12-2006

FAMILY ENVIRONMENT AS A CONTRIBUTOR TO LOCUS OF CONTROL IN CHILDREN AND ADOLESCENTS

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A Thesis Submitted to the Graduate School
in Partial Fulfillment of the Requirements
for the Degree of
Master of Science

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December 2006

ACKNOWLEDGEMENTS

I would like to acknowledge and thank Pittsburg State University for giving me the opportunity to conduct my master's thesis. I owe much debt and gratitude to Dr. Janet Smith my thesis chair for her encouragement, putting in countless hours editing my thesis, and providing overall support. I would like to extend my appreciation and gratitude to Dr. Sean Lauderdale and Dr. Duane Whitbeck for volunteering to be committee members on the presentation and defense of my thesis. I owe much appreciation to Crystal Abel for her support, encouragement, always reminding me of full potential, and her continual faith in my abilities. Finally, I would like to extend my gratitude and appreciation to my mother for always supporting me and being my number one fan.

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An Abstract of the Thesis by
Christopher Michael Delap

The purpose of the current study is to examine the relationship between family environment and locus of control among children and adolescents. The data examined consisted of 52 participants who were from a larger study that was comprised of 265 participants in a school setting. The measures used for this study were the Family Environment Scale (FES) and the Multidimensional Measure of Children's Perceptions of Control (MMCPC). An independent groups *t* test was used to examine whether there were significant differences in scores on the relationship and growth domains on the FES between internal, external, or unknown locus of control as indicated by scores on the MMCPC. The results of the independent groups t tests showed no statistically significant differences in scores on the personal growth or the relationship domains on the FES. These findings do not support the current hypotheses that a child or adolescent's locus of control would be associated with certain types of scores on the FES in the personal growth and relationship domains, indicating that scores on these two domains on the FES are similar for the internal and external locus of control groups.

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CHAPTER I

INTRODUCTION

Statement of the Problem

Past research (Bolger & Patterson, 2001; Jackson, 2005; Jackson, Sifers, Warren, & Velasquez, 2003; Jackson & Warren, 2000; Prevatt, 2003; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995) has focused on identifying protective factors, including locus of control, that contribute to a child's adaptation when faced with negative life stressors. There is a lack of research that exists on the development of a child or adolescent's locus of control (perception of control). However, there is abundant research that examines locus of control in terms of adaptability, protective factors, and resiliency.

Need and Importance of the Study

Past research (Bolger & Patterson, 2001; Jackson & Warren, 2000; Sandler, Kim-Bae, & MacKinnon, 2000) has indicated that an internal locus of control is a predictor of a child or adolescent's adaptability or adjustment when faced with negative life stressors. Research (Jackson, Frick, & Dravage-Bush, 2000) has also indicated that a child or adolescent with an external locus of control tends to show higher levels of maladjustment and internalizing disorders, such as depression or anxiety. If a child or adolescent's family environment contributes to the development of locus of control, then this would

suggest that there may be steps that could be implemented in terms of intervention or prevention for children and adolescents. These intervention or prevention strategies could assist in a child or adolescent's adaptation or adaptability when faced with negative life stressors. For example, if a child is faced with a significant stressor, the child's family could focus on forming a close relationship with their child and encouraging independence in hopes of creating a climate that endorses adaptation, perceived social support, and reliance on one's own abilities.

Purpose of the Study

Weist, Freedman, Paskewitz, Proescher, & Flaherty (1995) indicated that children or adolescents with a close relationship to at least one adult, specifically a parent, tend to show an internal locus of control and high adaptation. It has also been indicated that a child or adolescent who has a supportive and encouraging family climate, in terms of encouragement from family members to form a sense of independence and identity, tend to have an internal locus of control and a high level of adjustment.

The purpose of this study is to examine whether a child or adolescent's endorsement of an internal or external locus of control will be associated with either high or low scores on the relationship and personal growth domains of the Family Environment Scale (FES; Moos, 1994). Locus of control has been suggested to mediate moderate the relationship between maltreatment and internalizing problems. A child or adolescent with an internal locus of control has been shown to have more adaptability and less maladjustment when faced with negative life stressors. If the results identify locus of

control as a contributor to family environment, future research could be directed towards intervention and prevention strategies with children and adolescents.

Assumptions

Past correlational and longitudinal research has identified several protective factors such as social support, intelligence, locus of control, and family environment. It has been indicated that these protective factors, when examined together or individually, act as a buffer to negative life stressors in a child or adolescent's life (Bolger & Patterson, 2001; Chorpita, Brown, & Barlow, 1998; Weist et al., 1995). Children or adolescents who endorse an internal locus of control have demonstrated less internalizing disorders, including depression and anxiety, and better adaptability. Children or adolescents with an external or unknown locus of control are considered to be at risk for developing internalizing disorders due to poor adaptation or maladjustment (Jackson, Frick, & Dravage-Bush, 2000). It is the current assumption that the family environment can influence or contribute to the child or adolescent's development of locus of control. It is speculated that a family environment that encourages independence, personal identity, close relationships, rules, and order is assumed to foster children and adolescents who are well-adjusted and have high adaptability. A child or adolescent who is considered to be well-adjusted and highly adaptive would endorse less internalizing disorders and indicate high adaptation when faced with negative life stressors.

CHAPTER II

REVIEW OF THE LITERATURE

Protective Factors

Protective factors have been shown to play an important role in the adaptation of children and adolescents faced with negative life stressors. Exposure to negative life stressors, such as family stress, can be related to negative behavioral outcomes or adaptations in children (Jackson, Sifers, Warren, & Velasquez, 2003). The relation between exposure to negative life stressors and behavioral outcome might not be a direct relation but may be moderated by several other factors. According to Jackson et al. (2003), these other factors are referred to as "risk/protective factors" and might act as a buffer or enhance the relation between family stress and negative behavioral outcomes in children. Past research has identified many different protective factors such as intelligence, social support, socio-economic-status, family environment, locus of control, and positive appraisal (Bolger & Patterson, 2001; Jackson, 2005; Jackson, Sifers, Warren, & Velasquez, 2003; Jackson & Warren, 2000; Prevatt, 2003; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995). Risk factors typically identified include such variables as poverty, life stress, deficiencies in parenting, and family instability (Jackson et al., 2003; Prevatt, 2003; Yang & Clum, 2000). The present research focuses on locus of control and family environment.

Definition of Locus of Control

Locus of control is defined as a generalized expectancy describing how individuals attribute responsibility for events in their lives to themselves (internal control) or to other sources such as luck, chance, fate, or powerful others (external control) (Belter & Brinkmann, 1981). For example, a student who associates their success or failure on a history test to their studying or lack of studying of the information would be said to have an internal locus of control. On the other hand, a student who attributes their success/failure on the test to luck or difficult worded questions would be said to possess an external locus of control. Connell (1985) added a third component to the locus of control construct known as unknown locus of control. According to Connell, past measures of locus of control have been based on a single bipolar dimension of internal versus external locus of control, which influenced Connell to add the unknown component to assessing locus of control. The addition of the unknown component provides an assessment of both what children know about whose attributes control their successes and failures and how much they do not know about why they succeed and fail. The unknown component is endorsed more widely with younger children who are seen as being unaware or lacking in knowledge of what contributes to their successes or failures. A child or adolescent who does not know why they performed poorly or successfully on a test, for example, would be said to possess an unknown locus of control.

Historical Review of Locus of Control

According to the Lefcourt (2000), locus of control originated within Rotter's (1966) social learning theory in which behavior is predicted from the value that people

have for particular reinforcements, their expectancies about certain behaviors' effects upon the occurrence of reinforcements, and the nature of the given situation. Within social learning theory, locus of control is viewed as a generalized expectancy, which pertains to the perception of causal relationships between behaviors and reinforcing experiences. That is, locus of control was defined as an expectancy that reinforcement was under one's own control (internal) or not under one's own control (external) (Connell, 1985).

A cognitive approach to locus of control emphasizes that a person's perception of causation of past events are relevant predictors of what motivates an individual in engaging in a certain task. A two-dimensional model of control judgments developed by Weisz (1983) included the degree to which outcomes are seen to be contingent upon one's behavior (perceived contingency) and whether one feels competent to produce the required behavior (perceived competence; Connell, 1985). Weisz's (1983) perceived contingency concept states that internal perception of control implies an apparent contingency between something about oneself and a particular outcome. Perceived competence involves an individual's judgments of their own capacity to produce the adequate outcome.

Connell (1985) expanded on the previous concepts of locus of control and formulated a measure that examines three specific dimensions to which children and adolescents attribute their successes/failures. The three dimensions are: whether their own abilities brought about success/failure (internal); whether other people's abilities brought about their outcomes (powerful others or external); or whether they are uncertain

why their outcomes occurred (unknown).

Developmental Process of Locus of Control

An abundance of research that has examined the effectiveness and use of locus of control in adaptation; however, there is limited research that examines the development of locus of control in children and adolescents. According to Connell (1985), the majority of developmental studies of children's locus of control have been focused on mean level changes in terms of internal versus external sources of control. Connell goes on to suggest that among these developmental studies, age-related increases in internal control and decreases in external control were not addressed.

Research has consistently indicated that children and adolescents who possess deficient social supports, lower IQ scores, chaotic family environment, and difficult temperament, when examined together, are at-risk for behavior problems and internalizing disorders (Bolger & Patterson, 2001; Chorpita, Brown, & Barlow, 1998; Connell, 1985; Jackson, Frick, & Dravage-Bush, 2000; Nowicki & Schneewind, 1982; Sandler et al., 2000). Although these studies did not look at the development of locus of control in children and adolescents, it can be speculated that social support, intelligence, family environment, and temperament influence the development of locus of control.

One measure that entails more complexity than past locus of control measures is the Multidimensional Measure of Children's Perceptions of Control (MMCPC; Connell, 1985). A goal in the construction of the MMCPC was to ensure that the items on the measure were sensitive to both developmental and environmental influences on

children's understanding of the reasons for their successes and failures (Connell, 1985). A child's experience with the environment in terms of exposure to different situations, circumstances, and people are likely to contribute to the development of locus of control (Jackson, Kim, & Delap, in press). That is, a child who has more exposure in life to such things as success or failure at school or home will be more likely to understand who or where consequences originate (internal or external). Those children or adolescents who are unable to identify where or with whom the responsibility lays for the consequences for a given event are said to endorse an unknown locus of control.

The introduction of the unknown locus of control domain within the MMCPC by Connell (1985) has implications for the development of a child's perceived control. It has been theorized by Jackson, Kim, & Delap (in press) that a child's perception of control for stressful events is not known due to either inexperience with the event or developmental limitations in cognitive functioning. It is plausible that younger children who are inexperienced or have developmental limitations in cognition may be unaware of what or who contributed to their successes or failures. Past research has shown that unknown locus of control decreases linearly with age (Connell, 1985). Whether an unknown locus of control transitions into more of an internal or external locus of control is still open to further research. It is possible that as a child becomes older, they become more aware of the environment, but may have not yet developed a sense of identity, which may influence a child to associate their successes and failures to others (external) rather than to their own attributes. Nowicki & Schneewind (1982) state that in early adolescence, children first are beginning to strive for independence, where in late

adolescence they are completing the move toward identity and independence. In speculation, children who become more aware of their environments and self may possibly endorse either an internal or external locus of control rather than an unknown locus of control due to their better understanding of the environment. Past research has indicated that in contrast to younger children, pre-adolescents and adolescents tend to see their own attributes as the primary sources of their successes and failures (Connell, 1985; Jackson, Kim, & Delap, in press; Nowicki & Schneewind, 1982).

Roles of Locus of Control

Past research has identified locus of control as a potential protective factor for children and adolescents who are at risk for behavioral disorders and maladjustment (Bolger & Patterson, 2001; Jackson, 2005; Jackson, Sifers, Warren, & Velasquez, 2003; Jackson & Warren, 2000; Prevatt, 2003; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995). Research that has examined locus of control and child maladjustment has indicated that children with a higher external locus of control tend to show higher levels of internalizing problems, such as depression or anxiety. In contrast, children with a higher internal locus of control tend to show low levels of internalizing problems and tend to cope well (Bolger & Patterson, 2001). High levels of internal locus of control could be seen as a protective factor to such stressors as internalizing problems, economic hardship, neglect, and sexual abuse. Research conducted by Jackson, Kim, & Delap (in press) indicated that there is a significant relation between locus of control, social support, and negative appraisal.

Locus of control has been seen as both a mediator and moderator between maltreatment and internalizing problems. Moderators have a casual influence in only the degree or direction of the relation between two variables, and are not responsible for the observed relation (Barron & Kenny, 1986). However, mediator variables play a partial role in the relation between the dependent and independent variables (Jackson, Kim, & Delap, in press). The independent variable exerts its influence on the dependent variable via the mediator. Bolger & Patterson (2001) examined the relation of neglect and sexual abuse in combination with neglect to internalizing problems in adolescents. Their results indicated that an external locus of control mediated neglect and sexual abuse/neglect in relation to internalizing problems. An adolescent who attributes their experiences of neglect and sexual abuse to powerful others (external) or unknown factors shows higher levels of internalizing problems. However, Bolger & Patterson's research did not establish internal locus of control as a partial mediator between maltreatment and internalizing problems. Rather, past research demonstrated that an internal locus of control acts as a moderator between maltreatment and internalizing problems (Luthar, 1991; Moran & Eckenrode, 1992).

Research also links early negative life events to impaired cognitive appraisal, as reflected by such constructs as self-esteem, locus of control, hopelessness, and problem-solving deficits (Yang & Clum, 2000). In late adolescence, adolescents seem to be aware of what their families are like, and as a result the relationship between family climate and locus of control is most clearly delineated (Nowicki & Schneewind, 1982). Even though this has been identified for older adolescents, the findings are still relevant for children.

In speculation, the earlier an appropriate family climate can be established, the better the chances a child will have at forming a more clearly defined relationship between family climate and locus of control.

Family Environment as a Protective Factor

As a form of social support, the family is an important resource in coping with or buffering stress. The family environment has been considered a major factor in a child and/or adolescent's psychological adjustment (Aydin & Oztutuncu, 2001; Chorpita, Brown, & Barlow, 1998; Jackson & Frick, 1998; Kronenberer & Thompson, 1990; Nowicki & Schneewind, 1982; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995; Yang & Clum, 2000). There are several different family characteristics that have been suggested to serve as protective factors for children and adolescents. These possible protective factors are: having positive relationships with family members (e.g., expressiveness, cohesion), opportunities for personal growth within the family (e.g., independence, achievement orientation), and provision of structure (e.g., organization, rules in planning and running family life; Jackson et al., 2003). Past research has suggested that children and adolescents who perceive high family cohesion (e.g., close relationships with family members) indicated less negative thoughts about their own abilities, which may be related to the possibility that members of a cohesive family are more sensitive to each other's needs (Aydin & Oztutuncu, 2001). It has also been suggested that family cohesion serves to protect adolescent males against the negative effects of stress, whereas family cohesion was not found to be protective for females

(Weist et al., 1995). That is, the more closeness and support an adolescent male receives, the less chance for stress to impact an adolescent in negative ways that could possibly influence his level of adaptation.

Past research has indicated that a more cohesive family environment may be associated with greater psychological adjustment, specifically less depression (Aydin & Oztutuncu, 2001; Chorpita, Brown, & Barlow, 1998). Aydin & Oztutuncy (2001) suggest that positive and supportive interpersonal relations within the family system play a preventive role in depression. A child or adolescent's family system is an interactive network that relies on the involvement of all members that comprise the family system. According to Aydin & Oztutuncu (2001), within the family social system each family member influences, and is influenced by, the other members, producing a family environment, or climate. Family climate is determined by the interpersonal relationships among family members, the emphasis on personal growth, and system maintenance.

A supportive, cohesive family environment has been found to foster psychological well-being. Adolescents experiencing high control (e.g., less resistance to change) in the family but experience low cohesion (e.g., families that lack warm affective ties) have been shown to be more introverted and depressed (Aydin & Oztutuncu, 2001). Thus, family climate and relationship styles have been associated with an adolescents' self-evaluations and psychological health.

Researchers have found that poor general family environment, defined as deficient parenting skills, negative parent-child relationships, and parental discord and violence, has been related to suicidal behavior in children (Yang & Clum, 2000). Past

research has differentiated parenting style from parenting practices. Parenting style is defined as a stable complex of attitudes and beliefs about parenting, whereas parenting practices are specific behaviors engaged in by parents (Prevatt, 2003). Results of Prevatt's (2003) investigation suggested that the combination of risk factors (i.e., family stress, family conflict) and protective factors (i.e., family cohesion, family social support) along with parenting practices were highly predictive of child functioning for both disruptive externalizing behaviors and positive emotional adaptation.

Past research in the area of parenting suggests that a parenting style characterized by high protection and discouragement of autonomy may be associated with later anxiety and depressive disorders (Chorpita, Brown, & Barlow, 1998). Within the literature on children's control-related cognitions, those same parenting dimensions have been suggested to foster an external locus of control. Chorpita, Brown, & Barlow (1998) suggested that a family environment that limits the child's experience with personal control would foster a sense of low control, which in turn could influence negative affect, and ultimately, clinical symptoms. Results indicated that a family environment characterized by limited opportunity for personal control is associated with anxiety and negative affect. A positive family environment may help children and adolescents to develop adaptive coping responses to family stress, which may lessen the chances of developing maladaptive behavior (Jackson, Sifers, Warren, & Velasquez, 2003).

A common measure used to assess family environment is the Family Environment Scale (FES; Moos & Moos, 1986). According to Kronenberger & Thompson (1990), the FES assesses multiple dimensions of family climate and is one of the most widely

used measures to assess family characteristics. The FES assesses environmental characteristics of families across three broad domains, which are composed of 10 component subscales. These broad domains include the relationship domain (i.e., interpersonal relationships within the family); the personal growth domain (i.e., types of family goals, interests, activities); and the system maintenance domain (i.e., role of structure, rules, organization) (Kronenberger & Thompson, 1990; Nowicki & Schneewind, 1982).

Several studies have illustrated the usefulness of the FES as a measure for demonstrating different characteristics of families (i.e., cohesion, support, communication) that have been identified as protective factors for children and adolescents faced with negative life stressors and psychological adaptation of the family members. Kronenberger & Thompson (1990) examined the FES in relation to chronically ill children and non-chronically ill children and their families. The chronically ill children were diagnosed with diabetes, cancer, or myelodysplasia. Their results suggest that the three broad domains of the FES indicated that the chronically ill children and adolescents with behavior problems had less supportive and more conflicted families. Moreover, the less support identified in the relationship domain and a more rigid structure of the family in the system maintenance domain may influence the manner in which these children attribute their illnesses. This has been further supported in an investigation that examined the relation between poor school performance and the FES (Thompson, Lampron, Johnson, & Eckstein, 1990). Results indicated that children and adolescents with less supportive and more controlling families were more likely to

have behavior problems, specifically in the area of internalizing disorders.

Family Variables and Child Development

Certain family characteristics, such as family integration, cohesion, expressiveness, and parental acceptance have been associated with a child and/or adolescent's coping abilities, self-esteem, and adaptation (Feldman & Gehring, 1988; Garner & Power, 1996; Johnson, 2002; Kliewer, Fearnow, & Walton, 1998; Ryan & Lynch, 1989; Shulman, Seiffge-Krenke, & Samet, 1987; Smith, Prinz, Dumas, & Laughlin; 2001). Yabiku, Axinn, & Thornton (1999) suggested that parental activities (i.e., family eating or playing games together) within the home are associated with family integration that may affect children. Yabiku et al.'s longitudinal study of family integration and child self-esteem from early childhood into young adulthood indicated that a child's long-term self-esteem was increased when parents were involved in household activities during childhood. Results also suggested that higher levels of family integration in terms of family support had a significant positive impact on children's self-esteem. This suggests that family integration also affects the development of the self.

Shulman, Seiffge-Krenke, & Samet (1987) suggested that an adolescent's coping style may be related to his/her perception of the family climate. A sense of family support and organization may be associated with a functional, interpersonal style of coping. That is, adolescents who perceived their families as supportive and personality-growth oriented were associated with a higher degree of active coping via social resources (i.e., discussing problems with others) in the domains of studies, parents and

self. Shulman et al. also found that adolescents who perceived their families as unsupportive and ineffective were associated with a higher degree of pessimistic attitudes.

A major developmental task for adolescents is to redefine their familial roles and relationships in preparation for their departure from the family (Feldman & Gehring, 1988). According to Feldman & Gehring (1988), adolescents perceived a gradual decrease in cohesion and power differential between their parents and themselves between sixth and twelfth grade. The most significant decrease in cohesion occurred between ninth and twelfth grade, which was associated with a marked decrease in the parent-child dyad. It has been suggested that the negative association between interparental conflict and young adults' aggressive conflict behavior was slightly moderated by perceptions of family adaptability and cohesion (Johnson, 2002). Lower levels of family adaptability and cohesion were related to higher reported verbal and physical aggression during conflicts with parents in the presence of interparental conflict. It was speculated that if parents maintain close and understanding relationships with their children, young adults might perceive the environment to be cohesive and adaptable and use more effective means of resolving conflict with their parents.

Wyman, Cowen, Work, Raoof, Gribble, Parker, & Wannon (1992) assessed urban children and adolescents exposed to major life-stressors (i.e., poverty, family discord, drug/alcohol abuse among family members) in relation to resilient outcomes. It was found that children who experienced nurturing relationships with primary caregivers (i.e., close parent-child relationships) and a stable family environment (i.e., consistent

family discipline) had more resilience under stressful conditions. Greater parental acceptance of a child, higher levels of family expressiveness, and lower levels of blame of others have been associated with lower perceptions of threat by children (Kliewer, Fearnow, & Walton, 1998). That is, a family environment in which children feel accepted by their parents, can express a range of emotions, and acknowledge one's own influence on the occurrence of events could be associated with higher adaptability in children when faced with threatening situations or events.

Current Predictions

The present research examines the relation between family environment variables and locus of control. Specifically, an internal or external locus of control will be associated with significantly different scores on the relationship and personal growth domains on the FES. That is, if a child or adolescent endorses an internal locus of control, then those children or adolescents will report having a close relationship with a parent, are encouraged to build their own independence, and rules and order are established within the family as indicated by high scores on the relationship and personal growth domains of the FES. It is also hypothesized that if a child endorses an external locus of control, then those children or adolescents will have low scores on these two major domains of the FES.

CHAPTER III

METHODOLOGY

Participants

Participants were 47 children and adolescents between 11 and 13 years of age, (M = 11.38). The age breakdown of the total sample was as follows: age 11, n = 30; age 12, n = 16; age 13, n = 1. Sixty percent of participants were males and all children were students in regular classrooms at several schools in a semirural town and surrounding rural area in the Midwest. The ethnic and socioeconomic background of the sample was representative of children in the sampled areas. Eighty-six percent of the sample was European American, 8% were Black, 4% were Latino, and 2% were Asian American. Based on parental responses on the Duncan's Socioeconomic Index, 17% were classified as being in the lower socioeconomic status, 54% in the middle socioeconomic status, and 29% in the upper socioeconomic status.

Measures

Locus of control. Locus of control was assessed by the Multidimensional Measure of Children's Perceptions of Control (MMCPC; Connell, 1985). The MMCPC is a child-report for ages 8 through 14 years. It is a 48-item measure designed to identify a child's perception of the source (internal, external, and unknown) and outcome of experiences (success vs. failure) in four domains: social ("the way I treat them"), cognitive ("I can decide..."), physical ("something I did"), and general ("my...fault").

A four-point Likert format was used. For each item, the child was presented with a statement and asked to circle one of four responses. For example, "When I win at a sport, it's usually because the person I was playing against played badly." The four separate domains (cognitive, social, physical, and general) of locus of control were combined to create three scores that would be comprised solely of an external, unknown, or internal score. This was done to maintain consistency with past research of locus of control, with most measures simply consisting of either an external or internal score.

The reliability of the MMCPC compares favorably with existing children's locus of control measures (Bases & Schonfeld, 2002). The internal consistency for the internal control scale was demonstrated to be adequate ($\alpha = 0.70$), and the stability of the internal control is ($r = .34$) over 9 months (Connell, 1985). Subscale reliabilities (α) for the unknown control scale range from .52 - .67, the external control scale range from .39 - .59, and the internal control scale range from .39 - .66. The measure showed significant test-retest correlations over 9 and 14 month intervals, with a median $r = .34$, $p < .001$, and a range from .30 to .48 in the larger study, with a test-retest interval of 9 months (Jackson, Kim, & Delap, in press). Due to locus of control being a context-dependent variable, low test-retest scores are expected. Concurrent validation support for each of the domains was established by significant correlations with other measures. The validity for the social domain and physical domain was suggested by the significant correlation between the five perceived control variables (three sources of control and two composites) and the peer acceptance subscale of Harter's (1982) perceived competence scale (Connell, 1985). Harter's measure of children's perceptions of their physical

competence showed a significant relation with Connell's measure (mean $r = .45$). Adolescents attributed their perceptions of control for successful outcomes to their internal physical competence rather than to an unknown domain, which was seen with younger children. The validity of the cognitive domain was established by the significant correlation between achievement tests (e.g., Iowa Test of Basic Skills, Stanford Achievement Test) in three elementary samples. Among these three samples, the unknown control ($p < .001$; -.36 to -.40), internal control ($p < .05$; .19 to .27), and relative internality for success outcomes ($p < .01$; .27 to .35) were the most consistent predictors of standardized achievement scores (Connell, 1985).

Family environment. Family environment was measured by the Family Environment Scale (FES; Moos & Moos,1986). The FES is a 90-item, true-false questionnaire for children 11 years old and above. The FES is appropriate for individuals with a sixth-grade reading level or higher. The FES assesses environmental characteristics of families within three broad domains: relationships, personal growth, and system maintenance. The relationship domain reflects the type of and emphasis on interpersonal relationships within the family and is composed of cohesion (i.e., feel they belong to and are proud of their family), expressiveness (i.e., open expression allowed within the family), and conflict subscales (i.e., degree to which conflictual interactions are characteristics of the family). The personal growth domain represents different types of family interests, goals, and activities. The subscales of the personal growth domain are independence (i.e., family members doing things on their own), achievement orientation (i.e., academic activities), intellectual-cultural orientation (i.e., number of and

variety of intellectual and cultural activities), active-recreational orientation (i.e., number of and the intensity of involvement in recreational-sporting activities), and moral-religious emphasis (i.e., actively discusses ethical-religious issues) subscales. The system maintenance domain reflects the extent and role of structure, organization, and rules in planning and running family life and is composed of the organization (i.e., importance of order and organization in family activities) and control (i.e., organization is arranged in a hierarchical manner and rigidity of rules) subscales. Across the subscales, internal consistency (α) ranged from .61 - .78. Test-retest reliabilities with a 2-month interval were in the acceptable range for research purposes, varying from a low of .68 for independence to a high of .86 for cohesion subscales (Moos, 1990). Construct validity has been suggested through research that has implemented the FES in assessing children and adolescents with behavioral problems or conduct disorder, which indicated that families with high levels of family conflict, low levels of cohesion, and low moral-religious emphasis have been associated with children who have frequent delinquent behavior (LeFlore, 1988; Tolan & Lorion, 1988). Research examining depressed children and adolescents using the FES has indicated that there is less support and organization associated with more severe depression, more psychological symptoms, and poorer psychosocial functioning (Mitchell, Cronkite, & Moos, 1983; Spiegel & Wissler, 1983).

Procedure

The current study was part of a larger study that examined the relation between

life events and behavioral outcome with an emphasis on examining the main and moderating effects of social support and appraisal. Participants were recruited from several elementary schools in several small, semiurban midwestern towns. Flyers requesting volunteers were provided to the elementary schools and distributed to the students' parents, explaining the nature and purpose of the study. Out of the 520 parents who indicated initial interest in participating, 270 (51.9%) of these completed study measures and provided consent for their child to be part of the study. Of these 270, 5 children were later omitted from the participant pool due to their scores on a screening tool indicating intelligence estimates in the mentally retarded range. An additional 154 children were omitted for the present study due to participants not meeting the standardized age limit of the FES. Therefore, 111 parents and children formed the participant pool for the study. Parents were given an informed consent form and the Behavior Assessment System for Children (BASC) and children were read a consent form and then completed the Life Events Checklist (LEC), the Network of Relationships Inventory (NRI), the Social Support Scale for Children (SSSC), the MMCPC, and the FES in random order. Parent participants also completed measures on family environment and temperament. Child participants were also read the measure on intelligence level as part of another study. To prevent possible reading-level difficulties with any of the measures, a trained research assistant read all items to child participants, which was a deviation from standardized instructions. Parents were compensated $5.00 for their participation and the children were allowed to choose one item out of an assortment of toys.

CHAPTER IV

RESULTS

The total sample size consisted of 52 children and adolescents. Of these 52 children and adolescents, 30 were identified as endorsing an internal locus of control, 17 were identified as endorsing an external locus of control, and 5 were identified as endorsing an unknown locus of control. The child and adolescents that were identified as endorsing an unknown locus of control were not included in the analysis due to their limited number. The relevant means and standard deviations can be found in Table 1.

Table 1. Means and standard deviations between locus of control and family environment scale domains

	Types of Locus of Control			
Family Environment Category	Internal (n = 30)		External (n = 17)	
	M	SD	M	SD
Relationship Domain	52.68	7.361	53.19	8.101
Personal Growth Domain	52.00	6.972	52.54	4.288

An independent groups t test was performed comparing the mean scores of the personal growth domain of the FES with the internal and external locus of control groups. This was found not statistically significant, $t\ (45) = .290$, $p = .773$, indicating there was no significant difference in the personal growth domain between the internal and external locus of control groups.

An additional independent groups *t* test was performed comparing the mean scores of the relationship domain of the FES with the internal and external locus of control groups. This was found not statistically significant, $t(45) = .218$, $p = .828$, indicating there was no significant difference in the relationship domain between the internal and external locus of control groups.

CHAPTER V

DISCUSSION

The purpose of the present study was to examine whether a child or adolescent's locus of control, as indicated by the Multidimensional Measure of Children's Perception's of Control, would be associated with close family relationships and encouragement to build independence, along with defined family rules and structure, as indicated by scores on the Family Environment Scale. Past research has indicated that a child or adolescent's locus of control may contribute to adaptability when faced with negative life stressors (Bolger & Patterson, 2001; Jackson, Frick, & Dravage-Bush, 2000; Jackson & Warren, 2000; Sandler, Kim-Bae, & MacKinnon, 2000). That is, a child or adolescent who endorses an internal locus of control may indicate higher levels of adjustment when confronted with negative stressors. However, an endorsement of an external locus of control may be related to higher levels of maladjustment when confronted with similar negative stressors, such as depression or anxiety. A child or adolescent's family environment has also been suggested as being a major factor in a child or adolescent's positive adjustment (Aydin & Oztutuncu, 2001; Jackson & Frick, 1998; Yang & Clum, 2000). Possible family characteristics that may contribute to a child or adolescent's adjustment are: positive family relationships, family encouragement for personal growth, and family structure. A possible advantage of having knowledge about a child or adolescent's locus of control and family environment is that this may assist in the intervention or prevention of maladjustment when faced with negative life stressors.

Based on MMCPC scores, only five participants endorsed an unknown locus of control. As a result, the unknown group was excluded from the current analysis due to the limited number of participants in this particular group. This resulted in statistical analysis being limited to only the internal and external locus of control groups.

It was predicted that children and adolescents who endorsed an internal locus of control would have higher scores on the relationship and personal growth domains on the FES when compared to the external locus of control group. Results of independent groups t tests indicated that there was no significant differences between the internal and external locus of control groups with regards to either the personal growth or the relationship domain on the FES. These findings do not support the current hypotheses that a child or adolescent's locus of control would be associated with certain types of scores on the FES in the personal growth and relationship domains. In contrast, findings suggest that a child or adolescent who endorses either an internal or external locus of control will have similar scores on this particular family environment measure. That is, a child or adolescent who attributes their successes and failures to their own abilities may not differ in how they rate certain aspects of their family environment when compared to a child or adolescent who attributes their successes and failures to outside forces such as luck, chance, or powerful others.

The results of the current study make it difficult to draw any conclusions about factors impacting development of an internal versus external locus of control. The lack of differences in scores on the FES between the internal and external groups may possibly be due to family environment having no impact on locus of control. However,

one could speculate this may be unlikely since a family environment that encourages personal growth, positive relationships with family members, rules and structure would be creating an environment that encourages a child or adolescent to attribute their own abilities or lack of, to their successes and failures. Conversely, a family environment that does not encourage independence, personal growth, and positive relationships with family members may be seen as an environment that would foster a child or adolescent to attribute their successes and failures to external factors, such as chance, luck, or powerful others.

Alternatively, it is possible that family environment does play a role in development of locus of control, but the specific aspects of family environment that impact development of this characteristic differ from those investigated in the current study. It could be speculated that some of these alternative factors could be the parent's type of locus of control they personally endorse. That is, a parent that tends to endorse an internal locus of control may influence the way their child perceives their sources of control in their environment. Another alternative could be that a child or adolescent's friends outside of their family may have an influence on how they attribute their successes and failures.

Finally, it is possible that the lack of significant results may be due to limitations in the design of the study. One limitation is the manner in which the mean scores of locus of control were obtained from the MMCPC. The MMCPC is a good measure to examine a child or adolescent's locus of control due to the addition of specific subdomains (cognitive, physical, social, general), which allows an investigator to

determine in which specific areas a child or adolescent will be more likely to endorse a certain type of locus of control. However, locus of control scores were averaged across subdomains (cognitive, physical, social, general) in order to obtain scores that are comprised of either an internal, external, or unknown domain score to be consistent with past research. Possible complications with averaging across subdomains are that scores did not have a clear distinction between either an internal, external, or unknown domain score. That is, a child or adolescent that has a high score on the internal cognitive domain may be countered by a high score on the external social domain. This can result in the overall score for the external and internal domains for that child or adolescent to be fairly close in score. In turn, this can lead to complications when attempting to differentiate between whether the child or adolescent is clearly endorsing an internal or external locus of control.

Another limitation that may have impacted the results of the current study is the lack of stability of locus of control scores (Connell, 1985; Jackson, Kim, & Delap, in press). Connell (1985) suggested that the conceptual distinctions between items on the MMCPC might be more salient to children in one domain than another and at one age than another. That is, a child might endorse an internal locus of control for one type of context or situation and endorse an external locus of control for a different context. It could be speculated that different endorsements of locus of control could be beneficial depending on the context. For example, a student that endorses an internal locus of control in regards to passing a test in school may not benefit from endorsing an internal locus of control when being bullied at school. Lack of stability of scores complicates

identification of factors contributing to locus of control.

One could speculate there are variables other than family environment that can impact a child or adolescent's locus of control. There are many protective factors, such as intelligence, social support, socio-economic-status, and positive appraisal that have been found to play an important role in a child or adolescent's life (Bolger & Patterson, 2001; Jackson, 2005; Jackson, Sifers, Warren, & Velasquez, 2003; Jackson & Warren, 2000; Prevatt, 2003; Weist, Freedman, Paskewitz, Proescher, & Flaherty, 1995). If any of these variables were more influential in a child or adolescent's life when compared to their family environment, then this could influence whether a child or adolescent endorses an internal, external, or unknown locus of control.

An additional limitation of this study includes the exclusion of the unknown locus of control group, which could be attributed to the limited sample size. The exclusion of the unknown locus of control group could have limited the investigation in respect to the relationship between unknown locus of control and a child or adolescent's family environment.

Future research of this nature should implement a larger sample size of participants in order to provide larger group sizes, which may allow the inclusion of the unknown group. In turn, this may assist in determining if unknown locus of control is associated with specific characteristics of a child or adolescent's family environment. Due to the lack of research examining the development of a child or adolescent's locus of control, future research should be directed in the area of longitudinal designs that examine what type of variables contribute to the development of locus of control.

According to Connell (1985), unknown locus of control decreases linearly with age, but fails to discuss whether the unknown locus of control develops into a more internal locus of control or external locus of control. Longitudinal research that examines a child or adolescent's locus of control, family environment, social supports, and intelligence may be able to provide evidence regarding what variables contribute to a child or adolescent's locus of control and whether the unknown locus of control develops into an internal or external locus of control. Because past research has identified locus of control as a potential protective factor for children and adolescents who are at-risk for maladjustment and behavioral disorders (Jackson, 2005; Jackson, Sifers, Warren, & Velasquez, 2003; Patterson, 2001; Prevatt, 2003), one could speculate that future research of this nature could lead to intervention/prevention strategies to assist a child or adolescent's adaptability when faced with negative life stressors.

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