p}$ < .01). Model 2 was significant, $\underline{F}$ (2, 31) = 36.717, $\underline{p}$ < .01. Taken together, both variables explain over 70% of the proportion of variance in the mattering change score, a 20% increase over the proportion of variance explained by credibility and value alone. In addition, the $\underline{R}^2 \Delta$ is significant ($\underline{R}^2 \Delta$ = .200, $\underline{p}$ <. 01). Note however that credibility and value exerts an effect on the mattering change score independently of the mentoring behavior patterns. This indicates that there may be another mediator that is unaccounted for, or that the mentoring behavior patterns explain only a small portion of the shared variance between credibility and value and mattering change scores and the rest of the variance goes unexplained. It is worthwhile to note that Judd and Kenny (1981) suggest that measurement error in the mediator tends to produce an underestimate of the effect of the mediator and an overestimate of the effect of the independent variable on the dependent variable when all coefficients are positive. This often results in overlooking successful mediators. Therefore, while the Baron and Kenny (1986) criteria for mediating variables suggesting that the initial relationship should drop to nonsignificance is not met, there is evidence of a mediating effect.

Table 2

Standardized Regression Coefficients From Analyses Regressing Perceived Mattering on Mentor
Behavior Clusters with Control for Credibility and Value

Variable	Model 1	Model 2
Credibility and Value	.709**	.282*
Mentor Behavior Cluster	--	.618**
R^2	.503**	.703*
R^2 Change	.503**	.200**
N	33	33

Note: Mentor Behavior Clusters include measures of mentor pressure, challenge, expectations
and support. Autonomy Supportive Cluster is coded 1, Directive Cluster is coded 0.
* $p \leq .05$ ** $p \leq .01$

Hypothesis 6 suggested that frequency of contact might hold a curvilinear relationship

with mattering. Examination of the bivariate scatter plot between the two variables suggested a

curvilinear association. However, results of regression analyses failed to support this

proposition, F (2, 28) = 2.78, p = .079. Results of this regression make the testing of Hypothesis

8 unnecessary.

Discussion

This study is among the first to examine adolescents' perception of the quality of

relationship with an unrelated adult mentor, and in turn link aspects of the relationship to self-

concept development. More specifically, this study examines the formation of adolescents'

perceived mattering in the mentoring context. By so doing, this study has advanced existing

research on mentoring relationships with unrelated adults by embedding it within a theoretical

framework. Marshall's (1998) framework for understanding the development of perceived

mattering and Rosenberg's (1973) research on credibility and value led to the hypothesis that mentors would have varying influence on the adolescent's perception of mattering based on the adolescent's perception of their credibility and value. Existing research on the mentoring relationship between unrelated adults and adolescents (Hamilton & Darling, 1989; Philip & Hendry, 1996; Scales & Gibbons 1996) guided the examination of mentor support, challenge, pressure and expectations. Extrapolating from parenting research (Baumrind, 1973; Maccoby and Martin, 1981), four patterns of mentor behaviors were hypothesized.

Results demonstrated the development of perceived mattering in the mentoring context and supported the hypothesis that credible and valuable mentors have a more positive influence on the development of adolescent perceived mattering. Further, two patterns of mentor behaviors were identified. Together these results indicate that mentors who exhibit the autonomy supportive pattern of behaviors are more likely to be viewed by adolescents as credible and valuable and have a strong positive influence on adolescents' development of perceived mattering.

Perceived Mattering

The importance of these findings is appreciated more fully by making an important distinction relative to the nature of the population considered. Adolescents in this study are students who have not been identified at risk. Much of the mentoring research to date considering the quality of relationship examines programs involving youths experiencing multiple risks (i.e. school dropouts, teen parents, and drug addiction (Scales & Gibbons, 1996). As such, this study demonstrates the importance of unrelated adult mentors for self-concept development in a normative population of adolescents. This may be important for an understanding of perceived mattering as well as mentoring. It is possible that studies with at-risk populations more often overlook the benefit of effects on self-concept development experienced

by normative populations. This may be due in part to the inability of multiple-risk individuals to initiate relationships in which they may experience such benefits.

Previous research findings have examined perceived mattering to parents (Rosenberg & McCullough, 1981; Marshall, 1997) and peers (Marshall, 1997) using cross-sectional data. This study examined a specific mentoring relationship with an unrelated adult who was chosen by the adolescent and had a specific beginning and ending point, affording the opportunity to observe snapshot views of the development and maintenance of perceived mattering across time, actually observing the process. By capturing the adolescents' perception of their mentor's support, challenge, expectations and pressure, this study detected patterns in these mentor behaviors that had differential effects on adolescents' development and maintenance of perceived mattering. It was also possible to trace the changing influence of the mentor by comparing adolescents' perception of mentors' credibility and value over two data points. This comparison demonstrated the influence of the mentor on adolescent self-concept development, specifically perceived mattering.

Perceived mattering to a mentor appears to be an aspect of self-concept that is not generalized from the family context, but rather makes a unique contribution to adolescents' perception of their significance. This has implications for understanding perceived mattering in general, and specifically in the mentoring context. These findings seem to indicate that in this normative population of adolescents, mattering to parents does not ensure a perception of mattering to unrelated adults. Conversely, enhancing an adolescent's perceived mattering to a mentor may not enhance a sense of mattering to parents or other unrelated adults such as teachers. Further, this may suggest that an adolescent who perceives a lack of significance in one context may be able to develop a sense of mattering to an unrelated adult in the mentoring context. Perceived mattering in separate contexts may be constructed through varying sources,

making it possible for adolescents to develop a sense of mattering in the mentoring setting when having failed to develop a high degree of perceived mattering in other relationships.

In other self-concept literature, Harter, Waters & Whitesell (1998) suggest that self-worth would vary as a function of the relational context, depending on approval for the self as a person and salience of the context for the individual. Findings of Harter's study indicated that self-worth to teachers generalized to a limited degree from the family context. As noted previously, the present study does not show that same trend with unrelated adult mentors. This may have emerged because the role of both parents and teachers are prescribed roles, and as such carry with them similar prescribed nurturing expectations. Mentors on the other hand may make a unique contribution to perceived mattering due to a relationship that is unbiased by the prescribed nature of the emotional bond characterized by the other relationships. In the mentoring relationship the affective aspects are not prescribed as such and tend to be related more to instrumental aspects of the interaction between mentor and protégé.

When considering the generalization of perceived mattering from the family context to the mentoring relationship, care must be exercised in extrapolating from the self-worth literature. Even though perceived mattering and self-worth are aspects of the self-concept they are separate constructs (Marshall, 1998; Rosenberg, 1985). Therefore, differences in findings may result from differences between the two constructs.

Even with the significant finding suggesting a lack of generalization of mattering from the family context at time one, caution is suggested in assuming independence of mentor mattering from parental mattering. Time two correlations suggest a modest, significant correlation between mattering to mother and mattering to an unrelated adult mentor. This finding is consistent with the mentoring literature that suggests that parents are the adults most frequently listed by adolescents as mentors (Scales & Gibbons, 1996). However this time two correlation may suggest a spurious relationship caused by a third factor. It may reflect maternal

involvement and support with the mentoring project. It will be important for future research to assess the involvement of parents with the mentoring project. In addition, findings indicating a lack of generalization at time one may result from adolescent perceptions of the mentor that were formed as first impressions without adequate knowledge of the mentor. This may give rise to scores that are unreliable in their ability to discern generalization from one context to another. While these findings are critical to gaining further understanding of adolescents' transitions to adult roles, it will be important to continue examination of perceived mattering in various contexts in order to more fully understand whether mattering is generalized from one context to another.

Another intriguing and important finding of this study is the curvilinear relationship between the measure of perceived mattering at time one and time two. This indicates that change across time occurred in both directions. Some individuals decreased in a sense of mattering to the mentor and some increased, in addition there were some that retained a constant sense of mattering across time. This finding attests to the malleability of the adolescent self-concept, specifically perceived mattering development, and to the potential for unrelated adults to influence adolescent self-concept development. In addition, the curvilinear relationship seems to suggest that a mentor may not have remained a significant other, or in other words, that an initially significant mentor became less significant contributing to the drop in perceived mattering over time.

It is important to note that maintenance of a low level of mattering may not indicate presence of a deleterious effect on the adolescent. If the context or project that is the focus of the mentoring relationship is not salient to a particular adolescent, it is likely that there would be little investment in the relationship and little value placed on self-significance to the mentor. In addition, a drop in significance over time does not necessarily indicate poor mentoring. It may indicate characteristics of the adolescent that come into play in the developing relationship. It is

possible that adolescents who have experienced repeated failure in attempts to capture the attention of others may interpret the behaviors of a mentor in a more negative way than adolescents who are thriving. In future research, it will be important to include measures that tap into the importance of the project and the context for the adolescent as well as characteristics of the adolescent that influence the developing relationship with a mentor.

Selective Influence: Credibility and Value of the Mentor

Shifting the focus to the credibility and value of the mentor, findings from the initial administrations of the credibility and value measures offer robust support for Rosenberg's (1973) contention that not all "others" are equally significant. Evaluation of responses on this measure across time indicates the changing importance of the mentor's opinions for the adolescent, ultimately indicating which others are truly significant others for the adolescent.

When responses on the credibility and value measure are considered in concert with responses on measures of mattering to the mentor at time one and time two it is possible to discern the relative importance of the adolescent's perception of the credibility and value on the adolescent's self-concept development. In this study the strong association between the measures of adolescents' perception of the credibility and value of the mentor and mattering to mentors at time two underscores the idea that those who are truly important will have the most influence on the adolescent's perceived mattering.

An interesting and intriguing pattern of findings emerges relative to the relationship between measures of the credibility and value of the mentor and a perception of mattering to the mentor between time one and time two. At time one there were adolescents who perceived the mentors to be credible and valuable and reported a perception of significance to that mentor. However, the two measures were not significantly related. This seems to indicate that the adolescent's perception of the mentor as credible and valuable at time one may be based on an initial perception that is malleable over time. This in turn may suggest the presence of mediating

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factors that bear on the development of perceived mattering in addition to the adolescent's perception of the credibility and value of the mentor. At time two there was a strong, significant relationship between the two measures. Consideration of several factors will bring greater understanding to these findings.

The program of interest in this study assigns the adolescent the responsibility for selecting a community volunteer mentor. It is likely that the adolescent would select a credible individual whose opinion they respect and value. In addition, they may value the opinion of the mentor for a variety of reasons. Denzin (1966) suggests that individuals care more about the opinions of those in a position to thwart their desires. It may be that the adolescent perceives personal benefit from the selected mentor for gaining a passing mark on the assigned task. It is also possible that the adolescent values the opinion of the mentor because of the mentor's respected position in the community. Consequently, the adolescent's initial perception that the mentor is credible and valuable is not surprising. However, over time, the adolescent's perceptions of the credibility and value of the mentor and mattering to the mentor may be altered by the developing relationship with the mentor. In the process of ongoing relationship, the adolescent is likely to gather additional information that either confirms the initial perception or that results in the adolescent altering that perception as described below.

There are other plausible explanations for an initial perception of significance to the mentor. Adolescent's initial perception of mattering may indicate characteristics of the adolescent that were not measured in this study but come to bear on that perception. Thriving adolescents may view initial behaviors of the mentor more positively than less secure adolescents, perceiving a sense of mattering more readily. In addition, the mentor's consent to serve in that position may be an indication to the adolescent of their importance or significance to that person. Further, the initial perception of mattering could indicate a long-standing

relationship with that person. It will be critical in future research to include measures to discern the possibility of a previous relationship with the mentor.

The dramatic change in relationship between measures of credibility and value and mattering to the mentor from time one to time two is especially important. The high correlation between the two measures alerts us to the possibility of a lack of distinction between the two constructs. However, this issue will be addressed later in the discussion of the quality of relationship.

The change from no significant association between the measures at time one to a strong, significant relationship at time two underscores the idea that it is not simply the involvement of the significant other that is so powerful for self-concept development. One must also consider the degree to which the adolescent trusts and values the mentor's judgment in order to more fully understand the involvement of significant others on adolescent self-concept development.

Rosenberg (1973) suggests that perceptions of credibility and value are a matter of motivation to protect and enhance the self-concept. Through the mechanism of selective credulity, adolescents give greater credence to mentors who appreciate their merits than to those who are alert to their shortcomings. Adolescents will choose to value those who they perceive understand and value them. Changes in the perception of credibility and value of the mentor occur over time as adolescents observe mentors' behaviors toward them. If adolescents perceive that mentors' behaviors demonstrate an understanding of them as an individual, it is likely that their perceptions of the credibility and value of mentors will increase, thereby increasing the influence mentors have on self-concept development. This increases the likelihood that the adolescent will selectively attend to mentors' behaviors, which in turn informs them of their significance to their mentors. Conversely, if adolescents perceive from their mentors' behaviors that their mentors have little understanding of them as an individual, adolescents' perception of the credibility and value of mentors will be diminished in an effort to protect the self-concept.

Consequently, adolescents are less likely to selectively attend to or place importance on mentors' behaviors, even some that indicate support.

Taken together, it may be that the score on credibility and value at time one is an indication of the adolescent's desire for significance in a particular relationship, or in other words, the salience of the context for that adolescent. The change in the score for credibility and value between time one and time two indicates the influence of the quality of the relationship that either confirms or denies the original perception. This would be consistent with Rosenberg's (1973) suggestion that the perception of the credibility and value of a significant other may be changed in an effort to enhance or protect the individual's self-concept.

Finally, the measure of credibility and value may suggest the reciprocal nature of the relationship with the significant other, by indicating the response of the adolescent to the mentor. The adolescent's response to the mentor may be indicated by observing changes in the adolescent's perception of the credibility and value of the mentor between time one and time two and comparing that with the adolescent's perception of mattering to the mentor across time.

Daloz (1986) suggests that in order for the mentor to have an influence the adolescent must accept the mentor as a role model. The social structure of the relationship with the mentor will not be beneficial for development of a sense of mattering unless the adolescent responds to the mentor's behaviors in a way that is indicative of mutual investment. What the credibility and value scale may offer, is a tool with which to assess the response of the adolescent to the relationship. Consequently, by observing changes in the credibility and value scores and comparing them with changes in mattering scores, the adolescent's perception of the investment of the mentor and the response of the adolescent may become apparent. Future research assessing the reciprocal nature of these two constructs will help determine more about the nature of this relationship.

Further understanding of the importance of mentoring by unrelated adults for adolescent concept development can be gained by examining the mediating effect of the quality of the mentor's attending behaviors on the relationship between the adolescent's perception of the credibility and value of the mentor and mattering to the mentor. The association of mattering and mentor behaviors indicates that there is more to a perception of mattering than merely being noticed by a person who is perceived to be credible and valuable. This suggests that the manner in which the individual is noticed influences the formation of a sense of mattering. More specifically, the adolescent's perception of the mentor's behaviors appears to have the power to enhance or diminish a sense of mattering for the adolescent in addition to changing the adolescent's perception of the credibility and value of the mentor in some cases.

Quality of the Relationship

To date, much of the mentoring literature has focused on characteristics of the mentor (Hamilton & Darling, 1989; Darling, 1991), typologies of mentoring forms (Philip & Hendry, 1996) and identification of individual behaviors of the mentor (Darling, 1991; Philip & Hendry, 1996). This study provides the theoretical and empirical basis for linking specific behaviors of the mentor to self-concept development by taking a pattern-centered approach that examines the relationship between the variables that have previously been examined independently and links these patterns of mentor behaviors to self-concept development. While four patterns of mentoring behavior were predicted, this study revealed two patterns of mentoring behaviors consistent with the two dimensions of responsiveness and demandingness that were proposed. Future research may reveal the presence of the other two patterns of mentor behaviors suggested by this study (uninvolved and accommodating).

It may be that the small sample size limited the variability in adolescent responses, thereby diminishing the possibility of detecting the presence of these two additional patterns. In addition, the particular type of program investigated by this study is a new program that has

attracted attention in the community. As such, this program may attract people with common characteristics and may influence their interaction with the adolescents. This in turn may limit the types or patterns of mentor behaviors that were identified. It will be important for future research to examine a variety of mentor programs in various settings in order to replicate and clarify these findings.

High responsiveness and high demandingness that recognizes and respects the adolescent's autonomy characterized the autonomy supportive pattern, and low responsiveness and high demandingness characterized the directive pattern of mentoring behaviors as predicted. In addition, these two patterns were associated with differential patterns of effect on the adolescent's perception of the credibility and value of the mentor and mattering to the mentor. These findings begin to describe the interface of the two dimensions of demandingness and responsiveness and provide an initial framework for consideration of the influence of mentors' behaviors. While typologies may be limiting due to the somewhat arbitrary nature of the inclusion of specific mentor behaviors, they are intended only to provide an initial structure on which to base further exploration.

The identification of these patterns of mentor behaviors supports the findings of previous research on mattering (Marshall, 1997). The autonomy supportive pattern of mentor behaviors is positively associated with mattering and is characterized by the adolescent's perception of support from the mentor. This is similar to Marshall's (1997) findings that mattering to parents holds a positive relationship with perceived parental support. Conversely, the directive pattern of mentoring behaviors, negatively associated with mattering is characterized by the adolescent's perception of mentor pressure. Similarly, Marshall (1997) found that adolescent reports of parental psychological control is negatively related to a sense of mattering to parents.

One of the major premises underlying this research is that there is an optimal mentoring context that influences the adolescent's perception of the credibility and value of the mentor and

promotes the development of a sense of mattering. This study builds on existing literature to begin development of a theoretically cogent description of the optimal mentoring context with identification of the pattern of mentor behaviors. Understanding the influence of context on self-concept development may facilitate understanding the impact of these patterns on the development of perceived mattering.

Previous research has suggested that the optimal context is characterized by a sense of relatedness, competence and by the involvement of the significant other that is supportive of the adolescent's autonomy. In such a context the behaviors of the mentor work in concert to promote the adolescent's self-concept development (Deci & Ryan, 1991; Darling et al., 1994). The type of support offered by the mentor is critical if the adolescent is to feel validated as an autonomous individual. Darling et al. (1994) suggest that challenge, teaching and pushing adolescents to do their best is an expression of caring in the mentoring context as is the emotional warmth associated with emotional bonds in the parenting relationship. These mentor behaviors may indicate to the adolescent that the mentor respects and understands him or her as an autonomous individual.

There is a strong association between perceived mattering and the autonomy-supportive mentor behavior pattern as well as a strong association with credibility and value of the mentor at time two. This may indicate that the perception of credibility and value has been sustained and nourished by a relationship that notices, recognizes and validates the adolescent. Taken together this supports the notion that mentors' behaviors work in concert to promote the formation and maintenance of the adolescent's perception of significance to the mentor.

The autonomy supportive pattern of mentor behaviors appears to provide a balance between demandingness and responsiveness. This balance may allow the adolescent to benefit from the support through provision of a sense of affective security that offsets the ambivalence created by the challenge and expectations that have been issued at an appropriate level for the

adolescent. As the adolescent notices that the mentor's behaviors validate him or her as an individual, it is likely that the adolescent will perceive that to be an indication of mattering to the mentor.

Conversely, the directive pattern of mentoring behavior characterized by high scores on the pressure measure, moderate scores on the measures of challenge and expectations accompanied by low scores on the measure of support is negatively associated with development of the adolescent's perception of mattering to the mentor. This negative association may be explained in part by Deci and Ryan's (1991) contention that contexts which are controlling by virtue of contingent approval do not offer a sense of support that respects the adolescent's autonomy, thereby placing autonomy and relatedness in competition. It is likely that the perception of high pressure and moderate levels of challenge and expectations convey a sense of contingent approval to the adolescent, thereby diminishing the adolescent's perception of mattering to the mentor.

The directive pattern of mentor behavior is also associated with low scores on the credibility and value measure. As discussed earlier, it may be that adolescents sense from mentors' behaviors that they do not have a good understanding of them as individuals, resulting in the adolescents diminishing the value placed on mentors' opinion. Consequently, mentors who exhibit the directive pattern of behaviors fail to have the positive influence on the adolescent's self-concept development associated with the autonomy supportive pattern of mentor behavior.

Care must be taken not to assume that the directive pattern of mentor behavior is merely a result of mentor characteristics. It may be partially explained by consideration of the characteristics of the adolescent as well. The inability of some to obtain the needed support appears to lie at the interface of the characteristics of the significant other and the attributes of the adolescents themselves. It may be due in part to what Harter, Marold and Whitesell (1992)

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label conditionality, defined as the extent to which one feels support is only forthcoming if one meets high standards. Conditionality appears to undermine the self-concept because it does not validate or indicate approval of the self as a person but specifies behavioral contingencies that do not respect the adolescent's talents and abilities. Therefore, to the extent that either the adolescent or the mentor engages in conditionality, that adolescent may be at the mercy of a style of interaction that undermines feelings of mattering.

Caution needs to be exercised in the interpretation of this pattern of behavior. Perceptions of pressure may be derived in part from other sources. For example, students in the last semester of grade 12 may feel pressure from graduation activities and the realization that they are nearing a critical transition from high school into college or employment. It is also possible that they might experience pressure due to their own tendency to procrastinate or from current personal problems and transfer that to perceptions of the mentor's behaviors. Future research should include measures that control for the adolescent's perception of pressure from other sources.

One further caution is worthy of mention. As noted previously, the finding of high correlations at time two between mattering to the mentor, credibility and value and the mentor behaviors may give rise to concern regarding multicollineairty, questioning the presence of independent constructs. Two considerations are offered in support of the presence of separate constructs. First, at time one the findings suggest small and non-significant correlations between the variables of interest. The presence of dissimilar correlations across time supports the presence of independent constructs. Secondly, the theory supporting the findings suggests that the adolescent's perception of the credibility and value of the mentor will be adjusted over time in an effort to enhance and protect the self-concept. Consequently, if the adolescent perceives that the mentor has a good understanding of him or her, based on the mentor's behaviors, it is likely to enhance the adolescent's perception of the mentor's credibility and value. It is also

likely that the mentor's demonstration of understanding and respect for the adolescent would convey a sense of mattering or positive attention, resulting in the strong correlations observed.

Frequency of Contact

Frequency of contact was examined in this study to determine the relative importance of quality of relationship and the amount of contact in the development of perceived mattering. Findings of this study revealed no significant relationship between the total amount of time spent with the mentor and the adolescent's perception of mattering to the mentor. This lends support to the suggestion by Milardo (1988) that examining the quality of relationship may be more informative than the quantity of contact.

However, caution must be exercised in the interpretation of the frequency of contact findings partially due to a small sample size. Furthermore, it is important not to assume the findings reveal information relevant to the construct of perceived mattering when there may be a measurement issue involved. The total time spent was measured by a single item requiring retrospective accounting on the part of the adolescent. This is likely to affect the reliability and consequently the precision of the measures. Asher (1997) suggests that the reliabilities of two psychological measures help determine the upper limit of the correlation between those two measures. Asher reasons that a scale with many items can generally correlate higher with other measures than a shorter scale can. Therefore a short scale is likely to correlate less with other psychological measures than the longer scale. This suggests that there may be a relationship between frequency of contact and perceived mattering present that this study fails to recognize. In the future it would be beneficial to encourage students to keep a log recording meeting date and length as they occur. It would also be informative to collect information from mentors as well, asking them to keep a log of meeting date and length of contact to provide a more accurate estimate of the total amount of time spent.

Keeping this caution in mind, this study does introduce an intriguing and interesting possibility relative to frequency of contact that is contrary to much of the existing literature on mentoring and relationships with unrelated adults. Many of these studies suggest the necessity of in-depth, committed relationships involving significant investments of time over extended periods on the part of the mentor in order to effect lasting change in the adolescent. As noted previously, this may be due, in part to the target population.

This study with a normative population of adolescents revealed that there was influence on the development of perceived mattering with as little as one to two hours of total estimated time spent with a mentor over a period of slightly less than four months in duration. In addition, 64.5 percent of the sample reported spending a total of ten hours or less with the mentor by phone or in person. The focus of previous literature on at-risk populations may have led to assumptions about mentoring by unrelated adults that do not apply to a population not identified as being at risk. This points to the need for continuing research dealing with the relative importance of frequency of contact in relationships with unrelated adults.

Scale Construction

One of the important contributions of this study to the theoretical framework for perceived mattering and further clarification and understanding of mentoring by unrelated adults involves the construction of two scales: Mattering to the mentor and credibility and value of the mentor. The use of these scales in the pilot project and the present study has initiated validation and reliability assessments for the scales. Further use and testing of these scales will continue the ongoing validation process. In addition, future testing will help to clarify whether the credibility and value scale should remain combined, or be separated into two scales. It may be that the two scales combined indicate an overall perception of the importance of the mentor for the adolescent, and as such represent one underlying construct.

Future testing will help to clarify our understanding relative to the presence of high correlations between the mattering and credibility and value measures at time two. This will be important to ongoing research regarding the independence of these two constructs.

Limitations

In addition to limitations already mentioned above, other limitations of this study should be noted. Although the sample appears to be representative of adolescents in school-based mentoring programs, it is important to note that the observations were obtained from grade 12 students only. It is likely that outcomes will vary across ages, due to varying abilities of individuals to benefit from the involvement of unrelated adults. Further, the ability to generalize from this sample may be further complicated by the presence of possible selection biases. The sample was non-random and the programs were elective making it difficult to determine whether characteristics of adolescents that choose to participate in these courses influence the development of mattering to unrelated adults.

One additional limitation worth note is related to the mentor behavior measures. The measures of demandingness and especially responsiveness are certainly general and non-exhaustive. This study provides a general indication of the mentor's responsive behaviors in order to gain a preliminary map of how responsiveness may be associated with self-concept development in the mentoring context. Harter (1999) suggests that the types of support that are most predictive of self-worth are approval, emotional support and instrumental support. It is possible that the types of support may be similar for the development of perceived mattering. Future research must differentiate between types of support in order to specify which types of support are most important to the development of perceived mattering in the mentoring context.

Future Directions

Inherent in James' (1890) idea of being noticed is the notion that the individual is somehow able to influence his or her environment in a meaningful way. The act of having

obtained the attention of a mentor may indicate to the adolescent that he or she has managed to make some degree of impact on the environment. Consequently, perceived mattering gained in part by interaction with an autonomy supportive mentor who validates the adolescent's skills and abilities may promote competence in a context that is important to the adolescent. As such significance to a mentor may provide the adolescent with an amplification of his or her competence. Therefore, competence may represent an additional source of significance in the mentoring context and come to bear on the development of perceived mattering in a number of ways.

Deci and Ryan (1991) suggest that social contexts that enhance the self-concept provide support for the individual's competence in addition to support for autonomy and relatedness. Therefore the mentor's behaviors validating the adolescent's skills and abilities and success on particular aspects of the project may be an indication to the adolescent of his or her competence. If the adolescent selectively attends to these behaviors they may inform him or her not only of areas of competence but of perceived mattering to the mentor as well.

Further, Deci et al. (1991) suggest that competence is supported in the mentoring context by the amount of structure provided for the realization of success on a given project. Structure describes the extent to which the protégé understands what the tasks are and how to perform the tasks required for successful completion of the project. When the optimal amount of structure is present, the expectations are clear and feedback is provided. Skinner, Wellborn and Connell (1990) suggest that the degree of structure provided in a particular context directly affects the individual's sense of control over the outcome.

It is also possible that competence influences the development of a perception of mattering in yet another way. During the process of interaction with mentors, adolescents may engage in social comparison to determine whether their behavior measures up to the standards held by their mentor and to the requirements of the class project. If they feel their performance

does not measure up it is likely that adolescents would conclude their mentor thinks poorly of them, thereby causing those adolescents to perceive a diminished sense of mattering to their mentors as well as a decreased sense of competence. As such, it will be important for future research to consider the interface of structure, competence and autonomy support with the development of perceived mattering in the mentoring context.

In addition, future research examining the quality of relationship from the mentor's perspective may reveal benefits of relationship with the adolescent for the mentor that nurtures positive interactions thereby contributing to the development of a sense of perceived mattering on the part of the adolescent. It may be that consideration of the mentor's perception of the adolescent's responsiveness and whether the relationship was satisfying for the mentor will reveal characteristics of both the mentor and the adolescent that will increase understanding of the reciprocal nature of the relationship.

The present study analyzed the relationship between the adolescent's perception of the credibility and value of the mentor and the patterns of mentor behavior from a linear perspective. Since this study indicates that this relationship involves reciprocity, observing the relationship at several specific points may reveal more about the relationship between the two variables and their association with perceived mattering across time.

Finally, an issue that will be important to consider in future research regards the involvement of the adolescent in the selection of a mentor. In this program the adolescent was responsible for mentor selection. It is possible that this process may have some influence on the development of perceived mattering. This may occur as a result of the adolescent's perception of self-determination or internal perceived causality (Deci & Ryan, 1985) in the project. When individuals conceive their behavior as internally motivated there are stronger consequences for the self-concept (Deci, 1975; Owens, Mortimer & Finch, 1996).

In a related matter, Hamilton and Hamilton (1992) found that recruiting and matching mentors with proteges required a far greater outlay of time and staff resources than expected, increasing the cost of mentoring programs substantially. When considering this problem in light of internal motivation or self-determination, it stands to reason that choice of a mentor by the adolescent is an interesting factor that may influence the development of perceived mattering. If the adolescent chooses the mentor it may be that perceived mattering would be enhanced not only by the adolescent's perception of self-determination in the selection of the mentor, but may have a carry-over effect to the perception of interactions that occur in the mentoring relationship. It will be important for future research to consider the influence of the adolescent's perception of self-determination in this and other aspects of the mentoring relationship.

In summary, the findings of this study argue for the relevance of studying the development of perceived mattering in the mentoring context. This study presents some initial and important findings about the role of the unrelated adult mentor's behaviors and adolescent perceived mattering. It also supports a growing body of theories and findings that point to the continued impact of interdependencies with adults during adolescence (Hill & Holmbeck, 1986). As such, it emphasizes the real-world importance of adolescents' underlying beliefs that unrelated adults represent sources of interpersonal support that influences their self-concept development.

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Consent:

I understand that my child's participation in this study is entirely voluntary and that I may refuse to allow him/her to participate in this study.

I have received a copy of the consent form for my own records.

Please indicate below your decision as to whether your child may participate in this study. Keep the first page of this form for your records and return this page to Mr. Liebert at Blaine High School. Thank you for your help.

Circle one of the following:

I consent to my child's participation in this study.

I do not consent to my child's participation in this study.

Student's name: _____

_____   _____
Parent or Guardian signature   date

_____   _____
Signature of a witness   date

Please try to answer all the questions. There are several parts to this survey. Each has its own instructions about how you answer. Please read all the instructions carefully.

This survey asks about the way you feel and act in different parts of your life. This is not a test. There are no right or wrong answers. Please do not record your name on any pages.

Are you male or female? (circle)

       Male   Female

What is your age? _____   What is your grade? (circle)   8   9   10   11   12

What school do you attend? _____

What grades do you get most often in school? (circle)
      All A   A and B   B and C   C and D   Below D

What is your ethnic background? _____

Who do you live with <u>most or all</u> of the time? (**check one**)

☐   I live with both of my biological parents, who are married to each other and/or living together.

☐   I live with one of my biological parents **only**, most of the time.
       <u>Circle one</u>: **Mom** **Dad**

☐   I live with my biological mom and my "stepdad" (a man married to or living with my mom).

☐   I live with my biological dad and my "stepmom" (a woman married to or living with my dad).

☐   I live with a family member other than my parents.

       Who?_____

☐   I live in a situation different from any of the ones listed.

       Describe it: _____

Appendix D

Relationship With Mother

Each person has ideas or feelings about how other people see them. I am interested in how you think people think about you.

The statements listed below are about the way you feel about your mother. This can refer to your mother or if there has been a remarriage, a step-parent.

Choose the rating you feel is best for you and check the box provided.

	not much		somewhat		a lot
1. I am important to my mother:	☐	☐	☐	☐	☐
2. I am needed by my mother:	☐	☐	☐	☐	☐
3. I am missed by my mother when I am away:	☐	☐	☐	☐	☐
4. When I talk, my mother tries to understand what I am saying:	☐	☐	☐	☐	☐
5. I am interesting to my mother:	☐	☐	☐	☐	☐
6. My mother notices my feelings:	☐	☐	☐	☐	☐
7. My mother gives me credit when I do well:	☐	☐	☐	☐	☐
8. My mother notices when I need help:	☐	☐	☐	☐	☐
9. I matter to my mother:	☐	☐	☐	☐	☐

10. People have many things to think about. If your **mother** made a list of all the things she thinks about where do you think you'd be on her list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

11. People sometimes worry about things. If your **mother** made a list of all the things she worries about, where do you think you'd be on her list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

12. If your **mother** made a list of all the things she cares about, where do you think you'd be on her list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

Appendix E

Relationship With Father

Each person has ideas or feelings about how other people see them. I am interested in how you think people think about you.

The statements listed below are about the way you feel about your father. This can refer to your father or if there has been a remarriage, a step-parent.

Choose the rating you feel is best for you and check the box provided.

	not much		somewhat		a lot
1. I am important to my father:	☐	☐	☐	☐	☐
2. I am needed by my father:	☐	☐	☐	☐	☐
3. I am missed by my father when I am away:	☐	☐	☐	☐	☐
4. When I talk, my father tries to understand what I am saying:	☐	☐	☐	☐	☐
5. I am interesting to my father:	☐	☐	☐	☐	☐
6. My father notices my feelings:	☐	☐	☐	☐	☐
7. My father gives me credit when I do well:	☐	☐	☐	☐	☐
8. My father notices when I need help:	☐	☐	☐	☐	☐
9. I matter to my father:	☐	☐	☐	☐	☐

10. People have many things to think about. If your **father** made a list of all the things he thinks about where do you think you'd be on his list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

11. People sometimes worry about things. If your **father** made a list of all the things he worries about, where do you think you'd be on his list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

12. If your **father** made a list of all the things he cares about, where do you think you'd be on his list? (place a mark in one of the boxes)

top
☐
☐
☐
☐
☐
bottom

Appendix F

Relationship with the Mentor

How strongly do you agree or disagree with each of these statements?

	strongly agree			strongly disagree	
1. I am important to my mentor	☐	☐	☐	☐	☐
2. My mentor thinks my ideas and opinions are important	☐	☐	☐	☐	☐
3. I feel respected by my mentor	☐	☐	☐	☐	☐
4. I am interesting to my mentor	☐	☐	☐	☐	☐
5. My mentor notices my feelings	☐	☐	☐	☐	☐
6. It is important to my mentor that I am successful on my project	☐	☐	☐	☐	☐
7. I matter to my mentor	☐	☐	☐	☐	☐

Appendix G

Opinion of Mentor

How strongly do you agree or disagree with each of these statements?

	strongly disagree			strongly	agree
1. I have faith in my mentor's ideas	☐	☐	☐	☐	☐
2. My mentor is very knowledgeable in the area of my project	☐	☐	☐	☐	☐
3. I want my mentor to be impressed with my abilities	☐	☐	☐	☐	☐
4. It is important that my mentor thinks well of me	☐	☐	☐	☐	☐
5. I admire my mentor	☐	☐	☐	☐	☐
6. My mentor understands my project	☐	☐	☐	☐	☐

Appendix H

I really appreciate your help with validation of my measure on the adolescent's perception of the Credibility and Value of the Mentor. Please read the definitions below and then mark to statements as to whether they refer to credibility or value.

Credibility: refers to the extent to which individuals place faith in the truth or validity of the others person's evaluation.

Value: refers to the extent to which individuals desire the other to think well of them

	Credibility	Value
1. I have faith in my mentor's ideas	_____	_____
2. My mentor is very knowledgeable in the area of my project	_____	_____
3. I want my mentor to be impressed with my abilities	_____	_____
4. It is important that my mentor thinks well of me	_____	_____
5. I admire my mentor	_____	_____
6. My mentor understands my project	_____	_____

Do you think the above statements capture the constructs being measured?
yes_____ no _____

If no, what else could be included?

Appendix I

Support, Interest and Encouragement

How strongly do you agree or disagree with each of these statements?

	strongly disagree	disagree	agree	strongly agree	
1. My mentor encourages me to use my own ideas	☐	☐	☐	☐	☐
2. My mentor encourages me to try my own ideas and be responsible for my own actions	☐	☐	☐	☐	☐
3. My mentor is concerned about what I do	☐	☐	☐	☐	☐
4. My mentor is concerned about my future	☐	☐	☐	☐	☐
5. My mentor praises me for trying, even if I do no succeed	☐	☐	☐	☐	☐
6. My mentor makes me feel more confident in my work	☐	☐	☐	☐	☐
7. My mentor supports me in the things I do	☐	☐	☐	☐	☐
8. My mentor cares if I get good or bad marks on my project	☐	☐	☐	☐	☐
9. My mentor is satisfied with my final project	☐	☐	☐	☐	☐

Appendix J

My Mentor's Behavior

How strongly do you agree or disagree with each of these statements?

	strongly disagree			strongly agree	
1. My mentor was never satisfied with my work	☐	☐	☐	☐	☐
2. I thought I did well on this project but my mentor thinks I could do better	☐	☐	☐	☐	☐
3. My mentor does not feel I'm doing my best on this project	☐	☐	☐	☐	☐
4. I avoided contact with my mentor if I didn't have my work done	☐	☐	☐	☐	☐
5. I don't think I'm as smart as my mentor thinks I am	☐	☐	☐	☐	☐
6. My mentor expects too much of me	☐	☐	☐	☐	☐
7. My mentor is "pushy" when it comes to this project	☐	☐	☐	☐	☐
8. When it comes to this project, my mentor expects the impossible	☐	☐	☐	☐	☐
9. I'm basically lazy and if it weren't for my mentor I would not have done as well on this project	☐	☐	☐	☐	☐
10. My mentor pressured me too much about getting my work done	☐	☐	☐	☐	☐
11. My project would have been more pleasant if my mentor was less demanding	☐	☐	☐	☐	☐

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Appendix K

My Mentor's Challenge

How strongly do you agree or disagree with each of these statements?

	strongly disagree				strongly agree
1. My mentor introduced me to new interests, ideas and experiences.	☐	☐	☐	☐	☐
2. My mentor pushed me to do a good job.	☐	☐	☐	☐	☐
3. My mentor gave me constructive criticism.	☐	☐	☐	☐	☐
4. My mentor pushed me to do things on my own.	☐	☐	☐	☐	☐
5. My mentor questioned my ideas and asked me to think again.	☐	☐	☐	☐	☐

Appendix L

My Mentor's Thoughts
Expectations

How strongly do you agree or disagree with each of these statements?

	strongly disagree				strongly agree
1. My mentor would like me to have good marks on my project.	☐	☐	☐	☐	☐
2. My mentor wants me to work hard on my project	☐	☐	☐	☐	☐
3. My mentor thinks it is important for me to do this project	☐	☐	☐	☐	☐
4. My mentor thinks I can do well on my project	☐	☐	☐	☐	☐
5. When I finish my project, my mentor wants me to keep doing community service work.	☐	☐	☐	☐	☐

Appendix M

Frequency of Contact

These two questions are part of a larger program evaluation being conducted by the school districts cooperating with this research.

1. How often did you meet with your mentor to work on your project? (Circle)

    1-2 times   3-5 times   6-10 times   more than 10 times

2. How often did you talk by phone with your mentor to work on your project? (Circle)

    1-2 times   3-5 times   6-10 times   more than 10 times