

## 2. THEORETICAL CONSIDERATIONS

### 2.1 Goal Striving in Middle Childhood and Preadolescence

The weight of the literature on developmental tasks, goals, and theories of control that I review in this chapter necessary comes from the adult literature. However, in each section I will link to applications in the child development literature and draw implications for the present study.

Human beings are assumed to be, by nature, goal-oriented organism (e.g., Emmons, 1996; Brandtstädter, 1998; Skinner, 1995; Skinner et al., 1988b). Goals are internal representations of “desired states that people seek to obtain, maintain, or avoid” (Emmons, 1996, p. 314). Goals both guide actions and give direction and meaning to people’s lives (Cantor & Sanderson, 1999; Klinger, 1977). Goal selection and goal pursuit determine both an individual’s development (e.g., Brandtstädter, 1998, Freund & Baltes, 2000) and personality (e.g., Little, 1983). Goals direct behavior into particular pathways and exclude alternative developmental pathways. Each individual’s set of goals is uniquely defined by that individual’s developmental history and idiosyncratic interpretation of the desired consequences (e.g., Ford, 1992; Klinger, 1977; Little, 1983; Winell, 1987). As a consequence, in developmental psychology, personal goal systems are conceptualized to represent both an antecedent and a consequence of developmental processes (e.g., Brandtstädter, 1998; Freund & Baltes, 2000; J. Heckhausen & Schulz, 1995; Marsiske, Lang, M. M. Baltes, & Baltes, 1995). Although the majority of research on goals has focussed on developmental tasks of young and older adults, as outlined below, this approach also can be applied to children and adolescents in the domain of peer relationships (see, e.g., Coie, Dodge, & Kupersmidt, 1990; Erdley & Asher, 1996; Rose & Asher, 1999; Wentzel, 1996).

Research and theorizing on goals and their effects on affect, behavior, and cognition has become very popular since the 80ies. In particular, action-theoretical formulations make reference to the goal concept (e.g., Frese & Sabini, 1985; Gollwitzer & Bargh, 1996; Higgins & Sorrentino, 1990; Kuhl & Beckmann, 1985; Pervin, 1989; Shah & Kruglanski, 2000). The scope of action theoretical formulations is very broad and subsumes a wide range of theories

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of such diverse fields as psychology, sociology, anthropology, biology, philosophy, and economics (for reviews see, e.g., Brandtstädter, 1984; 1998).

Action theory (Bandura, 1982, 1986, 1995; Boesch, 1991; Brandtstädter, 1984; Chapman, 1984; J. Heckhausen, 1997, 1999; J. Heckhausen & Schulz, 1995) emphasizes the importance of both individual action and social-contextual factors in the regulation of development. This metatheoretical orientation is related to life-span theory focussing on ontogenetic and historical contextualism (e.g., Baltes & Graf, 1996; Baltes, Lindenberger, & Staudinger, 1998; Elder, 1994; Lerner, 1991; Magnusson, Winblad, & Nilsson, 1996) which equally emphasizes the balance between an individuals' goals and competence on the one hand and environmental demands and opportunity structures on the other hand. According to both action theory and contextualism individuals exist in contexts that create opportunities for and limitations to individual goal-directed behaviors and development. That is, social contexts constrain and facilitate goal-directed behaviors at the same time that these behaviors affect social contexts. Moreover, development limits and allows goal pursuit, whereas goal pursuit in turn channel and shape development. Therefore, individuals are active producers and the products of their ontogeny (Lerner & Busch-Rossnagel, 1981). However, children's actions and development are in large parts shaped and organized by the social context (e.g., Brandtstädter, 1998).

Content theories of goal striving and self-regulation theories of goal striving have been identified as representing two major categories of theories that are concerned with ideas on goals and goal-directed behavior (Gollwitzer & Moskowitz, 1996). Content theories of goal striving focus on explaining differences in goal-directed behaviors and their consequences in terms of structural or thematic features of goals. Self-regulation theories of goal striving aim to explain the volitional processes that mediate the effects of goals on behavior.

In the following, first, a brief overview of goal content theories is provided. The concept of developmental tasks is highlighted as a source of thematic issues of goals. This concept points to the developmental significance of both peer group acceptance and friendship for children's future development. Moreover, it shows that tasks related to friendship and peer group acceptance are rather difficult and challenging and, thus, issues of self-regulation are

salient. Following this, I introduce some central concepts related to the structure of goal systems and self-regulation theories. It is important to consider the structure of goals in order to understand the relationship between the goals of friendship and peer group acceptance. Then, self-regulation theories of goal striving address the role of perceived control. Finally, the implications of these theoretical approaches for the study of perceived control are summarized.

### 2.1.1 Goal Content Theories of Goal Striving

Goal content theories analyze the effects of differences in goal content on various aspects of goal achievement such as quantity and quality of goal achievement (cf., Dweck; 1991; Locke & Latham, 1990; Wicklund & Gollwitzer, 1982) and on subjective well-being (cf., Deci & Ryan, 1991; Cantor, 1994; Emmons, 1989, 1996; Higgins, Roney, Crowe, & Hymes, 1994; Klinger, 1975; Little, 1983; Markus & Nurius, 1986; Nurmi, 1992). Goal contents may differ in structural features such as representation, importance, and connectedness or complexity (see Austin & Vancouver, 1996, for a review). In terms of thematic content, goals may make reference to life domains such as academic performance and friendship relationship (e.g., Skinner, 1995). Developmental tasks (Erikson, 1959, 1963; Havighurst, 1972) represent a primary source for the themes of goals in different phases of an individual's life.

#### 2.1.1.1 Developmental Tasks as Sources of Thematic Issues of Goals

Why are individuals found to normatively select certain goals at certain times of their lives (e.g., J. Heckhausen, 1999)? The concept of developmental tasks explains this phenomenon by the interaction of biological maturation, sociocultural demands, and individual expectations and values. Developmental tasks are tasks that arise at or about a certain period in the life of the individual (Erikson, 1959, 1963; Havighurst, 1972; Levinson, Darrow, Klein, Levinson, & McKee, 1978; Oerter, 1986). Over the lifespan a person encounters a continuing series of developmental tasks (Baltes, Reese, & Lipsitt, 1980). Several researchers have proposed taxonomies of tasks that individuals typically face at specific life periods over the lifespan (Erikson, 1959, 1963; Havighurst, 1972; Levinson, Darrow, Klein, Levinson, & McKee, 1978; Oerter, 1986). Havighurst (1972) proposed a very

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prominent model, which posits that the way an individual copes with such age-graded tasks influences the individuals' well-being, his or her successes with future developmental tasks, as well as sanctions provided by the society. Consequently, the notion of developmental task represents a growth model of self and personality development (cf., Baltes, Lindenberger, & Staudinger, 1998). During middle childhood and adolescence, social goals such as group play and friendship, among others, are posited to represent developmental tasks (Havighurst, 1972).

Outside of the realm of research on developmental tasks other lines of research agree on the proposition that peer relationships represent important contributors to children's development (e.g., Azmitia, 1988; Cooley, 1902; Hartup, 1996a; Mead, 1934; Piaget, 1932; Sullivan, 1953; for a review see, Rubin et al., 1998). These researchers assume various mechanisms and pathways through which peer relationships positively contribute to children's development. For example, co-constructivist thinkers (e.g., Azmitia, 1988; Azmitia & Montgomery, 1993; Hartup, 1996a) suggest that quality of the relationship may be important for cognitive growth can occur. From this perspective exchanges with friends would be more promotive for cognitive growth than exchanges with nonfriends.

Both longitudinal and cross-sectional data support the proposed developmental significance of group integration showing that low peer group acceptance in childhood is associated with a heightened risk for developmental outcomes such as drop out of school, engagement in criminal activity and mental health problems (for reviews, see Bagwell, Newcomb, & Bukowski., 1995; Kupersmidt, Coie, & Dodge 1990; Parker & Asher, 1987). In a similar vein, participating in friendship relationships has been found to contribute to developmental outcomes such as family relations, self-esteem, and depressive symptoms (for reviews see, Hartup, 1996b; Hartup & Stevens, 1997; Newcomb & Bagwell, 1996; for a review of the social support provided by friends see Berndt & Hestenes, 1996). Specifically, meta-analyses of the literature comparing friends with acquaintances provided support for the notion that friendship relations are supportive contexts for development because friendships are marked by greater reciprocal and intimate properties of affiliation than are relationships with acquaintances (Newcomb & Bagwell, 1995, 1996). However, friendships of low quality

can be the source of problems resulting in negative well-being and health problems (e.g., Rook, 1987, 1992, 1995).

Peer relationships can serve as both a stimulus for developmental tasks and a context for working on goals associated with development. Harry Stack Sullivan's (1953) psychoanalytical approach, for example, proposed a temporal sequence of the emergence of the tasks of group interactions and friendships. Specifically, the author assumes that friendships emerge in the preadolescent period. At these ages, the need for acceptance which is satisfied by participation in general peer group interactions in childhood, shifts to the need for interpersonal intimacy. Specific interpersonal needs are assumed to arise at different stages in development and certain social relationships are best suited for meeting the needs at each age (see also Weiss, 1974 for an analyses of the types of relationship providing specific provisions). Friendships provide the setting for reciprocal validation of self-worth and the emergence of social competencies related to collaborations. Generally, it is proposed that the social skills and competencies requisite for success in social relationships develop within the context of these relationships (Buhrmester & Furman, 1986). Because skills and competence have to be acquired by means of participating in peer relationships, both friendship and group integration may represent rather challenging and nonroutine tasks for children. In line with this assumption, some researchers framed the concept of developmental tasks within the notions of stress and coping (e.g., Silbereisen & Eyferth, 1986; van Lieshout, van Aken, & van Seyen, 1990). These researchers propose that developmental tasks present themselves in a number of problems related to a salient developmental issue. Each of these problems has to be solved and provokes challenging or aversive arousal.

Despite the fact that individuals need not to adopt these age-graded tasks as personal goals (e.g., Oerter, 1986), there is empirical evidence that the proposed age-graded tasks are reflected in the goals that adolescents and adults strive for (e.g., J. Heckhausen, 1999; Nurmi, 1992). With regard to the developmental tasks of friendship and group integration it has been shown that children regard relationship goals as extremely important even if they are not successful in integrating into the peer group (Crick & Dodge, 1994; Taylor & Asher, 1987; cited after Dodge, Asher, & Parkhurst, 1989). As will be described in Section 2.1.1.2

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perceptions of goal importance indicate that individuals have adopted a goal. However, so far no research has addressed the question whether friendless children regard friendship as an important goal. It is conceivable that some children do not adopt friendship as a goal.

The major critique of Havighurst's (1972) model has been that it focuses more on the adaptation of the individual to a given context, than the balance between an individual's needs and competence on the one hand, and environmental demands and opportunity structures on the other hand (Thomae, 1974). Generally, conceptions of developmental tasks have been criticized because they neglect individual differences in ontogeny. Finally, the normative approach of developmental tasks implies that they are influenced by societal, cultural, and historical conditions.

For the present study it is important to note that friendship and group integration (i.e., peer group acceptance) represent two different relevant developmental tasks in middle childhood and preadolescence (e.g., Havighurst, 1972). Moreover, it appears that the task of integrating into the peer group precedes the task of establishing satisfying friendships (Sullivan, 1953). Finally, developmental tasks have been proposed to represent challenging and nonroutine tasks (e.g., Silbereisen & Eyferth, 1986).

### 2.1.1.2 Structural Issues of Goals

Individuals typically have multiple goals. Recognition of this leads to questions about the structure and organization of goals. Why are some more important than others? How are goal conflicts resolved? The dominant conceptualization of the structure of goals, across psychological domains is hierarchical (e.g., Carver & Scheier, 1998; Frese & Zapf, 1994; Miller et al., 1960; Powers, 1973). Such a hierarchy comprises different levels of goal-representation, ranging from subordinate (low level, proximal) goals specifying action plans to superordinate (high level, distal) goals (e.g., Bandura, 1997; Carver & Scheier, 1998; Emmons, 1996; Heckhausen, 1991).

Many of the goals typically studied in personality psychology have been termed "middle-level" units of analysis (Buss & Cantor, 1989; B. R. Little, 1983; for a review, see, e.g., Brunstein & Maier, 1996). They are termed "middle-level" in that they are typically at a middle level of abstraction in a structural hierarchy. On the one hand, they can be concretized

with reference to specific activities and situations. On the other hand, they can be generalized with reference to higher-order themes and meanings in life. As a consequence, selecting and committing oneself to one of these middle-level goals results in selecting a system of lower-level goals related to that goal (Marsiske et al., 1995). The ways of presentation of goals that are central to an individual's life include the constructs of possible selves (Markus & Nurius, 1986; Markus & Ruvolo, 1989), personal strivings (Emmons, 1986; 1989, 1996), personal projects (B. R. Little, 1983), current concerns (Klinger, 1975, 1977), life tasks (Cantor, 1990, 1994), various schemas and scripts (Schank & Abelson, 1977), and self-defining goals (Gollwitzer & Wicklund, 1985; Wicklund & Gollwitzer, 1982). The latter approach to goal concepts pinpoints to the relationships of goals and self definition (e.g., husband, popular person), identity, and self-concept.

It appears that the conceptual differences among these middle-level goals are not present in the mental presentations of the individuals. Findings show that individuals tend to generate similar goals independent of which specific theoretical conceptualization of goals was employed in the study (Omodei & Wearing, 1990). This supports Nurmi's (1992) conceptualization who summarizes goal concepts under the notions of Life Goals (1992), Future-Oriented Goals (e.g., Nurmi, 1991) or, even more general, under the notion of Personal Goals (Nurmi, 1991). Generally, these goals are accessible to conscious awareness, although there is no requirement that a goal be represented in consciousness while a person is in active pursuit of it (e.g., Emmons, 1996; Karoly, 1993; Pervin, 1983). In the present dissertation the developmental tasks of having satisfying friendships and successful integration into the peer group are investigated as potential middle-level goals.

Goal importance is positively related the assumed hierarchicality of the structure of goals (e.g., Carver & Scheier, 1998). Both the number of higher-level goals or needs served by a subgoal (Ford, 1992, King, Richards, & Stemmerich, 1989; Lewin, 1946) and the centrality of a goal to an individual's self-concept (e.g., Schlenker & Weigold, 1989) increase the importance of that goal. Gollwitzer (1993) asserted that goal importance determines subsequent goal commitment. Commitment is indicated by the degree of consistency a person uses opportunities to act on the goal, and the aversiveness of the idea of having to quit the

goal (e.g., Austin & Vancouver, 1996). The proposed relationship between goal importance and goal commitment is empirically supported by findings showing that individuals who endorse that they are committed to goals often also endorse that the goal is important to them (e.g., Emmons, 1996).

Sheldon and Kasser (1994; for a related conceptualization, see Sheldon & Emmons, 1995) propose that the relationships among various subgoals and middle level goals can be characterized by their vertical and horizontal degree of coherence. Vertical coherence refers to the degree to which proximal or subordinate goals serve also more distal or superordinate goals. Horizontal coherence refers to the degree to which attainment of a goal also contributes to, rather than hinders, attainment of goals at the same level. Thus, horizontal degree of coherence refers to the idea that unrelated goals are likely to put strain on limited resources such as time, energy, or money (Schönflug, 1985). Generally, individuals whose goal structures evince a low degree of horizontal coherence are likely to make slower and less efficient progress, overall, towards their goals<sup>1</sup>. As a consequence, two goals that have a rather high horizontal degree of coherence can be assumed to put relatively low demands on resources. The savings of resources may be even more enlarged if attainment of the one goal enhances the attainment of the other goal. However, failing to attain the one goal may negatively affect the attainment of the other. Specifically, in the present dissertation it is investigated how succeeding to and failing to successfully integrate into the peer group affects the pursuit of the goal of having friendships. These issues will be further considered below in Section 2.4.3.

### 2.1.2 Self-regulation Theories of Goal Striving

The terms self regulation and action regulation are often used synonymously because both refer to goal-related behavioral regulation. Action regulation refers to how people mobilize, guide, manage, energize, and direct their behavior, emotion, and orientation, or how they fail to do so (Kopp, 1982; Skinner, 1995; Skinner & Wellborn, 1994). Thus, action regulation or self regulation refers to the capacity of human beings to influence, modify, and

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<sup>1</sup> The limited nature of resources represents the aspect that is mostly emphasized in various lines of research on life-span development (e.g., Freund et al., 1999; Hobfoll, 1998; Marsiske et al., 1995).



control their own behavior and, consequently, remove it from the direct effects of immediate, situational stimuli (Baumeister & Heatherton, 1996).

Goals are the starting point of the willful control of action. Individuals act to transform situations in accordance with personal representations of desired future states (i.e., goal representations). Action-theoretical approaches converge in the idea that speaking of action implies that the observed behavior has been chosen by the individual in service of some personal goals or as expressing personal attitudes and values (e.g., Bandura, 1982; Boesch, 1991; Brandtstädter, 1998). Behaviors that are beyond personal control, such as physiological reflexes, emotional reactions, and all forms of inadvertent or erroneous behaviors are not qualified as actions. In other words, actions are at least partly under personal control, and have been selected from alternative options. Thereby, personal control refers to the extent to which an agent can intentionally produce desired outcomes and prevent undesired outcomes (e.g., Skinner, 1995, 1996; Skinner et al., 1988b).

The same action can serve different goals. This is related to the dominant conceptualization of the structure of goals as hierarchical<sup>2</sup> (e.g., Miller et al., 1960; Powers, 1973). Acting on a lower-level subgoal can serve the attainment of several higher-order goals (multifinality, Shah & Kruglanski, 2000). Moreover, different actions or action pathways can serve the same goal (equifinality; Kruglanski, 1996). Both multifinality and equifinality are related to the structural issues of vertical and horizontal coherence of goal hierarchies (see Section 2.1.1.2). Moreover, while some effects of an action may be intended others may be simply tolerated or even remain unnoticed (polyvalence of actions, see Boesch, 1991; Brandtstädter, 1998). As a consequence, the ways in which individuals perceive the effects of their actions may differ from the interpretations of external observers. Such differences in interpretations of action may be enhanced if an individual's social reputation leads to perceptual biases of the social context. Each of these issues will be taken up again when considering the effects of peer group status on children's action in friendship relationships in Section 2.4.3.

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<sup>2</sup> As a consequence of the hierarchical representation of goals there is the issue of level of composition and analytical decomposition of action units. This is a perpetual problem of action psychology. Each action unit can be decomposed into smaller action units (i.e., means or causes), and at the same time, each action unit can be conceptualized as contributing to a larger action unit (i.e., higher-level goal).

Action planning, action regulation, and action outcomes are seen as an integrated ensemble of goal pursuit (e.g., Bandura, 1997; Flammer, 1990; Rotter, 1966; Skinner, 1995; Skinner et al., 1988b). There are manifold problems of goal pursuit, as they pertain to initiating goal-directed actions and bringing them to a successful ending. To solve these problems the individual has to seize good opportunities to act, ward off distractions, flexibly step up efforts in the face of difficulties, bypass obstacles, compensate for failures and shortcomings, and negotiate conflicts between goals (e.g., Bandura, 1997; Carver & Scheier, 1998; Freund, Li, & Baltes, 1999; Gollwitzer & Moskowitz, 1996).

Theoretical approaches of action regulation analyze how individuals effectively solve these problems of goal implementation. In the next sections, I outline two approaches: Expectancy value theories and process models. Expectancy-value theories are concerned with the choice of action goals. Process models of action control emphasize goal-related behavioral regulation. These two approaches exemplify the fact that the analytic focus of most theories of action regulation is restricted to only on one of the problems of goal implementation. Each of these theoretical models proposes general principles that apply to the implementation of all goals despite differences in context. Furthermore, the two theories presented focus on general processes of successful goal pursuit. They do not focus on differential effects of interindividual differences in competence, perceived control, as well as contextual differences.

### 2.1.2.1 Expectancy-value Theories

Expectancy-value theories (Atkinson, 1964; Brehm & Self, 1989; Fishbein & Ajzen, 1975; Rotter, 1986; Vroom, 1964) mainly focus on goal selection and intention formation. These various formulations all assume that strength of motivation is governed joint by the expectation that particular actions will produce specified outcomes (i.e., outcome expectancy which represents one facet of perceived control, see below), and the attractiveness or value of those outcomes. Expectancy-value theories differ mainly in what additional determinants<sup>1</sup> are combined with the outcome expectancy and the outcome value. Expectancy-value theory

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<sup>1</sup> Atkinson (1964) adds an achievement motive; Rotter (1966) adds a generalized expectancy that actions control outcomes (i.e., locus of control); Vroom (1964) adds the belief that the behavior is achievable through effort; Ajzen and Fishbein (1975) add perceived social pressures to perform the behavior and proneness to compliance.

predicts that the higher the expectancy that certain actions secure specific outcomes and the more highly those outcomes are valued, the greater is the motivation to perform the action. The findings generally show that expectations obtained by adding or multiplying these cognitive factors predict performance motivation (e.g., Feather, 1982). Importantly, expectancy-value approaches assume that the same determinants also account for persistence and effort<sup>4</sup> when pursuing goal-related actions.

Brehm's (Brehm & Self, 1989; Wortman & Brehm, 1975; Wright & Brehm, 1989) energization theory of motivation proposes that an individual's readiness to step up effort is directly determined by the perceived difficulty of the specific task. These assumptions are based on the Difficulty Law of Motivation (Hillgruber, 1912) which posits that individuals invest more effort in a task if their ability assessment indicates that successful completion of the task is questionable. As in typical expectancy-value models of motivation, Brehm assumes that the product of value and outcome expectation represents the "potential motivation" which sets the limit to which an individual is willing to expend effort in response to perceived task difficulty. When the level of potential motivation is low, people do not find it worthwhile to extend more effort when an easy task becomes more difficult. In contrast, if potential motivation is high, an increase in difficulty results in higher investments of effort and this responsiveness holds up to high levels of difficulty (for a review of findings supporting these assumptions, see Brehm & Self, 1989). Wortman and Brehm (1975) suggested that responses to repeated failures need to be seen from a time course perspective. Individuals may fight back in the face of initial failures in a reactive attempt to reestablish control. It is only when failure experiences keep piling up that people are expected to give up and become helpless.

The major critique that confront these models is that the postulated judgmental processes do not reflect how individuals actually go about appraising and weighing the probable consequences of alternative courses of action (see, e.g., Bandura, 1997; Flammer, 1990 for reviews).

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<sup>4</sup> Effort refers to the quality and persistence to the quantity of goal-directed exertion (Berry & West, 1993).

### 2.1.2.2 Process Models of Action Regulation

Models of action regulation or self regulation are based on the Test-Operate-Test-Exit unit (TOTE unit) proposed by Mille et al. (1960). Thus, the models assume that action regulation is comprised of different functional components (for reviews see, e.g., Austin & Vancouver, 1996; Bandura, 1997; Brandtstädter, 1998; Karoly, 1993). Most models of self-regulation differentiate four phases or component processes (e.g., Bandura, 1986; 1997; Gollwitzer, 1990; Heckhausen, 1991; Carver & Scheier, 1998; 2000; for the social domain see, Crick & Dodge, 1994; Dodge, 1986; Rubin & Krasnor, 1986). In a first phase, processes of self-observation and self-evaluation emerge, in which the convergence or divergence of an actual and a desired state or situation is monitored. The second phase encompasses predecisional or preparatory processes, which involve the weighing of alternative options, selection of goals, and the elaboration of plans for goal implementation. In the third phase, behaviors for goal attainment are executed. As a fourth component process, the efficiency of actions is assessed with respect to intended outcomes. In this phase of action evaluation beliefs of personal control are evaluated with regard to their veridicality, and if necessary they are adjusted. The phases of action regulation are partly intertwined. In complex, nonroutine tasks, preparatory and executive phases may comprise intermediate action cycles, each of which involves the whole range of processes distinguished above (e.g., Brandtstädter, 1998; Carver & Scheier, 1998).

Typically, models of action regulation assume a negative feedback loop in which observed deviations from a present goal activate corrective measures designed to counteract the discrepancy (see Carver & Scheier, 2000; Miller et al., 1960; Powers, 1973). The pursued goal represents the reference value or standard of comparison (e.g., Bandura, 1986; Carver & Scheier, 1998, 2000; Kanfer & Hagerman, 1981; Miller et al., 1960; Powers, 1973). Typically, perceived control is posited as a major determinant of decisions whether (a) to engage in efforts to reduce the experiences discrepancy, (b) to use additional resources such as others' help, (c) to employ alternative approaches, or (d) to disengage from further effort and potentially to disengage from the goal itself (e.g., Bandura, 1986; Carver & Scheier, 1998, 2000). In addition to currently perceived discrepancies from a desired goal also anticipated

discrepancies can lead to corrective behaviors (Brandstädter, 1998; see also Aspinwall & Taylor, 1997).

Generally, there are two types of self-regulation theories of goal striving which attempt to explain the volitional processes that mediate the effects of goals on behavior. The first type of self-regulation theory is more cognitive (e.g., Bandura, 1989, 1991, 1997; Carver & Scheier, 1981, 1998) while the second type is more motivational (e.g., Heckhausen & Gollwitzer, 1987; Gollwitzer, 1990; Heckhausen, 1991; Skinner, 1995). In a more cognitive view, a goal is conceived as solely specifying a performance standard and specific mechanisms involving affect are posited to energize goal pursuit. For example, Bandura (e.g., 1989, 1991, 1997) posits that the individual is pushed by the negative self-evaluation associated with the discrepancy between a status quo and the goal and the individual is pulled by the anticipated positive self-evaluation that is intrinsically linked to closing the gap between the status quo and the goal. Individuals are expected to reduce the experienced discrepancy only when they feel self-efficacious with respect to the required actions. In contrast, a central feature of a motivational goal theories is that goals are cognitively explicated and needs elaborated (Nuttin, 1980). Thus, a goal is conceived as attractive (i.e., a positive incentive) because it corresponds to some vital need. Based on Brehm's (Brehm & Self, 1989) theorizing, it is assumed that the goal pulls the individual in the direction of goal attainment.

Self-regulation theory of action phases (Gollwitzer, 1990; Heckhausen, 1991; Heckhausen & Gollwitzer, 1987) represents a prototypical motivational model. The action phase model was designed to explicate the differences between the motivational issue of goal choice and the volitional issue of goal implementation. The model posits that in the first phase a goal has to be chosen among other competing possible wishes and goals that are produced by an individual's motives and needs. The selection of action goals is deliberated according to the assumptions of expectancy-value models (e.g., Atkinson, 1964). This phase, for example, is characterized by rather realistic assessments of perceived control because it is important that the selected goals can be realized (Taylor & Gollwitzer, 1995). In contrast, the phases concerned with the initiation and successful execution of goal-directed action are characterized by illusory high perceptions of control (Gollwitzer & Kinney, 1989; Taylor &

Gollwitzer, 1995) promoting goal attainment. As a consequence, individuals' perceptions of control in the domain of selected middle-level goals may be positively biased.

Moreover, this theoretical approach on action regulation highlights the role of commitment on processes of action initiation and implementation. Difficulties in goal pursuit are assumed to lead to increased efforts and performance only if the individual is committed to them. Consequently, goal importance and commitment moderate the relationship between goal difficulty and effort exertion (see also, Carver & Scheier, 1998, 2000; Locke & Latham, 1990). A meta-analysis conducted by Donovan and Radosevich (1998) provided evidence for the moderating role of goal commitment on the relationship between goal difficulty and performance. When engendering difficulties during goal pursuit individuals' motivation is enhanced by reactively heightened commitment to personal goals (Heise, Gerjets, & Westermann, 1997; Wofford, Goodwin, & Premack, 1992).

Process models on action regulation converge on the idea that if individuals doubt that a goal is in the range of their control they disengage from further effort and potentially disengage from the goal itself (e.g., Bandura, 1997; Carver & Scheier, 1998, 2000). As a consequence, individuals may restructure their goal hierarchies and may lower the importance of a specific goal (e.g., Brandtstädter & Rothermund, 1994; Freund & Baltes, 2000; J. Heckhausen & Schulz, 1995). In contrast, if individuals continue to value goals that cannot be attained their well-being is negatively affected (e.g., Bandura 1982, 1997; Carver & Scheier, 1998; 2000; for empirical evidence of the moderating role of goal commitment on the relationship between perceived control and well-being, see Brunstein, 1993). The importance of valuing goals which are perceived to be in the range of personal control is empirically supported by a strong and positive correlation between its measures (e.g., Emmons, 1996; Wofford et al., 1992).

Finally, Kuhl's (1983) theory of action control mainly focuses on volitional processes to shield goal pursuit from distractions and competing goal intentions (Heise, 1998; for reviews, see, e.g., Kuhl & Beckmann, 1994). The theory distinguishes a number of different mental strategies (e.g., attention control, emotion control), which are assumed to effectively shield a person's ongoing goal pursuit from distractions stemming from potential alternative pursuits.

Action-oriented individuals are found to use these strategies more effectively than state-oriented individuals, as the latter tend to become wrapped up in ruminative thoughts about past failures and desired successes or in the deliberation of a decision. It appears that individuals with low perceptions of control are more likely to be state-oriented while individuals with high perceptions of control are more likely to be action-oriented (Kuhl, 1983).

### 2.1.3 Summary

Both goal selection and goal pursuit determine an individual's development. However, developmental progress both limits and facilitates goal pursuit (e.g., Baltes, 1987). Moreover, social contexts create opportunities for and place limitations on individual goal-directed behaviors and development. In turn, the individual's goal-directed behaviors affect social contexts. In line with these assumptions, the concept of developmental tasks explains why individuals normatively select certain goals at certain times of their lives by the interaction of biological maturation, sociocultural demands, and individual expectations and values. Havighurst's (1972) prominent model posits that in middle childhood social goals such as group play (peer group acceptance) and friendship represent developmental tasks. Empirical findings, generally, provide support for the theoretical assumption that the way children cope with these age-graded tasks influences their well-being and their development. Sullivan (1953) posits a temporal sequence of peer relationships tasks with peer group interaction preceding friendship tasks. Although not all children focus explicitly on these age-graded tasks, they have been found to regard relationship goals as extremely important, even if they have failed to successfully integrate into the peer group. However, it is an open question whether friendless children perceive friendship goals as important or not. The literature on goals highlights the importance of the structure and organization of personal goals. Goals higher in the hierarchy are the most salient.

The assumption that solving developmental tasks such as friendships are related to challenges and difficulties in goal pursuit is important for the present study because it points to the usefulness of investigating perceived control and action regulation in the domain of friendships. Process models of action regulation posit that perceived control is most important

when difficulties arise in goal pursuit and after failure experiences. Action regulation or self regulation refers to the capacity of human beings to influence, modify, and control their own behavior and, consequently, remove it from the direct effects of immediate, situational stimuli (Baumeister & Heatherton, 1996). Actions are defined as goal-directed and intentional behaviors consisting of a number of sequential components that are carried out in social and cultural contexts (Skinner, 1999; Skinner et al., 1988b; see also Skinner & Chapman, 1984). The theories of action regulation differ in their focus, proposed mechanisms, and, relatedly, in the proposed functioning of perceived control. However, based on these theoretical approaches, it can be assumed that each of the motivational and volitional components of actions are influenced by perceived control.

Process models of action regulation posit that when difficulties arise and after failure experiences, perceptions of control are assessed in order to decide whether goal pursuit should be continued and what kind of alternative action means or strategies are available and useful for goal attainment. In order to cope with difficulties in goal pursuit individuals increase their efforts and persistence and, possibly, use alternative action means such as others' help.

Individuals with high perceived control tend to be action-oriented while individuals with low perceived control tend to be state-oriented. Action-oriented individuals can concentrate their cognitive capacities on goal pursuit while state-oriented individuals' cognitive capacities are used up with ruminative thoughts.

In addition to perceived control, goal importance is posited to determine whether an individual decides to increase efforts or to give up when difficulties in goal pursuit arise. The importance of goals is positively related to the hierarchical structure of goal representations. Importantly, process models of action regulation converge on the idea that if individuals have low perceptions of personal control they may restructure their goal hierarchies and lower the importance of the specific goal. The assumption that individuals adjust the importance of goals based on their perceived control is further discussed under the notion of accommodative processes in Section 2.3.1.1.

In sum: This short review of the central concepts of goal content and goal pursuit suggests an issue relevant to the present study of children's perceived control about



friendship. Theories of goal striving and the literature on peer relationships propose two alternative explanations of children's failure to establish satisfying and mutual friendships. These explanations are based on the premise that, in addition to perceived control, goal importance determines whether efforts are invested in goal pursuit (e.g., Atkinson, 1964). Given this, friendless children may regard friendships as unimportant. Generally, there are two possible reasons why friendless children may regard friendships to be unimportant. This could occur because they may not have adopted having friendships as a personal goal. Alternatively, friendless children may have reactively decreased the importance of this goal because they feel low in control to obtain it. However, abandoning friendship goals may be difficult for these children because alternative goal options are restricted in childhood (see Section 2.3.1.1). Moreover, as described in Section 2.3.1.2, assimilative strategies such as re-scaling the importance of goals develop late in middle childhood. Due to the cross-sectional design of the present study it will not be possible to disentangle this issue, but it will be important to keep in mind in the interpretation of findings. Having clarified this issue, I now move on to examine in detail the notion of control and how it is related to objective life conditions.

## **2.2 Perceived Control and Objective Control Conditions**

In general, perceived control refers to a whole set of beliefs about how effective the self can be in producing desired and preventing undesired outcomes. Major approaches of subjective perceptions of control (for reviews, see, e.g., Bandura, 1997; Ford, 1992; Rodin, 1990; Skinner, 1995; 1996; Skinner et al., 1998) represent attribution theory (Weiner, 1972; Weiner et al., 1971), learned helplessness (Abramson, Seligman, & Teasdale, 1978; Seligman, 1975), locus of control (Rotter, 1966), self-efficacy (Bandura, 1977), and perceived competence (Harter, 1982; Harter & Pike, 1984). More recently, multi-dimensional conceptions of perceived control attempted to differentiate and integrate assumptions of these major theories, preserving their unique constructs while at the same time combining them within an integrative framework (for a review, see Skinner, 1995). In this regard, a central issue is the distinction between beliefs about the causal structure and contingencies (which were central to theories of locus of control and attributional theories) and beliefs about the self's competences (which were central to theories of self-efficacy, and perceived

competence) (for an overview, see, e.g., Bandura, 1997; Skinner, 1995; 1996; see also Ford, 1992).

In the present dissertation a multi-dimensional conceptualization of perceived control based on action theory is employed as a theoretical framework (e.g., Boesch, 1976, 1991; Brandtstädter, 1984; 1998; Chapman, 1984; Frese & Sabini, 1985; Heckhausen, 1991; Miller et al., 1960; Powers, 1973; Skinner, 1995; Skinner, 1996; Skinner et al., 1988b). This model is most useful for the present research because of its emphasis on life-span psychology (e.g., Baltes et al., 1998). The action-theory model of psychological control encompasses developmental aspects of perceived control (Skinner, 1991, 1992, 1995; Skinner et al., 1998).

### 2.2.1 An Action-Theory Model of Psychological Control as a Theoretical Framework

Skinner and her colleagues (e.g., Skinner, 1995, 1996; Skinner et al., 1988b) conceptualize perceived control as the subjective interpretations of objective control conditions. Objective control conditions refer to the amount of control actually available in a situation. In line with metatheoretical assumptions of both contextualism (Baltes & Graf, 1996) and action theory (e.g., Brandtstädter, 1998) positing that individuals exist in contexts that create opportunities for and limitations to individual goal-directed behaviors, it is proposed that objective control conditions are comprised of aspects referring to the individual and the context (see also, Weisz, 1983). Both the contingencies provided in the social and physical world and the competence of the children to operate them determine the objective control conditions for actions (Skinner, 1995, 1996; Weisz, 1983). Thereby, noncontingency or response-outcome independence (Seligman, 1975, see also Abramson & Alloy, 1980) represents one kind of uncontrollability. Lack of competence represents the other kind of uncontrollability. Low control is characterized either by low contingencies or low competencies or both because failure of goal attainment is likely (e.g., Skinner, 1995, 1996).

#### 2.2.1.1 Constituents of Objective Control Conditions: Contingency and Competence

In general, contingency refers to the connection between action and outcomes. When an event quickly, consistently, and discriminatively follows an action, the event is contingent on the action. When an event is just as likely to occur without the action present as when it is present, then the event is independent of, or noncontingently related to, the action (Seligman,

1975). (Non)Contingency or response-outcome (in)dependence can also be described as the responsiveness of the context to a person's actions. According to this definition contingency does not refer to the appropriateness of the social context's reactions but only to the consistency (Krampen, 1989; Skinner, 1995). However, for the development of a sense of psychological control, the onset of desired or the offset of undesired events must necessarily be contingent on the child's behavior (e.g., Little & Lopez, 1995; Skinner, 1986, 1991, 1995). In the present dissertation the concept of contingency<sup>5</sup> will be used to refer to both consistency and appropriateness of the social context's responses. This usage of the term contingency is supported by findings showing that children (ages 8 - 13) did not differentiate between the appropriateness and consistency of their teachers behaviors and reactions (Skinner et al., 1998), although observational studies indicate that these two aspects can objectively separated in adult-child interactions (e.g., Skinner, 1986).

Generally, the physical and social contexts provide opportunities and constraints to act which influence the amount of contingencies that are available. Physical laws, chance, and socio-historical conditions represent examples for sources of contingencies which are not under direct control of one individual. However, often persons are the source of contingencies in a context. This is, especially, salient in the domain of peer relations because the behavior of a peer is the target of the outcome. The social partner's responses may be biased by social norms (see also Brandtstädter, 1998). This assumption is supported by findings showing that in childhood and adolescence specific types of behaviors (e.g., aggression, withdrawal, solitary play) are more negatively linked to peer group acceptance when high levels of these behaviors violated peer group norms while they are unrelated to peer group acceptance when high levels of these behaviors were normative (J. C. Wright, Giammarino, & Parad, 1986; Boivin, Dodge, & Coie, 1995).

There is no general agreement in the literature about the definition of competence (for reviews of the various definitions of social competence, see Dodge, Kupersmidt, & Parkhurst, 1990; Rubin et al., 1998). Within the framework of the action theory model, competence is

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<sup>5</sup> By means of this usage of the term contingency it resembles the concept of sensitivity (e.g., Skinner, 1995) which refers to both the consistency and appropriateness of the social context's reactions.

referred to “as the capacity of the individual to produce actions that are required to operate contingencies in the social and physical environment” (Skinner, 1995, p. 52).

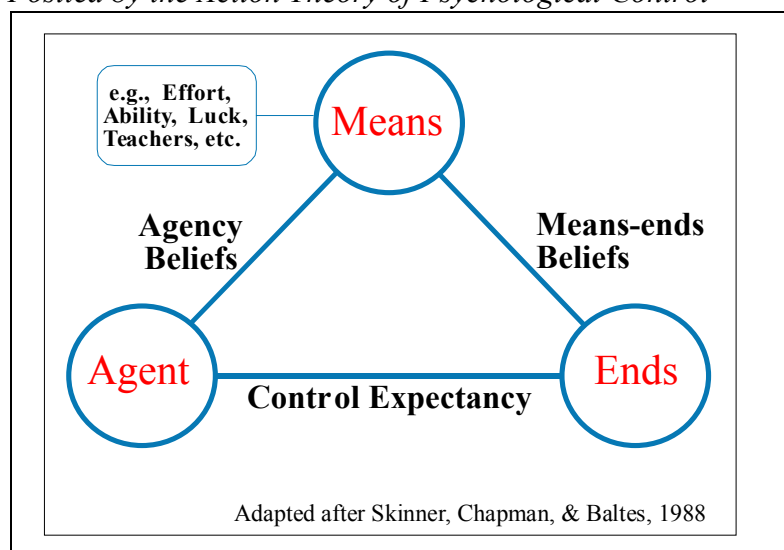
#### 2.2.1.2 Perceived Control: Interpretations of Contingency and Competence

In addition to the basic distinction between objective control and perceived control, the action-theory model of psychological control differentiates among three basic constituents of action: (a) agents referring to the individuals or groups exerting control, (b) means or causes referring to the pathways through which control is exerted, and (c) goal-related ends or outcomes (see Figure 2). Beliefs about control reflect the system of relations among agent, means, and ends. The system of relations among these constituents of action is conceptualized in a three-fold manner (see Figure 2).

First, the link between the agent and the goal is termed “control expectancy” and reflects the agent’s perception of whether or not s/he can attain the outcome, without specific reference to any means. Second, the link between the means and an outcome is termed “means-ends beliefs” and reflects the agent’s perception of the utility of a specific means or cause to attain a positive outcome and avoid a negative outcome (also called causality beliefs; Oettingen, Little, Lindenberger, & Baltes, 1994). Hence, means-ends beliefs reflect children’s perceptions whether an outcome is contingent on a specific means.

Thirdly, the link between the agent, a specific means, and the outcome is termed “agency beliefs” and reflects the agent’s perception of his or her access to an outcome-relevant means or resource. Thus, agency beliefs refers to the children’s perceptions whether they have the competence necessary to operate the contingencies in the environment.

Figure 2  
*A Schematic Representation of the Three Sets of Beliefs  
 Posited by the Action Theory of Psychological Control*



Parallel to objective control conditions, both the perceived contingencies provided in the social and physical world (i.e., means-ends beliefs) and the perceived competence to operate them (i.e., agency beliefs)<sup>6</sup> determine the subjective control of actions. In other words, a sense of control includes a view of the self as competent and a view of the world as structured and responsive (see also, Bandura, 1977; Ford, 1992; Gurin & Brim, 1984; Weisz, 1986).

### 2.2.1.3 Reciprocal Relationships among Perceived Control, Action, and Action Outcomes

The action theory model of psychological control posits that the primary mechanism by which perceived control influences outcomes is through its effects on action and action regulation. As a consequence, some researchers subsume perceptions of control under the notion “action-control beliefs” (e.g., Little, 1998). Another mechanism, not considered in the present study, by which perceived control influences outcomes is through its effects on the endocrine and immune system functioning (e.g., Rodin, 1986). In line with the above outlined assumptions of process models of action regulation, the action-theory model of psychological control proposes that perceived control influences the motivational and volitional components

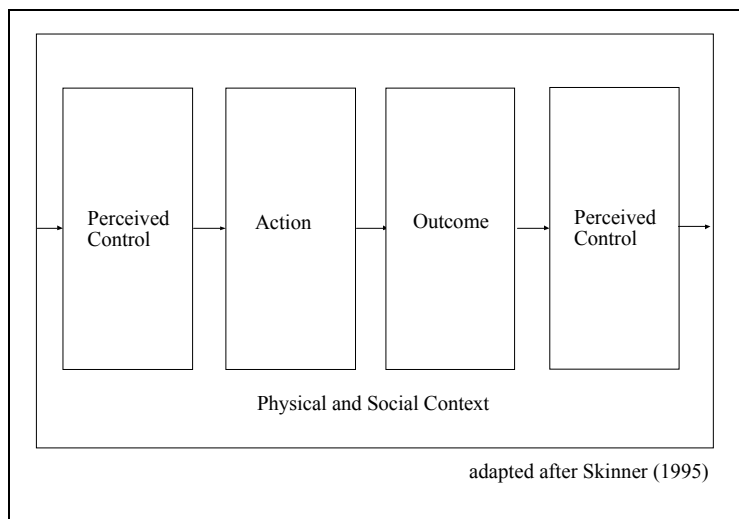
<sup>6</sup> These two sets of beliefs are sometimes referred to, respectively, as contingency and competence (Weisz, 1986; Weisz & Stipek, 1982), strategy and capacity (Wellborn, Connell, & Skinner, 1989), or means-ends and agency (Little et al., 1995), response-outcome expectancy and self-efficacy (e.g., Bandura, 1977, 1982, 1998), context and capability (e.g., Ford, 1992), universal and personal helplessness (Abramson, Seligman, & Teasdale, 1978), system responsiveness and system responsiveness (Gurin & Brim, 1984), and pathway and agentic thoughts (Snyder, Cheavens, & Sympson, 1997) (see Bandura, 1998; Ford, 1992; Skinner, 1996; Skinner et al., 1988b; for reviews).

of action. Thus, perceived control is most closely related to the part of action outcomes that is due to effort and persistence, and not to the part due to competence. As a consequence, perceived control explains why individuals show performances that are (or are not) at their ceiling of their own competencies. Consequently, the predictive power of perceived control is not due to actual competence. However, primary determinants of level of accomplishment, in addition to effort and persistence, are both actual competence and actual contingencies provided by the social and physical context.

As depicted in Figure 3, the relationships among perceived control, action, and action outcomes are posited to be reciprocal. Empirical findings provide evidence for the assumed cyclic relationships among perceived control, actions, and action outcomes in adulthood (Lachman, 1986) and in middle childhood (Schmitz & Skinner, 1993; Skinner et al., 1998; Stipek, 1980), although only in the life domains of cognitive performance and academic achievement. In line with assumptions of process theories of action regulation the action-theory model of psychological control proposes that when encountering difficulties and initial failures individuals with high control are action-oriented, increase their efforts, persist and may use alternative action means. In contrast, individuals with low control are state-oriented and wrapped up with ruminative thoughts and soon give up when encountering difficulties during goal pursuit. As a consequence, individuals with high perceived control are more likely to attain positive outcomes. In addition, because action evaluation is biased by initially existing beliefs of personal control (for a review, see Bandura, 1997), they are more likely to interpret them in ways that strengthen perceptions of control. In contrast, individuals with low perceived control are more likely to fail. In addition, they are less likely to interpret action outcomes in ways that strengthen perceptions of control. Over time, this pattern of differential experiences produce relative stability of perceived control and may even result in magnification of initial differences in perceived control. Importantly, this self-perpetuating cycle of perceived control and actions is assumed to work if actual competence and responsiveness of the environment would allow success outcomes. Finally, over time these differences in experiences may also affect actual competencies because exerting action is

posited by many theories to lead to the development of competence and understanding (e.g., Freund et al., 1999; Hartup, 1983; Piaget, 1932).

Figure 3  
*Reciprocal Relationships among Perceived Control, Action, and Action Outcomes*



Based on the outlined theoretical assumptions the Control, Agency, and Means-ends interview (CAMI, Skinner et al., 1988b; see also Little, Oettingen, & Baltes, 1995) was developed for the domain of academic performance<sup>7</sup>. This instrument is extensively validated in the academic domain using childhood and adolescent samples across various cultural context (e.g., Little et al., 1995; Little, Oettingen, Stetsenko, & Baltes, 1995). More recently, the Multi-dimensional Control, Agency, and Means-ends beliefs Inventory (Multi-CAM, Little & Wanner, 1997) was developed to assess children's and adolescents' perceived control in the domain of friendship<sup>8</sup>. A more detailed presentation of this instrument is provided in Section 3.3.1. Two studies (Lopez & Little, 1996; Wanner, 1995) provided initial evidence for the internal and external validity of the instrument. In the present study this instrument is used to assess children's control-related beliefs in the domain of friendship.

#### 2.2.1.4 Domain-specificity of Perceived Control: Evidence in the Domain of Peer Relationships

Empirical research has documented that across childhood the life domains of school, peers, sports, and family emerge (Harter, 1982). Life domains differ with regard to objective

<sup>7</sup> When the instrument was introduced it also encompassed children's perceived control in the domain of friendship (see, Skinner et al., 1988b). With the exception of some initial studies (Skinner, 1990a, 1990b; Skinner et al, 1988a) where children's beliefs across both domains were assessed, the majority of the studies only assessed children's perceived control about academic performance.

<sup>8</sup> The Multi-CAM instrument can be easily adapted to various domains of functioning.

control conditions. As a consequence, it has been found that the best predictors of behavior in a specific life domain are perceptions from the corresponding domain (Chapman, Skinner, & Baltes, 1990; Connell, 1985; Marsh, 1984; Skinner, 1990b). In general, the predictive precision of children's beliefs is dependent on the degree of isomorphism between the assessed beliefs and the performance measures (Berry & West, 1993). Consequently, the predictive power of beliefs that are tied to a specific domain (e.g., friendship or academic performance) is stronger compared to (a) beliefs not tied to a specific domain or (b) beliefs tied to a different domain. In the domain of peer relations both a cross-sectional study (Dahlquist & Ottinger, 1983) and three-year longitudinal study (Burton & Krantz, 1992) showed that domain-specific measures of locus of control were generally more highly correlated with measures of peer-group acceptance than a measure assessing general locus of control in middle childhood (Nowicki Strickland Locus of Control Scale for Children, Nowicki & Strickland, 1973). Moreover, cross-sectional findings in the social domain supported that domain-specific locus of control was generally stronger related to various positive and negative sociometric peer nominations (Dahlquist & Ottinger, 1983) and various indicators of social skills (Lefcourt, Martin, Fick, & Saleh, 1985) than measures assessing locus of control in the academic domain (Intellectual Achievement Responsibility Questionnaire, Crandall, Katkovsky, & Crandall, 1965).

In sum, empirical evidence supports proposals that perceived control varies across domains and that, consequently, domain-specific measures of control are superior in predicting outcomes in the peer-relationship domain compared to measures of control not specifically tied to this domain or tied to another domain.

#### 2.2.1.5 Adapting the Model for the Domain of Friendship: Identifying Relevant Action Means and Ends

As depicted in Figure 2, the action-theory model distinguishes goals versus subgoals or ends versus means. The subgoals stand in an "order to" or "means-ends" relationship with the more superordinate goals (see Austin & Vancouver, 1996; for a review). Consequently, the hierarchical representation of goals and action units is pivotal for the model. Means-ends relationships imply that a means is relevant for attaining a specific goal. As a consequence,



subgoals or action means are also often referred to as causes or as resources that are useful for positive action outcomes. A resource is any characteristic of a person that facilitates desirable states, events, or outcomes. For example, Diener and Fujita (1995, p. 926) defined resources broadly as the “material, social, or personal characteristics a person possesses that he or she can use to make progress toward his or her personal goals.” As a consequence, means and resources include, in addition to behavioral responses, other categories of means such as attributes, powerful others, or even random factors such as luck.

As summarized in Table 1, based on the literature on achievement motivation (for reviews see, Skinner, 1985, 1986, 1991, 1992, 1995, 1996) Skinner et al. (1988b) decided to include the following causal categories in the CAMI: An individual’s own responses or efforts, ability, powerful others, chance or luck<sup>9</sup>. In the present dissertation, the means effort, ability, and personal attributes, luck, parents as powerful others, and teachers as powerful others<sup>10</sup> are considered to represent potentially useful means for the domain of friendship. On a descriptive level, some evidence of the usefulness of these action means is provided by a study (Sobol & Earn, 1985) investigating children’s spontaneous attributions of success and failure outcomes in the domain of peer relationship.

Table 1 depicts children’s outcome attributions and their correspondence to the action means employed in the present study. Children spontaneously attribute social success and failure outcomes to the causes effort, luck, mood, other’s motives, third party intervention, behavioral sociability, other’s assessment of self, personality interaction, and personality.

It appears that luck and mood are related causes. Specifically, Goetz and Dweck (1980) report that luck or chance was always mentioned in conjunction with mood rather than on a more abstract level. It is speculated that the cause “other’s motives”, similarly to mood, corresponds to luck as a personally available means. The cause “third party intervention” appears to match to “powerful others” as a cause. Teachers and parents are identified as potentially important providers of help in the domain of friendship in middle childhood (see Section 2.3.5 for further considerations of this issue). Ability may represent the underlying

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<sup>9</sup> In addition, in the original framework the causal category unknown source of control (Connell, 1985) was included which is not considered in the present study.

<sup>10</sup>The Multi-CAM for Friendship, in addition, assesses beliefs about the means unknown causes, domain knowledge, friends, and peers as powerful others.

cause of behavioral sociability. Notably, children have not been found to spontaneously attribute social outcomes to this means (Sobol & Earn, 1985). However, younger children do not differentiate between effort and ability and, consequently, may not attribute social outcomes to this cause. In contrast, older children and adolescents differentiate between effort and ability and, consequently, it may be important to investigate age-related differences of the effects of beliefs about ability. The causes “other’s assessment of self”, “personality interaction”, and “personality” suggest that personal attributes such as “being nice” or “likable” may be important for the social domain.

Table 1

*Relevant Causal Dimensions in the Domains of Academic Achievement and Friendship*

<i>Friendship Domain</i>	<i>School Domain</i> (Skinner, 1995; Skinner et al., 1988b)	<i>Social Domain:</i> Spontaneous Attributions (Sobol & Earn, 1985)	<i>Locus of Causation</i>
personal attributes: being nice, likeable, and prosocial		assessment of self personality interaction personality	internal self-related
effort	effort	effort	
ability	ability	behavioral sociability	
luck	luck	luck (mood) (other’s motives?)	external
powerful others: parents and teachers	powerful others: teachers	third party intervention	

In the Multi-CAM instrument (Little & Wanner, 1997), each agency and means-ends belief for the various means are defined for the goals making friends, keeping friends, and getting your friend to play with you. Each of these goals is assumed to be a critical and representative goal pursued at different phases of friendships. For example, it has been found that “My friend played with someone else but did not include me” was the most often retrospectively self-reported peer conflict in a two-week time period in childhood (Gamble & Rossman, 1989, as cited in Gamble, 1994). Although, not explicitly assessed, these goals are assumed to serve the middle-level goal of having high-quality friendships<sup>11</sup>.

<sup>11</sup> Consequently, in the Multi-CAM instrument (Little & Wanner, 1997) implicitly an additional, higher-level layer of goals is added to the goal hierarchy.

### 2.2.1.6 Comparing the Control Expectancy and Perceptions of Goal Difficulty

The control expectancy is theoretically most similar to self-efficacy expectations (e.g., Bandura, 1977). Empirical findings have shown that the control expectancy<sup>12</sup> is highly related to self-related agency beliefs (i.e., agency beliefs for effort and ability) (see for the academic domain, e.g., Chapman et al., 1990; Oettingen et al., 1994; see for the social domain, Wanner, 1995). Moreover, in the academic domain it has been shown that the control expectancy did not explain additional variance in action outcomes when agency beliefs have been controlled (Oettingen et al., 1994). As a consequence, in the present study, for reasons of parsimony, the control expectancy is not employed as a measure of global perceptions of control. Instead, children's generalized perceptions of goal difficulty as another type of global belief of personal control is assessed. Similar to the control expectancy, perceptions of goal difficulty do not make reference to a specific means and capture both the competence and contingency aspect of perceived control. Both measures represent children's global perceptions of control for establishing satisfying friendship relationships.

In some multi-dimensional conceptualizations of control, the control expectancy is viewed as completely reducible to some combination of means-ends and agency beliefs (e.g., Weisz, 1983). This conclusion is supported by a semantic analysis of the relations among beliefs. However, the functional relations among beliefs need not mirror their semantic relations (e.g., Skinner, 1990; Skinner et al., 1988b). As a consequence, Skinner et al. (1988b) proceeded from the assumption that each set of beliefs represents a separate cognitive construction and that the determination of the relations represents an empirical question. In a similar vein, although control expectancy and perceptions of self-referenced goal difficulty semantically are corresponding constructs they may represent separate connotations. Some researchers have relied on the semantic relationships among beliefs when arguing that goal difficulty corresponds to subjective probability of success<sup>13</sup> (Heckhausen, 1991), or self-

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<sup>12</sup> Skinner (e.g., 1995) proposes that more global beliefs such as the control expectancy have a regulative function on action while the more specific agency and means-ends beliefs have an interpretative function when action outcomes are evaluated. As a consequence, the control expectancy is assumed to be nearer to action than both agency and means-ends beliefs. In the present dissertation the distinction between regulative and interpretative functions of beliefs is not made because the implied causal sequence cannot be assessed in the cross-sectional design.

<sup>13</sup> Heckhausen (1991) posits that the assessment of the subjective probability of success is based on the ratio of the perceived, objective task difficulty and an assessment of one's ability for the specific task.

efficacy (Schwarzer, 1994), or that self-efficacy corresponds to perceived behavioral control<sup>14</sup> (e.g., Ajzen, 1991). The latter measure, in fact, has been shown to be comprised of items assessing both difficulty and control expectancy (Sparks, Guthrie, & Shepherd, 1997).

Further evidence of the discriminant validity of measures of goal difficulty and control expectancy is provided by the literature of personality psychology, more specifically, research on “middle-level” goals<sup>15</sup> (see Section 2.1.1.2). Various studies using student samples (e.g., Emmons, 1986; Klinger, Barta, & Maxeiner, 1980; B. R. Little, 1993, Winell, 1987), showed that goal difficulty and control expectancy loaded each on different factors independent of which other goal dimensions were included in the exploratory factor analyses. Control expectancy was more highly related to self-initiation of the project, outcome, self-expression, value congruency, negative impact (B. R. Little, 1983), past attainment, satisfaction with progress (Emmons, 1986), current assessments of goal attainment, and self-efficacy (Winell, 1987) than to goal difficulty. In contrast, goal difficulty loaded on the same factor as stressfulness of goal striving (B. R. Little, 1983), amount of effort needed for goal attainment (Winell, 1987), probability of goal-attainment if no action, and environmental opportunity (Emmons, 1986). Thus, the control expectancy appears to be more highly related to perceptions of competence and goal acceptance than goal difficulty.

The assumption that the control expectancy is more highly related to perceptions of competence than perceptions of contingencies is further corroborated by findings showing that the control expectancy evinced higher relationships with the agency beliefs than with the means-ends beliefs (e.g., Little et al., 1995). In contrast, goal difficulty is more highly related to the amount of resource investment necessary to attain a goal (e.g., Winell, 1987), and, hence, to the contingencies provided by the environment than the control expectancy. As a consequence, it can be assumed that goal difficulty has more in common with the means-ends beliefs than with agency beliefs. Hence, the findings that perceived behavioral control is

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<sup>14</sup> Ajzen's theory of planned behavior (e.g., Ajzen, 1991) essentially differs from the earlier theory of reasoned action (e.g., Fishbein & Ajzen, 1975) by adding a perceived behavioral control construct.

<sup>15</sup> These goal constructs have in common that they are both idiographic and nomothetic. These constructs are idiographic because each individual generates his or her own unique list of middle-level goals. They are nomothetic because goal structure is assessed by means of individuals' ratings of dimensions such as goal difficulty and subjective control of these middle-level goals. Whether these constructs are fundamentally different from purely nomothetic constructs such as Schank and Abelson's (1977) life themes is in need of empirical investigation (Brunstein & Maier, 1996).

related to both environmental opportunities and perceived availability of resources (Ajzen & Driver, 1991, 1992) may provide further support that this measure confounds goal difficulty and control expectancy.

However, the semantic relationships of goal difficulty and the control expectancy are reflected by findings showing that the higher an individual's perceptions of personal control the less difficult he or she perceives goal attainment (Emmons, 1986; Lee & Bobko, 1992; Wofford et al., 1992).

The studies reported so far, employed subjective perceptions of goal difficulty which made explicitly reference to the self (e.g., "How difficult is it for you to succeed in the striving?" Emmons, 1986). Locke and Latham (1990) proposed that using an externally-referenced goal difficulty (e.g., "average student of your age") would eliminate the confounds on the subjective goal difficulty because of its normative nature. The authors assume that perceptions of goal difficulty that involve a reference group are independent of subjective perceptions of competence (e.g., self-efficacy) but are based on normative goal difficulty.

Normative difficulty involves the performances of others as a basis for estimating task difficulty (Heckhausen, 1991). A study conducted by Lee & Bobko (1992) using a student sample provided some empirical evidence for this assumption, although other-referenced and subjective goal difficulty have been found to be highly correlated and both measures were positively related to objective (i.e., assigned) goal difficulty. The results showed that subjective goal difficulty was negatively correlated with self-efficacy while other-referenced goal difficulty was unrelated to self-efficacy. Moreover, externally-referenced goal-difficulty evinced similar relationships with self-efficacy, personal goal, and performance as assigned goal level (i.e., objective goal difficulty). Both objective goal difficulty and other-referenced goal difficulty were positively related to self-set goal level and actual performance while self-referenced goal difficulty was not. The authors interpreted the finding that self-referenced goal difficulty was unrelated to performance to be a result of offsetting positive and negative effects (i.e., a positive effect through self-efficacy, but a negative effect through higher goal difficulty).

The positive relationship between objective goal difficulty and performance is in line with one of the most robust findings within the framework of goal-setting theory (for a summary, see Locke & Latham, 1990). Difficult goals lead to higher performance than easy or do-your-best goals (Lee & Bobko, 1992; Locke & Latham, 1990; Mento, Steel, & Karren, 1987; Tubbs, 1986; P. M. Wright, 1990). The effects of objective goal difficulty on action and action regulation is further considered in Section 2.3.

In sum, the control expectancy appears to be more highly related to perceptions of competence and goal acceptance than goal difficulty. In contrast, goal difficulty appears to be more highly related to the contingencies provided by the environment than global perceptions of personal control. Finally, the functional differences of the control expectancy and goal difficulty may be more pronounced when the measures assessing goal difficulty do not refer to the self but to a reference group.

#### 2.2.1.7 Development of Perceived Goal Difficulty, Agency and Means-ends Beliefs

Beginning with infancy until adolescence, regular developmental changes in almost every constituent process related to children's perceptions and interpretations of control has been found (for reviews see, e.g., Flammer, 1990; Heckhausen, 1983; J. Heckhausen & Schulz, 1995; Krampen, 1987; Little & Lopez, 1997; Skinner, 1995; Skinner et al., 1998; Stipek, 1984a).

In the preschool years, children have a global, undifferentiated concept of competence which is an amalgam of effort, ability, desire, and will, and which resembles Heider's (1958) concept of "personal force"<sup>16</sup> (Heckhausen, 1991, cf., Skinner et al., 1998). The multiple facets of the competence concept are slowly distinguished. During the first few years of schooling, children's conceptions of competence come to be distinguished from wishes and intentions (Stipek, 1984b) as well as from level of task difficulty (e.g., Nicholls, 1978, 1980; Nicholls & A. T. Miller, 1985a; Heckhausen, 1983). At about seven years, the concept of normative difficulty emerges resulting in changes in interpretation of terms such as hard and

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<sup>16</sup> Heider (1958) conceptualizes the effective personal force as being composed of exertion and ability. Thereby, exertion is comprised of intention (what one wants to do) and effort (how intensively one wishes to achieve it). These two components are multiplicatively linked (see expectancy-value theory). Exertion represents a variable component of personal force and ability a fixed component of personal force.

easy as well as of normative cues (Nicholls, 1980). Then, children understand that the performance of others provides a basis for estimating one's own ability.

A note on terminology may be required. The term, perceptions of goal difficulty, as it is used in the present dissertation, makes reference to the individuals' subjective views of task difficulty. However, perceptions of goal difficulty can generalize across various tasks of a specific domain (i.e., higher-level goal).

At about age 9 (grade 4), when children's competence conceptions are still organized around global conceptions of effort, they are first able to distinguish tasks depending on skill from those governed by chance (Nicholls & A. T. Miller, 1985b; Weisz, 1983, 1986). As a consequence, children normatively develop a conception of chance, luck and noncontingent causes as distinct from effort. Hence, competence is also slowly distinguished from other aspects of contingency in addition to task difficulty. Until this developmental shift occurs, children's beliefs of performance on chance-determined tasks don't differ from their beliefs of skill-related tasks. Based on this developmental change, children recognize that luck and powerful others may not be able to be influenced by personal means. As a result, children can form generalized perceptions of noncontingency based on uncontrollable causes. For the first time, children can perceive that there are actions in which no contingency is possible between efforts and desired outcomes (see Weisz, 1986, for a discussion). Beginning with this developmental progression, children's beliefs about both powerful others and luck are progressively distinguished from effort-related beliefs.

The suggestion that children begin to understand that powerful others and luck are potentially uncontrollable is consistent with the extreme drop in beliefs about the effectiveness of these causes at this age in the academic performance domain (Little & Lopez, 1997; Skinner, 1991, 1995; Skinner & Chapman, 1987; Skinner, Chapman, & Baltes, 1988a; Stetsenko, Little, Oettingen, & Baltes, 1995). Importantly, in the friendship domain, the drop in beliefs about the effectiveness of these causes appears to be delayed (Skinner, 1990b). That is, significant increases in mean-level differentiation emerged only in the oldest children (i.e.,

Grade 6)<sup>17</sup>. Moreover, children perceived effort less useful for attaining friendship goals than for attaining academic performance goals while they evaluated help provided by adults (i.e., teachers in the school domain and parents in the friendship domain) and luck as being more important for friendship relationships than for academic performance (Skinner, 1990b).

In both the academic and the friendship domain, beliefs about the effectiveness of effort also become more differentiated (i.e., less highly correlated with) from beliefs about external means such as teachers as powerful others, luck, and unknown causes in terms of structural relations (Connell, 1985; Skinner, 1990b), although structural differentiation (i.e., decrease in intercorrelations) appears to be somewhat delayed in the friendship domain (Skinner, 1990). The delay in structural differentiation may explain why the decreases in the intercorrelations among means-ends beliefs were apparent in a study (Skinner, 1990b) investigating children of grades 2 to 6 while another study (Wanner, 1995) investigating a more restricted age range (grades 2 to 5), generally, found no evidence that children increasingly differentiated among means-ends beliefs. However, differences across the domains are confounded with differences in the measurement. The findings in the academic domain were based on the CAMI instrument (Skinner et al., 1988b) while the findings in the friendship domain were based on the Multi-CAM instrument (Little & Wanner, 1997).

Generally, despite the evidence of domain specificity of perceived control (see also Section 2.2.1.4), the major developmental changes in the correlational structure of means-ends beliefs are the relations among causal categories, and not the relations between beliefs about the outcome domains of school and friendship during middle childhood (Connell, 1985; Patrick, Hicks, & Ryan, 1997; Skinner, 1990b).

In early adolescence, children have the cognitive capacities to distinguish effort from conceptions of ability as a fixed, stable entity (Blumenfeld, Pintrich, & Hamilton, 1986; Karabenick & Heller, 1976; Kun, 1977; Kun, Parsons, & Ruble, 1974; Nicholls, 1978, 1984; Nicholls & A. T. Miller, 1985a). This represents the point when great exertion becomes a “double-edged sword” in that high effort, even when resulting in successful outcomes, may

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<sup>17</sup> Gamble (1994) found no mean-level differences between younger (ages 8-11) and older children (ages 12-14) in their means-ends beliefs for Self, Powerful others, and Unknown Others which were collapsed across the three life-domains of friendship, parent relationships, and achievement.



imply lower ability (Covington & Omelich, 1979, 1985). Before about the age of 11 or 12, children do not separate ability from effort. Consequently, they see ability as voluntary, controllable, and mutable. When children have acquired the cognitive capacities to distinguish effort from ability, their implicit theories (e.g., Dweck, 1991; Dweck, Chiu, & Hong, 1995; Dweck & Elliott, 1983)<sup>18</sup> about the fixedness or mutability of ability influence the type of goals they set in specific situations and their reactions to failure and setbacks.

In line with these assumptions findings in various socio-cultural settings show that means-ends beliefs for effort become successively more differentiated from means-ends beliefs about ability as a function of grade level in the school domain (i.e., progressing from a positive relation to independence; Karasawa, Little, Miyashita, Machima, & Azuma, 1997; Little & Lopez, 1997; Skinner, 1990a, 1990b; Skinner et al., 1988a; Skinner et al., 1998; Stetsenko et al., 1995). In terms of mean levels, across various socio-cultural settings in the academic domain means-ends beliefs for ability remained consistently stable while means-ends beliefs for effort even increased with age (e.g., Little & Lopez, 1997). In contrast, in the friendship domain means-ends beliefs for effort, ability, personal attributes, physical attributes, and perceived domain knowledge remained invariantly highly correlated across grades 2 to 5 (Wanner, 1995). Moreover, these beliefs evinced no age-related mean-level differences across this age range.

The latter findings are in line with the finding that developmental increases in differentiation among beliefs are delayed in the friendship domain compared to the academic domain (Skinner, 1990b). The delay in developmental progression are assumed to be due to differences across the life domains of school and friendship and the domain-specificity of perceived control. As outlined in Section 2.2.1.9, while the school domain is highly structured by adult intervention this is much less the case in the friendship domain. Thus, it seems reasonable to assume, that the finding that beliefs about self-related means (e.g., effort, ability, and personal attributes) remain invariantly highly correlated across grades 2 to 5 extends to grade 6. Moreover, it is an open question whether children's understanding of the inverse relationship between effort and ability plays a role at all for the functioning of perceived

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<sup>18</sup> Dweck's (e.g., Dweck, 1991) approach on implicit theories represents a content theory of goal striving (cf., Gollwitzer & Moskowitz, 1996).

control in the friendship domain. In addition, it is conceivable that in the friendship domain children's implicit theories about the mutability or fixedness of personal attributes affect their beliefs about personal attributes such as being likeable. However, this may only be the case at older ages.

Only a single study (Wanner, 1995) provided some evidence about the development of the agency beliefs in terms of intercorrelations and mean-level differences in the friendship domain. As mentioned above, presumably because of the restricted age range (grades 2 - 5) the study found no evidence of decreasing intercorrelations among the means-ends beliefs. The agency beliefs paralleled this lack of structural differentiation among beliefs. However, in the academic performance domain also no age-related structural differentiation has been reported for the agency belief dimensions (e.g., Stetsenko et al., 1995). Hence, it remains an open question whether the reported lack of decreases in the intercorrelations among the agency beliefs was due to the restricted age range of the investigated sample or whether it represents a developmental characteristic of these beliefs generalizing across life domains. This question can be addressed in the present study because the sample encompasses older children (grades 3 - 6)<sup>19</sup>. In the friendship domain, age-related mean-level differences in the agency beliefs mirrored the age-related mean-level differences of the corresponding means-ends beliefs (Wanner, 1995); that is, beliefs about external means (i.e., luck and powerful-others) decreased with age. In contrast, in the academic performance domain children's agency beliefs remained at similar levels at all ages over middle childhood with the exception of agency beliefs for powerful others (Oettingen et al., 1994; Skinner et al., 1988b; Stetsenko et al., 1995). The developmental mean-level differences of agency beliefs for powerful others varied over sociocultural contexts which was presumably related to differences in the role of teachers as authority figures.

Because both competence and contingency are necessary conditions for objective and subjective control, either incompetence or noncontingency alone is sufficient to undermine

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<sup>19</sup>However, differences across the domains are confounded with differences in the measurement. The findings in the academic domain are based on the CAMI instrument (Skinner et al., 1988b) while the findings in the friendship domain are based on the Multi-CAM instrument (Little & Wanner, 1997). A major difference between the two instruments represents the degree of similarity of the wordings across agency and means-ends beliefs. Specifically, in the Multi-CAM the wordings of agency parallel the wordings of the means-ends beliefs to a high degree while this is much less the case in the CAMI.

action (e.g., Skinner, 1995, 1996). As a consequence, in making judgments about attainability of goals, individuals usually unite personal access to the means with the causal impact or usefulness of means (see, Bandura, 1986, 1997; Schwarzer, 1994). Individuals can have a high sense of availability of a certain means (such as reading skills) but if these means do not affect one's primary goals (such as friendship), one remains unconvinced of their efficacy to succeed (cf., Schwarzer, 1994). As a consequence, the distinction between beliefs about the self's access to potentially effective means and beliefs about the causal structure and responsiveness of the environment is empirically hard to confirm (e.g., Rodin, 1990).

However, failure experiences may contribute to higher degrees of differentiation among belief types. Attributing failure to a specific means implies that success would have been contingent on the means but the actor was lacking access to the means (Skinner, 1995, 1996). Hence, it can be assumed that, with accumulating failure experiences, an individual's beliefs about the usefulness of a specific means may become higher than beliefs about its availability. On a group level individual differences in agency and means-ends beliefs may become less highly associated if the individuals differ in the amount of failure experiences and their tendencies to attribute failure to the specific causes or means.

As a consequence, with age and accumulating (failure) experiences children may increasingly differentiate between beliefs about usefulness and availability of action means. Moreover, domain-specific differences in the sources of information may affect the degree of differentiation (see Section 2.2.1.9). For example, in the academic domain the social context (e.g., teachers) may provide more and differential information about the usefulness of a specific means and each child's individual access of the means than this may be the case in the friendship domain (cf., Skinner, 1990b).

This assumption may explain differences in the strength of correlations of agency and means-ends beliefs about corresponding means across the school and the friendship domain. In the academic performance domain a rather high degree of differentiation between agency and means-ends beliefs about corresponding means has been found (Little et al., 1995) while in the friendship domain these beliefs have been found to be highly correlated (Wanner, 1995). A study (Wanner, 1995) investigating age-related structural differentiation among

agency and means-ends beliefs found that older children (grades 4 and 5) differentiated only more between agency and means-ends beliefs about Self than younger children (grades 2 and 3) while beliefs about Luck and Adults (i.e., Parents and Teachers) were invariantly highly correlated across the two age groups.

In sum: At the end of middle childhood, children differentiate among concepts such as intentions and goals, task difficulty, chance, powerful others, and self-related causes organized around global conceptions of effort. Beginning with preadolescence, children also differentiate among the concepts ability, and effort. As beliefs about the causal concepts become more differentiated, beliefs about different causal categories come to predict action and its regulation (Skinner, 1991). In the following, I describe how these changes affect the functioning of agency and means-ends beliefs in action regulation in middle childhood and preadolescence.

#### 2.2.1.8 Developmental Differences in the Functioning of Agency and Means-ends Beliefs

The major theoretical approaches of control and the action theory of psychological control, in part, converge in their assumptions regarding the relationships of perceived control and action and, as consequence, of perceived control and action outcomes. However, due to the greater degree of comprehensiveness in its conceptualization some predictions are unique to the action-theory model. In addition, with its emphasis on life span psychology, the action theory model encompasses developmental aspects of perceived control. Skinner (1991, 1992, 1995; Skinner et al., 1998) proposed that the mechanisms of psychological control change with the development of cognitive capacities during childhood. As a consequence, different theories of perceived control are proposed to be most useful at different ages.

In the investigated age period (age 9 - age 12), the distinction between internal versus external causes plays the major role as proposed by locus of control theorists (e.g., Rotter, 1966), with the external pole playing the bigger part, as predicted by classical learned helplessness theory (Seligman, 1975; see also Skinner, Wellborn, & Connell, 1990). Specifically, Skinner et al. (1998) showed that in middle childhood means-ends beliefs about external causes may be more unstable and more modifyable than means-ends beliefs about

internal causes. Children's means-ends beliefs about powerful others<sup>20</sup> rose at each transition, that is, at the beginning of each new school year, and declined during the school year as the children gained more confidence about the causes of school outcomes. In contrast, children's agency beliefs for effort remained normatively stable across the third and fourth grades. Hence, it appears that means-ends beliefs are more mutable than agency beliefs. Evidence that means-ends beliefs about external causes are involved when children perceive a lack of control is provided by the finding that means-ends beliefs for powerful-others predicted low engagement in academic tasks and, consequently, low academic performance. Moreover, cross-sectional research showed that across various cultural school settings means-ends beliefs about luck and teachers were consistently negatively related to school performance while this was not the case for means-ends beliefs about effort and ability (Little, Oettingen, & Baltes, 1995). However, the negative relationships of external means-ends beliefs with academic performance were rather low.

In line with and extending predictions of theories of perceived competence (e.g., Harter, 1982) and self-efficacy (e.g., Bandura, 1977), the action theory of psychological control predicts that all dimensions of agency beliefs, even beliefs of having access to help provided by powerful others and luck, have a positive influence on engagement and action outcomes. In line with these major theoretical approaches of perceived control the action theory model posits that agency beliefs about effort and ability have the strongest influence on action. In support of these assumptions empirical findings showed that agency beliefs about effort and ability were more highly correlated with academic performance than agency beliefs about luck and teachers across various cultural settings (e.g., Little et al., 1995; Oettingen et al., 1994; Skinner et al., 1990; Skinner et al., 1998). Moreover, a longitudinal study (Skinner et al., 1998) found that agency beliefs for effort were the strongest predictors of subsequent engagement in academic tasks, and, as a consequence, of academic performance (Chapman & Skinner, 1989; Skinner et al., 1998).

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<sup>20</sup> The findings were also shown for and means-ends beliefs for unknown causes which also represents an external dimension. Moreover, in this study beliefs about luck were not assessed.

Heider (1958) proposed that the subtractive relationship of personal competence and contingencies provided by the environment<sup>21</sup> result in the subjective experience of personal control. In a similar vein, the action theory of psychological control posits that the interplay of perceptions of personal competence (i.e., agency beliefs) and perceptions of contingencies (i.e., means-ends beliefs) result in the subjective experience of personal control. Specifically, Skinner (e.g., 1995; see also Weisz, 1983) proposes that the multiplicative effect of these components of control is larger than their simple or even their additive effect. As a consequence, while attribution theory (e.g., Weiner, 1985a), learned helplessness theory (Abramson et al., 1978), and locus of control theory (Rotter, 1966) propose that considering effort to be an important cause for outcomes is unequivocally positive, the action theory of psychological control emphasizes that strong beliefs in the usefulness of effort is only positive if one also believes that one has access to that means.

In the academic domain, Skinner et al., (1990) provide some empirical support for interactive effects of agency and means-ends beliefs, although these interactive effects were rather weak. Children who reported that effort was an effective means and that they had the capacity to exert effort had the highest levels of engagement in school activities. Lowest levels of engagement were found for children who reported that nonaction means (i.e., ability, teachers, and luck) were critical to success but they themselves did not have these means available.

The effect of high means-ends beliefs about ability depends on children's conceptions of ability. Skinner (e.g., 1995, Skinner et al., 1998) proposes that beliefs in the usefulness of ability is positive as long as the means of ability is not differentiated from effort. As long as a child does not differentiate among the conceptions of effort and ability, ability is seen as unstable and controllable. When children form mature conceptions of ability as stable and immutable (e.g., Dweck, 1991; Dweck & Leggett, 1988), high means-ends beliefs for ability undermine action. Then, Skinner (e.g., 1995; Skinner et al., 1998) proposes that optimal profiles of control include: high agency and means-ends beliefs for effort, high agency and

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<sup>21</sup> Specifically, Heider (1958) proposed that ability as a personal component and task difficulty as an environmental component enter in a subtractive relationship and result in the subjective experience of "I can" and the level of expectancy of success.

low means-ends beliefs for ability, high agency and low means-ends beliefs for external means (e.g., powerful others and luck). Simply missing any of the elements of the optimal profile is considered to be maladaptive. Cumulatively, the most maladaptive profile would be: low agency and high means-ends beliefs for each of the means.

The functioning of perceptions of goal difficulty can be assumed to remain invariant across middle childhood. The relationship of goal difficulty with effort investment is hypothesized to be curvilinear (e.g., Bandura, 1997; Heckhausen, 1983). Low and high levels of goal difficulty are hypothesized to be negatively related to effort investment and action outcomes. At moderate levels the relationships of this belief with effort investment and accomplishment may be positive.

In sum, Skinner (e.g., 1991, 1992, 1995) proposes that the mechanisms of psychological control change with the development of cognitive capacities during childhood. In middle childhood the distinction between internal versus external causes plays the major role as proposed by locus of control theorists (e.g., Rotter, 1966), with the external pole playing the bigger part, as predicted by classical learned helplessness theory (Seligman, 1975). High means-ends beliefs undermine action and actions outcomes. Beginning with grade 6, when children increasingly recognize the inverse relationship between effort and ability, agency and means-ends beliefs for ability gain in influence on action regulation. The action theory of psychological control predicts that all dimensions of agency beliefs have a positive influence on effort investment and action outcomes, although the influence of beliefs of having access to external means (i.e., help provided by powerful others and luck) is predicted to be lower than influence of beliefs of having access to self-related means (i.e., effort, ability, and personal attributes). Moreover, it has been proposed that the additive (see Heider, 1958) or multiplicative (see, e.g., Skinner, 1995; Weisz, 1983) relationships between competence perceptions (i.e., agency beliefs) and contingency perceptions (i.e., means-ends beliefs) may affect action.

#### 2.2.1.9 Some Speculations about the Sources of Influence for Belief Formation

In addition to cognitive development, contextual factors affect the formation of control beliefs. Information about the causes of success and failure is communicated from the social

environment through a variety of channels (for a review, see Skinner, 1990b) such as direct verbal communication (Krampen, 1982), emotional responses (e.g., Graham, 1984), and actual performance contingencies (Skinner & Connell, 1986; Skinner, 1985, 1986). Bandura (1986; 1997) proposed that mastery experiences or exerted actions (see also Skinner, 1995, 1996) and observing others' action (i.e., vicarious experiences or modeling) represent the most important<sup>22</sup> sources for creating a strong sense of perceived control. Mastery experiences provide information about the actual contingencies and the capacity of the individual to produce actions that are required to influence contingencies (e.g., Skinner, 1995). Moreover, vicarious experiences inform about how a certain skill or behavior is to be performed and about contextual contingencies and its social and instrumental consequences (e.g., Bandura, 1997). Moreover, social expectations have been suggested to influence individuals action (e.g., Bandura, 1986; Skinner, 1995). For example, in the social domain others' expectations have to be taken into account when deciding whether undertaking or omitting specific actions will yield desired or undesired consequences.

The notion of accuracy (i.e., correspondence with objective control conditions) of perceived control refers on the group level to the mean levels (i.e., strength) of beliefs and the association of interindividual differences of perceived control and actual performance outcomes (see Section 2.3.2.1 for a discussion of the issue of optimistical biased beliefs). Research suggests that (a) the way the social context provides performance feedback (e.g., realistic vs. self-esteem protective) can influence the accuracy of children's perceptions of control (e.g., Oettingen et al., 1994) and (b) the amount of social comparison opportunities may affect the degree of accuracy of children's perceived control (e.g., Oettingen et al., 1994). Moreover, whether or whether not social agents such as adults provide translations of action-outcome contingencies may affect children's perceptions of control (cf., Skinner, 1995).

Almost nothing is known about these issues in the domain of friendship. Generally, while the academic performance domain is highly structured by adult intervention (e.g., Skinner, 1995) this is much less the case in the friendship domain (see Section 2.3.5 for a further discussion of this issue). As a consequence, developmental increases in differentiation

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<sup>22</sup> In addition to mastery experiences and vicarious experiences, Bandura (1986, 1997) proposed social persuasion, physiological and emotional reactions to represent particularly salient sources of belief formation.



among beliefs may be delayed. Moreover, it appears likely that the accuracy of perceived control is lower in the friendship domain than in the academic domain. Thus, correlations among beliefs and actual outcomes such as the friends' views of friendship quality may be rather low. Finally, mean level differences between performance groups (e.g., children who have high-quality friendships and those who don't participate in a mutual friendship) may be rather small.

### 2.2.3 Summary

Objective control conditions refer to the amount of control actually available in a situation while perceived control refers to its subjective interpretation. Both the contingencies provided by the social and physical world and the competence of the individual to operate them determine the objective control conditions for action.

The present dissertation employs a multi-dimensional conception of perceived control based on action theory (e.g., Skinner, 1995) as a theoretical framework. The theory defines *means-ends beliefs* representing the agent's perceptions whether an outcome is contingent on a specific means. *Agency beliefs* are defined to represent the agent's perceptions of his or her access to an outcome-relevant means; that is, the agent's perceptions of his or her competence. The present study investigates beliefs about the following action means: Personal attributes, effort, ability, luck, and teachers and parents as powerful others. Moreover, the present study employs perceptions of goal difficulty as global perceptions of control. The perception of goal difficulty appears to be more highly related to means-ends beliefs than to agency beliefs.

The theory posits reciprocal relationships among perceived control, action, and action outcomes. Perceived incompetence or noncontingency alone are sufficient to undermine action. Children's understanding that powerful others and luck are potentially uncontrollable represents a major developmental progression during middle childhood. This developmental change in children's understanding of these action means is reflected in children's means-ends beliefs. Empirical findings show that, in the friendship domain, children's means-ends beliefs about powerful others and luck show decreases in mean levels and are less highly correlated with the self-related (i.e., effort and ability) belief dimensions at the end of middle childhood (i.e., grade 6) (Skinner 1990b).

As preparatory analyzes I will explore the development of perceived control. Specifically, I will explore (a) whether the changes in the mean levels and intercorrelations found in the means-ends beliefs are also found in the agency belief system or (b) whether the lack of developmental changes in the agency beliefs found in the academic domain generalizes into the friendship domain. Moreover, the preparatory analyses will explore whether the finding that means-ends beliefs about Parents and Teachers as Powerful others are invariantly highly correlated across grades 2 to 5 (Wanner, 1995) extends to grade 6. It is expected that, contrary to findings in the academic domain, children in grade 6 would not differentiate between means-ends beliefs for effort and ability. Thus, it is hypothesized that means-ends beliefs for self-related causes (i.e., effort, ability, and personal attributes) remain invariantly highly correlated across grade 3 to grade 6. This hypothesis is based on assumed differences across the life domains of school and friendship and the domain-specificity of perceived control (see Section 2.2.1.4). As outlined in Section 2.2.1.9, while the school domain is highly structured by adult intervention this is much less the case in the friendship domain. As a consequence, developmental increases in differentiation among beliefs may be delayed, although due to accumulating failure experiences the relationships between agency and means-ends beliefs may show some age-related decrease.

The action theory of psychological control posits that the increases in differentiation between beliefs about external and self-related causes are related to their functioning. In a similar vein, differentiation between belief types can be hypothesized to affect the functioning of agency and means-ends beliefs. As a consequence, external means-ends beliefs may be negatively related to effort investments and action outcomes at older ages. In contrast, at younger ages external means-ends beliefs may evince similar relationships as external agency beliefs. All dimensions of agency beliefs can be assumed to be positively related to effort investment and action outcomes, although beliefs about external means may evince lower relationships than beliefs about self-related means.

Finally, the accuracy of perceived control (i.e., correspondence with objective control conditions), generally, may be lower in the friendship domain than in the school domain. As a

result, belief-outcome correlations and mean level differences among groups such as friended and friendless children may be rather small.

### **2.3 Perceived Control and Action Regulation under Varying Conditions of Objective Control**

Generally, the relationship between objective control conditions and the individuals' willingness and motivation to exert effort in order to attain a specific goal has been posited to be curvilinear (e.g., Bandura, 1997). Heckhausen (1983) showed that even very young children prefer moderately difficult and stimulating tasks. On the one hand, children below the age of four soon stop working on a task if it is too easy. On the other hand, they also quickly give up if a task is too difficult. Solving developmental tasks such as establishing friendships may be perceived by some children as moderately difficult and stimulating while others may perceive these tasks as extremely difficult. In the following, I consider how children cope with challenging and difficult tasks.

#### 2.3.1 Coping with Low Objective Control Conditions

Considering the effects of low objective control conditions is relevant for the present dissertation for several reasons. First, as emphasized by researchers in the realm of lifespan development, due to the failure-proneness of human behaviors children have to cope with action failure and setbacks (e.g., Baltes & Graf, 1996; Brandtstädter, 1998; Freund & Baltes, 2000; J. Heckhausen & Schulz, 1995; Marsiske et al., 1995). Second, as mentioned in Section 2.1.1.1, developmental tasks require that necessary competencies for successful actions, in part, have to be acquired by solving these developmental tasks (for the domain of friendship see, Buhrmester & Furman, 1986). Hence, it is likely that children experience failures when pursuing developmental tasks such as establishing satisfying friendships. Third, a major goal of the study is to investigate how differences in objective control conditions related to sociometric status affect children's perceived control and action when encountering difficult situations in their friendships (see below). Each of these issues raise the question "how do children cope with failure and setbacks?"

Two major types of action-regulation under low-control and stressful conditions are identified in the literature. Processes that attempt to change the situation in accordance with

goals is often subsumed under the rubric of *assimilative coping*. Such processes have been presented in Section 2.1.2.2 under the notion of process theories of action regulation. Another mode of gaining control under aversive low control conditions is often subsumed under the rubric of secondary control or *accommodative strategies*. Here, individuals apply strategies targeted at the self in order to counteract the negative implications related to experiences of anticipated or actual losses of control.

### 2.3.1.1 Assimilative and Accommodative Processes Targeted at Regulating Goal Pursuit and Development when Objective Control is Low

Researchers investigating how individuals successfully manage their own development propose two general ways that individuals use to reduce discrepancy between actual and desired states when encountering adversity or low conditions of control. Individuals can *change the situation in accordance with their goals* or they can *adjust goals* and conditions to situational circumstances (e.g., Brandtstädter & Renner, 1990; Freund & Baltes, 2000; J. Heckhausen & Schulz, 1995)<sup>23</sup>.

The above presented process models of self-regulation were concerned with discrepancy reduction between actual and desired states by changing the situation in accordance with goals. Based on these theories it is proposed that when failure and difficulties arise during goal pursuit individuals with high perceived control increase their efforts and use alternative action means such as help provided by others. However, if they perceive that changing the situation in accordance with goals is impossible or the costs (i.e., investment of resources) are exceedingly high they give up.

Individuals with low perceived control are assumed more likely to encounter failure, to ask more frequently for help, and to give up sooner than their more confident counterparts. What happens when individuals have to succumb to failure? Facing anticipated or actual

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<sup>23</sup> Researchers differ with regard to the posited functional value of these two types of processes. Jutta Heckhausen and her colleagues assert the universalist position that the ultimate goal of human behavior is maximizing the capacity to change the environment according to goals across the life span, irrespective of culture, age, or other contextual factors (e.g., J. Heckhausen & Schulz, 1995). Individuals try to increase, maintain, or defend against losses to their potential to exert control over the environment. In contrast, according to a relativistic conception both types of processes are equivalent in their functional value (e.g., Azuma, 1984; Weisz, Rothbaum, & Blackburn, 1984): In this view, whether an individual turns to the one type or type of processes depends on the availability of control, the value system of the society, or subjective preferences of the individual. The fundamental assumption of the relativistic position is that the ultimate goal of human behavior is maximizing subjective well being.

losses of control is related to the experience of low perceived control, negative affect and, in addition, threats to self-esteem. After severe losses of control, expectancies about the general controllability of external events might be completely shattered, resulting in helplessness deficits such as cognitive (impaired detection of contingencies), behavioral (lack of response initiation and passivity) and emotional (depression) deficits (Abramson et al., 1978; Seligman, 1975).

Adult individuals can adjust goals and conditions to situational circumstances to divert or minimize the harm that comes from losses of control (e.g., Brandtstädter & Rothermund, 1994; Freund & Baltes, 2000; Freund et al., 1999; J. Heckhausen & Schulz, 1995). For example, processes such as rescaling self-evaluative standards, disengaging from unattainable goals and restructuring of the goal hierarchy are assumed to be vital in goal-related changes across the life span (e.g., Brandtstädter, 1998, Freund & Baltes, 2000; Freund et al., 1999; J. Heckhausen & Schulz, 1995). It is an open question whether children and adolescents are as capable as adults in adjusting goals and standards of comparison.

“Coping” represents another label for how people reestablish control that has been taxed or lost. Consequently, coping refers to action regulation in stressful situations (e.g., Skinner, 1995; 1999; Skinner & Edge, 1998). Accordingly, Lazarus and Folkman (1984) defined coping as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). This fundamental definition has met wide adoption. Extending the framework of coping to everyday stressors and daily hassles (e.g., Band & Weisz, 1988; Gamble, 1994) and to proactive efforts (Aspinwall & Taylor, 1997) has further blurred the distinction between coping and action regulation<sup>24</sup>.

Processes targeted at changing the situation in accordance with goals are usually subsumed under the rubric of problem-focused coping (Lazarus & Folkman, 1984), primary control (e.g., Band & Weisz, 1988, J. Heckhausen & Schulz, 1995; Rothbaum, Weisz, and Snyder, 1982), assimilative processes (e.g., Brandtstädter & Renner, 1990), approach coping

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<sup>24</sup> Hobfoll's (1998) alternative definition of stress makes the relationship of goal striving processes and stress even more obvious. "Stress is the state in which valued goals are threatened or lost, or where individuals are unable to create the necessary conditions for obtaining or sustaining these goals." (Hobfoll, 1998, p.28).

(Altshuler & Ruble, 1989), problem solving (Wertlieb, Weigel, & Feldstein, 1987), monitoring (S. M. Miller, 1996), or optimization and elective selection (e.g., Freund & Baltes, 2000; Freund et al., 1999). Processes targeted at managing and regulating the negative implications and emotions related to threats of control usually are subsumed under the rubric of emotion-focused coping (Lazarus & Folkman, 1984), secondary control (e.g., Band & Weisz, 1988; J. Heckhausen & Schulz, 1995; Rothbaum et al., 1982), accommodative processes (Brandtstädter & Renner, 1990, Klinger, 1975, 1987), avoidance (Altshuler & Ruble, 1989), emotion management (Wertlieb et al., 1987), blunting (S. M. Miller, 1996), or compensation and loss-based selection (e.g., Freund & Baltes, 2000; Freund et al., 1999).

2.3.1.1.1 Adjustment of goal importance as an accommodative strategy. Both decreasing the importance of the unattainable goal and disengaging from striving from the goal (e.g., Brandtstädter & Rothermund, 1994; Freund & Baltes, 2000; J. Heckhausen & Schulz, 1995; see also, e.g., Bandura, 1997; Carver & Scheier, 1998) and increasing the importance of an attainable goal when difficulties arise during goal pursuit (Heise et al., 1997; Wofford et al., 1992) represent important strategies to bring the self in line with the situational circumstances. As an example of the self-protective effects of downgrading goal importance, Brandtstädter and Rothermund (1994) have shown that a loss of control in specific domains such a friendship affected adults' general sense of control to a lesser degree if the respective domain was downgraded in importance. Thus, the influence of domain-specific perceived control on general perceptions of control depends on the importance of the respective goal. This finding is also in line with the above outlined assumption that domain-specific perceived control may differ from general, domain-unspecific perceptions of control (see Section 2.2.1.4).

However, it appears that there are conditions that make it difficult to abandon a specific goal (cf., Brandstätter, 1998, see also Brandtstädter & Wentura, 1995). Brandstätter & Frank (1997 as cited in Brandstätter, 1998) have shown that undergraduates were most likely to persist in goal pursuit if (a) they expected negative social consequences, (b) previous investment into the goal had been large, and (c) they lacked alternative and similarly valued goal alternatives (see also Bandura, 1997). The latter most likely applies for children who

have problems in their peer relationships because the life domains from which children can choose alternative goal options are rather restricted (Harter, 1982; see Section 2.2.1.4).

### 2.3.1.2 Development of Assimilative and Accommodative Processes in Middle Childhood

It appears that skills necessary for assimilative and accommodative strategies emerge at different points in development. Skills for assimilative strategies are acquired in preschool years and increasingly developed until ages 8-10 (Compas, Banez, Malcarne, & Worsham, 1991a). In contrast, accommodative strategies appear to develop in later childhood and adolescence (Band & Weisz, 1988; Compas et al., 1991a; Compas, Malcarne, & Fondacaro, 1988; see also J. Heckhausen & Schulz, 1995 for a review). The assumption that accommodative strategies develop in childhood is supported by the majority of studies (e.g., Altshuler & Ruble, 1989; Band & Weisz, 1988; Compas et al., 1988; Curry & Russ, 1985; Losoya et al., 1998; Wertlieb et al., 1987) showing that self-report of these strategies increases with age (for an exception, see Rossman, 1992). The research on assimilative or problem-focused strategies is less consistent. Some studies found increases (e.g., Ebata & Moos, 1994; Losoya et al., 1998), decreases (e.g., Band & Weisz, 1988; Brodzinsky, Elias, Steiger, & Simon, 1992; Curry & Russ, 1985) or stability in these strategies with age (e.g., Altshuler & Ruble, 1989; Compas et al., 1988; Wertlieb et al., 1987).

It has been proposed that these inconsistencies in the developmental trends of problem-focused strategies may be related to differences in objective control across life domains (Losoya et al., 1998; Fields & Prinz, 1997; see Section 2.3.2.1 for a further discussion of this issue). Specifically, in life domains such as peer conflict problem-focused coping may be effective and, consequently, may increase in frequency in childhood (e.g., Losoya et al., 1998). In contrast, several researchers have contended that passive behaviors may be inept strategies to solve problematic situations in peer relationships (Dodge & Feldman, 1990; Rubin & Krasnor, 1986; Spivack & Shure, 1974). In domains such as medical treatment where problem-focused coping is less effective because they are rather uncontrollable, problem-focused coping may decrease with age whereas accommodative strategies may increase in late childhood (cf., J. Heckhausen & Schulz, 1995). These assumptions found some support by findings showing that controllable situations such as peer difficulty and school failure evoked

the greatest percentage of assimilative strategies compared to less controllable situations such as medical circumstances or physical accidents (Band & Weisz, 1988).

For the present dissertation it is important to note that assimilative strategies are thought to develop earlier than accommodative strategies in middle childhood. Moreover, it appears that in the domain of peer relations assimilative strategies are more important than accommodative strategies when confronted with problems.

### 2.3.2 Congruency between Perceived Control and High versus Low Conditions of Objective Control

The action-theory model of psychological control posits that initial differences in perceived control result in differential experiences which produce relative stability of perceived control and may even result in magnification of initial differences in perceived control (see Section 2.2.1.3). Importantly, it was assumed that this self-perpetuating cycle of perceived control and action takes place when objective control (i.e., competence and contingencies) is present or high. As depicted in Table 2, if objective control conditions are high, profiles of perceived goal difficulty, agency and means-ends beliefs indicating high perceived control<sup>25</sup> can be considered to be realistic. If objective control conditions are high, profiles of beliefs indicating low perceived control<sup>26</sup> can be considered to be less realistic. Hence, the self-perpetuating cycles of perceived control, action, and action outcome has been posited to evince if perceived control is either relatively realistic and high or less realistic and low.

Under high conditions of objective control it is expected that individuals with high perceived control have positive action outcomes while individuals with low perceived control are more likely to have negative outcomes. In the following situations falling in the bottom fields of Table 2 will be considered. If objective control conditions are low, profiles of beliefs indicating low perceived control can be considered as fitting the objective conditions while profiles of beliefs indicating high perceived control overestimate the actual conditions.

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<sup>25</sup>As outlined in Section 2.2.3.6 high agency beliefs and means-ends beliefs that do not surpass their agency counterparts are indicative of high perceived control.

<sup>26</sup>As outlined in Section 2.2.3.6 low agency beliefs and high means-ends beliefs that do surpass their agency counterparts are indicative of low perceived control. As mentioned, it is sufficient if one element (e.g., high means-ends beliefs for powerful others) of the profile indicates low control to undermine action.



Table 2  
*Degree of Fit between Objective and Perceived Control: The Realistic Nature of Perceived Control*

Objective Control	Perceived Control	
	high	low
high	more realistic	less realistic (underestimation)
low	less realistic (overestimation)	more realistic

Generally, under low conditions of objective control two fundamental requirements of successful action are bound to get into conflict: On the one hand, individuals need a fairly valid conception about options, suitable action means, and probability of success, in order to generate effective action. On the other hand, the motivational and volitional management of action require high perceptions control (J. Heckhausen & Schulz, 1995). Hence, the question is whether it is more adaptive to have unrealistically high perceptions of control or more realistic and low perceptions of control under low conditions of control? This question is also important in the context of social relationships and friendships.

#### 2.3.2.1 Is High Perceived Control Maladaptive When Objective Control Conditions are low?

Taylor and Brown (1988, 1994) proposed that a mentally healthy person is characterized by at least three mildly self-aggrandizing perceptions: unrealistically positive self-perceptions, an unrealistic optimism about the future, and illusion of personal control (for a critique of the positive illusion model and a review of mixed empirical results, see Colvin & Block, 1994). The view that a mildly exaggerated perception of control about important outcomes is a fundamental adaptive characteristic of the human mind has become widely accepted (e.g., Bandura, 1977, 1992, 1997; Scheier & Carver, 1992; Taylor, 1989). As mentioned above, illusory high perceptions of control are posited to promote goal attainment in the phases concerned with the initiation and successful execution of goal-directed action (Gollwitzer & Kinney, 1989; Taylor & Gollwitzer, 1995). Moreover, Bandura (e.g., 1997) proposes that overestimating one's efficacy is related to progress and personal growth in the sense of setting higher goals compared to previous attainments.

Generally, if an individual omits action or gives up too soon when encountering difficulties in goal pursuit in situations that are actually controllable she foregoes goal attainment, exercise of her skills, and opportunities to strengthen her perceived control (e.g., Bandura, 1997). Hence, given that there is personal control in a situation, active problem-solving often may be more adaptive than passive behaviors (e.g., Compas, 1987; Losoya et al., 1998; J. Heckhausen & Schulz, 1995). Acting on the problem provides feedback that an individual can use to discover and exercise control in any part of a situation still open to personal influence (Aspinwall & Taylor, 1997; Skinner, 1995). As individuals try different ways of exerting control, they gain information about the kinds of situation that are amenable to change as well as important procedural knowledge about how and when to exert control in different situations (Skinner, 1995; Taylor, 1989). As a consequence, individuals with high perceived control have a greater knowledge of the contingencies than individuals with low control who do not make use of active action strategies (Aspinwall & Taylor, 1997; Skinner, 1995). Taylor and Brown (1988, 1994), therefore, posited that the positive effects of illusory high perceptions of control on adaptation are most pronounced in low control circumstances.

However, there have also been warnings about the potential negative consequences of exaggerated optimism, for instance, in the context of health protective behavior (Baumeister, 1989; Schwarzer, 1994). The latter view proposes a more elaborate model, which takes into account both the positive effect of risk awareness and the promotive effect of optimistic perceptions of personal control on appropriate (health) behavior. More specifically, Schwarzer (1994; see also Bandura, 1997) points out that illusion with denial of realistic odds must be distinguished from strong efficacy in which tough odds are acknowledged but are considered surmountable. Moreover, it has been argued that high perceived control can be maladaptive because it can lead to blind persistence in uncontrollable situations (Janoff-Bulman & Brickman, 1982). By impeding an adjustment of goals and delaying the shift toward accommodative modes, strong beliefs of personal control may put the individual at a disadvantage particularly in uncontrollable situations. As a consequence, high perceived control may even contribute to prolonging or aggravating states of frustration, disorientation, and despair under such circumstances (cf. Janoff-Bulman & Brickman, 1982; Weinstein,

1984). In contrast, omitting action in uncontrollable situations can save resources (Schönplflug, 1985). Thus, in uncontrollable situations it may be more adaptive if individuals recognize their lack of control and give up (Wortman & Brehm, 1975; Janoff-Bulman & Brickman, 1982). Two lines of research provided inconsistent empirical evidence about the adaptivity of high perceived control in uncontrollable situations.

Experimental research on adult samples about the link between perceived control and well-being showed that overestimating one's control even in uncontrollable situations, generally, was adaptive (see Taylor & Brown, 1988 for a review; for a critique of Taylor & Brown's conclusions and a review of mixed empirical results, see Colvin & Block, 1994). Field research on this issue mainly emerged in the context of chronic, progressive, or terminal diseases (see Colvin & Block, 1994; for a review). In these quasi-experimental studies objective control conditions were "manipulated" by indicators of disease severity representing a proxy variable for individuals' objective control competencies. The findings of these studies have been interpreted that high perceived control is only beneficial for well-being if there is some control in the situation but not if the situation is uncontrollable (see Colvin & Block, 1994; for contradictory findings see Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000).

Importantly, it has been concluded that the difference in severity of the risks and the potential impact of the investigated stressful and aversive situations may be mainly responsible for the inconsistencies in the findings across experimental lab research and the field studies (e.g., Colvin & Block, 1994)<sup>27</sup>. However, the uncontrollable situations to which participants were subjected in experimental research pale in comparison with the intensity and potential impact of real world stressors (Thompson, Sobolew-Shubin, Galbraith, Schwankovsky, & Cruzen, 1993). Hence, the findings of the field studies may indicate that failing to control the stressor (e.g., disease) implied extremely negative consequences while this was not the case in the experimental research. Moreover, negative effects of high perceived control on psychological adjustment have been found when investigating children

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<sup>27</sup> Skinner (1995) has argued that some of the observed negative effects of perceived control on adaptation may be explained by the employed measures of perceived control in the field studies. The items may have assessed the individuals' perceptions of responsibility for the bad outcomes and, consequently, self-blame instead of perceptions of personal competence. In a similar vein, Peterson (2000) suggests that in explanatory style research the internality dimension has yielded inconsistent empirical findings because it conflates self-blame and self-efficacy.

who are confronted with their parents' divorce and fighting, alcohol abuse, terminal diseases (see Skinner, 1995 for a review). Children cannot control the causes of such stressful events but they have serious consequences for the children's lives.

Consequently, it may be most adaptive to know whether a situation is amenable to change or not. In uncontrollable situations it is adaptive neither to blindly persevere nor to become helpless. Hence, employing accommodative processes is most adaptive if goals are unattainable (e.g., J. Heckhausen & Schulz, 1995). This view is supported by findings showing that accommodative coping was related to lower distress in response to events that were classified as beyond personal control (Weisz, McCabe & Denning, 1994). Does high perceived control impede a shift toward accommodative modes? Findings show that adults' perceived control, generally, is uncorrelated with accommodative processes, predicting neither rigid perseverance nor flexible goal adjustment (Brandstädter & Renner, 1990). Moreover, studies provided empirical evidence that perceived control is unrelated to accommodative (emotion-focused) coping while there is a positive relationship between perceived control and assimilative (problem-focused) coping in childhood (Compas, Banez, Malcarne, & Worsham, 1991b as cited in Compas et al., 1991a) and young adolescents (Compas et al., 1988; for a contradictory finding, see Kliever; 1991). There is even empirical evidence that high perceived control may support a shift toward accommodative modes. Specifically Kliever (1991) reports that both children high in teacher-rated social competence and children high on internal locus of control engaged in cognitive and behavioral avoidance, especially, if the stressful situation was beyond children's control. One possible explanation for this finding may be that these children have chosen to behaviorally and cognitively avoid the problem because they were aware about the lack of contingencies in the situation. Hence, these findings are in line with the proposition that individuals with high perceived control may have acquired a greater knowledge about contingencies across various situations (Aspinwall & Taylor, 1997; Skinner, 1995).

Another picture arises when considering situations where some amount of control is available. Specifically, research on children's coping with stressors provides some support for the assumption that active attempts to solve problems are adaptive in low control

circumstances. This research also shows that, in contrast, focussing on the emotional consequences of problems is related to negative outcomes. Specifically, children's use of problem-focused coping strategies has been found to be negatively related to social problems (Compas, Malcarne, & Fondacoro, 1988; Losoya et al., 1998) and emotional and behavioral problems (e.g., Ebata & Moos, 1991; Little et al., 2001; Losoya et al., 1998; Weisz et al., 1994). In contrast, frequent use of emotion-focused coping has been related to higher levels of negative psychological and health outcomes (e.g., Aldwin, 1994; Compas & Worsham, 1991 as cited in Compas et al., 1991a; Compas et al., 1988).

For the present study most important are findings showing that problem-focused coping in the domain of friendship was related to lower levels of loneliness, social avoidance, state anxiety and more self-nominated friends (Little et al., 1998) while passive behaviors (i.e., avoidance and doing nothing) were unrelated to these outcomes. Another study (Losoya et al., 1998) showed that teacher-rated problem-focused coping with peer conflict at ages 8-10 was positively related to teacher-rated popularity two years later. In contrast, high levels of teacher ratings of children's doing nothing at younger ages (8-10 years) predicted low teacher-rated popularity two years later. Moreover, teacher ratings of children's doing nothing evinced at younger ages negative concurrent relationships with teacher-rated popularity while this action strategy evinced at older ages (10-12 years) positive positive relationships with with teacher-rated popularity. In a similar vein, avoidance coping evinced at older ages (10-12 years) positive relationships with with teacher-rated popularity although this measure was not significantly related to popularity at younger ages. Hence, while younger children's passive behaviors contributed negatively to their popularity older children's passive behaviors contributed positively to their popularity. It appears that passive behaviors may reflect a lack of alternative coping strategies among younger children (cf., Spivack & Shure, 1974) whereas passive coping may be a relatively controlled way of dealing with peer conflict at older ages.

However, a general problem of the assessments of coping strategies usually employed is that they assess only how frequently specific strategies are reported but not the sequence in which they are employed. Hence, the negative relationships of emotion-focused coping may imply that this strategy is either a poor choice of efforts or a later-stage effort that people

select when they are already experiencing more serious consequences of stressful circumstances. As outlined above, emotion-focused (accommodative) coping may be employed to cope with unsuccessful problem-solving attempts and related psychological distress instead of representing an ineffective attempt to solve the problem (e.g., Compas et al., 1991a; Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984; Folkman, 1984; J. Heckhausen & Schulz, 1995; Hobfoll, 1998).

Some researchers debated whether it is more adaptive to exert action or to employ accommodative strategies and whether the functionality of omitting action depends on the consequences of action (e.g., J. Heckhausen & Schulz, 1995; Skinner, 1995). Hence, the amount of objectively available control in a situation represents only one aspect determining the adaptivity of action. Moreover, due to the multifinality (e.g., Shah & Kruglanski, 2000) and polyvalence of action (e.g., Brandtstädter, 1998) various consequences of action can be measured. So, for example, given the idea that there is no loss without a gain and no gain without a loss with regard to developmental outcomes (Baltes, 1987), the effects of perceived control may be positive or negative depending on which of the possible action outcomes are considered. Moreover, effects of perceived control on possible measures of action outcomes may vary across goal domains and adaptive contexts (cf., Baltes et al., 1998). Such differences may explain the inconsistencies in the findings of longitudinal studies showing positive effects of children's illusory high perceived control about school on academic performance (Lopez, Little, Oettingen, & Baltes, 1998) and negative effects of adolescents' high perceived control about three life domains on well-being (Grob, Flammer, & Wearing, 1995; Grob, Stetsenko, Sabtier, Botchva, & Macek, 1998).

Moreover, the individual's evaluations of his or her action outcomes may differ from the social context's evaluations of his or her action (e.g., Brandtstädter, 1998). For example, the individual may focus on the intended positive consequences of an action while the social context may focus on unintended negative consequences. Section 2.4.3 outlines that children's peer status is related to both the children's competence and biases in the friends' interpretations of children's action (i.e., contingencies provided by the friends). Specifically, low-accepted children are assumed to act under low conditions of control; that is, they have

lower competencies compared to accepted children and their friends' tend to interpret their actions in a negatively biased way. Moreover, low-accepted children's views of their friendships have been found to be more positive than their friends' views. In addition, low-accepted children tend to overestimate their control.

It seems reasonable to expect that the more low-accepted children overestimate their control the more systematically it may *negatively* affect the friends' views of the friendship. Generally, the more children's perceived control overestimates objective control conditions the more often their actions may fail. In turn, the higher the amount of action failures the more the friends' evaluation of friendship quality may be negatively affected. Consequently, low-accepted children's perceived control may be negatively related to the friends' views of friendships. In contrast, if perceived control overestimates objective control conditions to lower degrees, action failure is less likely, and, thus, may less systematically negatively affect the friends' perceptions of the friendships. The more perceived control corresponds with objective control conditions the more perceived control should correspond with the friends' views of friendships. Thus, it is expected that the higher the degree of correspondence between perceived control and objective control conditions, the stronger the *positive* relationship between perceived control and the friends' views of friendship will be.

However, although low-accepted children's illusory high perceived control may negatively affect their friends' views of the friendships, they have friends. In contrast, if they had low and, presumably, more realistic perceptions of control they would be less encouraged to interact with the friends. Shared activities have been shown to be a fundamental criterion of friendship (Hartup, 1993; Newcomb & Bagwell, 1995). As a consequence, children's perceived control may be *positively* related to the number of mutual friendships. This is consistent with the assumption that participating in a friendship is easier to obtain compared to having friends who perceive the relationship positively. Thus, the degree correspondence between objective control conditions and children's perceived control may be higher for friendship participation than for the friends' views of the quality of the relationship.

### 2.3.3 Identifying Relevant Action Strategies for the Domain of Friendship Based on the Literature of Children's Coping

Research on children's coping is at a relatively early stage, so many of the theoretical and conceptual models used in child research are derived from the literature on adult populations (for reviews, see Ayers, Sandler, & Twohey, 1998; Fields & Prinz, 1997). Most frameworks of coping in childhood classify coping responses according to their assimilative or accommodative function of coping efforts (Compas et al., 1991a). In the following a multi-dimensional model of domain-specific assimilative coping in middle childhood is presented. On the basis of this model four coping strategies are identified to represent relevant coping strategies in childhood. Selection of these four strategies is based on theoretical grounds and research on childhood coping providing strong empirical evidence for the representativeness of these strategies.

#### 2.3.3.1 A Multi-dimensional Model of Domain-specific Assimilative Coping in Middle Childhood

The multi-dimensional model of action-control behaviors developed by Lopez and Little (1996) is based on the Dual Axis Model of Coping developed by Hobfoll, Dunahoo, Ben-Porath, & Monnier (1994; for a more recent conceptualization see, e.g., Hobfoll, 1998) which is designed for adult populations<sup>28</sup>. With its major focus on action the childhood model proposes four primary coping dimensions: Direct Action, Indirect Action or Avoidance, Seeking Help, and Antisocial Action. These dimensions<sup>29</sup> delineate the general directional focus of action (direct and indirect) and the general social orientation of action (prosocial and antisocial). Within a given type of action (e.g., directionality), the two alternative dimensions of action (e.g., direct vs. indirect) are not viewed as bipolar expressions of an underlying

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<sup>28</sup> Hobfoll et al. (1994) conceptualize coping strategies as varying along two dimensions, action (active vs. passive) and sociability (prosocial vs. antisocial). It is posited that considering the dimension of sociability or communal orientation in addition to the active-passive dimension resolves the problem of biased assessments of coping. Assessing coping only along the active-passive dimension is based on an attitude of self-reliance as it is typical for individualistic cultures but not for collectivistic cultures (Hobfoll, 1998).

<sup>29</sup> Little et al. (2001) propose six additional strategies such as social cooperation that are assumed to represent bidimensional aggregation between the directness and sociability dimension. However, the authors do not claim that these the "main" strategies together with the selected "aggregate" strategies would represent a comprehensive measure of children's coping. The authors provide empirical evidence that, as hypothesized, the relationships of these six "aggregate" strategies with various social outcomes were mediated by the respective main strategies. As a consequence, in the present dissertation these "aggregate" strategies were not assessed for reasons of parsimony.



continuum, but rather exclusive categories of action (i.e., if a behavior reflects direct problem-solving, it cannot simultaneously reflect indirect action). However, because individuals can, and often do, utilize multiple strategies (typically successively) in pursuit of the same goal, their reports about degree of strategy use can lead to some overlap (correlation) among the primary action dimensions.

When applied to problems in a specific domain, direct action strategies are aimed specifically at solving the problem while Indirect or Avoidance strategies are aimed at remediating the consequences of a stressor or avoiding the need to address it. Prosocial coping strategies are aimed at seeking out and engaging the assistance of others while antisocial strategies are aimed at children's preference to solve the problem without the assistance of others. However, children's resistance to employ social support (Antisocial strategy) appears to be mainly predicted by an attitude of self-reliance and an individualistic vs. a communal orientation (Jackson, Mackenzie, & Hobfoll, 2000) and questions with regard to these constructs are not target of the present investigation. Moreover, this dimension may not represent a very prominent coping strategy in middle childhood because it has not been assessed in studies attempting to assemble comprehensive measures of children's coping strategies (see below; see Ayers et al., 1998; Fields & Prinz, 1997 for reviews). As a consequence, this strategy will not further be considered in the present dissertation. Moreover, Doing nothing is conceptualized as representing the negation of any of the defined coping dimensions. This is in line with Rothbaum's et al. (1982) assumptions who have conceptualized Doing Nothing or relinquished control as expressing uncontrollability with both assimilative and accommodative processes.

Importantly, each of the remaining strategies can be classified to represent primary or assimilative coping. Specifically, direct action represents clearly attempts to change the external world according to own goals. Similarly, the strategy of seeking help often is used to supplement personal competence needed for goal attainment (for further discussion see below). However, help of others can also be used to remediate the emotional consequences of a problem. Emotional support has to be classified to represent an accommodative strategy because in contrast to seeking instrumental support this strategy does not target at changing

the objective situation. Behavioral avoidance can be classified as an assimilative mode of control because for the child the goal is to remove a negative stimulus from his environment and thus, this strategy targets at changing the external world (J. Heckhausen & Schulz, 1995). Finally, based on action-theoretical assumptions the model proposes that action-control or coping behaviors are domain-specific (see Section 2.2.1.4).

On the basis of these theoretical assumptions, Lopez and Little (1996; see also Little & Wanner, 1997) operationalized the Behavioral Instrument of Strategic Coping (BISC) for the domain of friendship. Little et al. (2001) provided initial evidence for the internal and external validity of the instrument. The authors found in a sample of 318 elementary school students (grades 2 - 6) that the correlational structure among the action-control strategies was generally invariant across the three times of measurement (three-week lags). Direct action correlated moderately highly with seeking help. Avoidance strategies were moderately highly and positively correlated with doing nothing. In addition, to the rather high relationship among these strategies they evinced similar patterns of relationships with the remaining action strategies. Both strategies were lowly to moderately highly correlated with seeking help. Avoidance was uncorrelated with direct action while the correlations of doing nothing with direct action varied between  $r = .05$  and  $r = -.32$  across the three times of measurement. Further evidence of an empirical overlap between doing nothing and avoidance strategies is provided by a (4-wave) longitudinal study (Losoya et al., 1998) investigating teacher-ratings of the four strategies in the domain of peer conflict across the age range 4 - 12 years. Specifically, teacher reports of both doing nothing and avoidant coping increased over time and both were consistently modestly to moderately highly and positively correlated at each time of measurement. In addition, the two strategies showed rather consistently a similar correlational nexus with the remaining coping strategies and outcome measures. Consequently, it is reasonable to assume that doing nothing and avoidant coping represent a single higher-order construct representing the strategy of not directly acting on the problem.

Further evidence of the validity and the representativeness of the selected action strategies (i.e., direct action, seeking help, behavioral avoidance, and doing nothing) is provided by researchers who tried to sample the entire domain of coping efforts for children

(e.g., Ayers et al., 1996; Band & Weisz, 1988; Brodzinsky et al., 1992; see Ayers et al., 1998; Fields & Prinz, 1997 for comprehensive reviews). Given that the cross-domain consistency in coping reports found for children is considerably higher than that reported for adults (Ayers et al., 1998; Compas, 1987) findings of studies primarily focussing on domains outside the domain of friendship can corroborate the validity of these action strategies. These studies showed that children's coping strategies can be classified into more than two global dimensions (e.g., primary vs. secondary coping)<sup>30</sup>. In each of the studies factor analytic techniques were employed on comprehensive coping measures which were based on measures reported in previous research. Each of the studies found a factor representing problem-focused coping and a factor representing seeking social support (Ayers, Sandler, Bernzweig, Harrison, Wampler & Lustig, 1989 as cited in Ayers et al., 1998; Ayers, Sandler, West, & Roosa, 1996; Brodzinsky et al., 1992; Gamble, 1994). Moreover, the studies found a factor representing behavioral avoidance (Ayers et al., 1989 as cited in Ayers et al., 1998; Ayers et al., 1996; Brodzinsky et al., 1992; Gamble, 1994) and doing nothing (Gamble, 1994)<sup>31</sup>. In addition, conducted factor analyses yielded factors representing accommodative processes such as cognitive avoidance (Brodzinsky et al., 1992), distraction strategies (Ayers et al., 1989 as cited in Ayers et al., 1998; Ayers et al., 1996), emotional (e.g., cry and yell) and aggressive<sup>32</sup> (e.g., hit and kick) responses (Gamble, 1994), and isolated coping (e.g., "keep my feelings to myself") (Gamble, 1994).

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<sup>30</sup> Two studies provided evidence that classifications of children's coping responses into two apriori defined global dimensions are also tenable. Specifically, Compas et al., (1988) classified children's generated responses to social and academic events into Folkman and Lazarus's (1984) conceptual distinction between problem- and emotion-focused coping. Band and Weisz (1988) classified children's generated responses across a wide array of stressful events into Rothbaum's et al. (1982) conceptual distinction between primary and secondary control as well as relinquished control.

<sup>31</sup> A study (Cook & Heppner, 1997) investigating the psychometric properties of three established coping instruments in adulthood also found three factors replicating across the instruments: problem solving, avoidance, and seeking help.

<sup>32</sup> Aggressive responses can be both emotion-focused and problem-focused.

### 2.3.3.2 Empirical Evidence of Relationships among Domain-unspecific Measures of the Selected Action Strategies and Perceived Control

A study conducted by Gamble (1994) provided insights in the relationships of means-ends beliefs and the target action strategies, although they were assessed with the Children's and Adolescent's Problem solving Inventory (CAPSI; Gamble, 1994). Each of the measures was defined for three challenging everyday situations (i.e., a conflict with mother, a conflict with a friend, and a failure experience in either the academic or athletic life domain). The author assessed 146 fourth- through eighth-grade students' and 166 undergraduates' means-ends beliefs for Powerful Others, Unknown Others, and Self which were operationalized on the basis of action theoretical frameworks of psychological control (Skinner et al., 1988b; Connell, 1985). Interestingly, the findings showed that undergraduates' means-ends beliefs were unrelated to their coping with everyday stressors supporting the proposition that means-ends beliefs become less predictive of action with development (e.g., Skinner, 1995; Skinner et al., 1988b). Children who believed that unknown others are important causes for everyday events tended to use nonaction strategies such as doing nothing and isolated coping to cope with the assessed everyday situations. Children who believed that self-related causes are most useful endorsed problem-focused strategies and seeking social support. Means-ends beliefs for powerful others did not yield unique relationships with the action strategies. However, it appears likely that means-ends beliefs for powerful others shared explained variance of the coping strategies with the means-ends beliefs for unknowns because both unknown others and powerful others represent external means.

Finally, another validation study of a newly developed coping inventory (Brodzinsky et al., 1992) on 810 fifth- through eighth-grade students provided evidence about relationships among self-efficacy beliefs and children's coping with a recent stressful event. Both assistance seeking and problem-focused coping were positively associated with perceived self-efficacy, whereas behavioral avoidance was negatively associated with perceived self-efficacy. As outlined in Section 2.2.1.2, self-efficacy beliefs are conceptually related to agency beliefs.

#### 2.3.4 Summary

Overall, the literature on children's coping shows that their coping responses can be classified according to two strategy types derived from the adult literature: Assimilative (or problem-focused) coping and accommodative or (emotion-focused) coping. Assimilative processes are targeted at changing the situation in accordance with goals. Accommodative processes are targeted at changing goals in accordance to situational circumstances.

It appears from the literature that skills necessary for accommodative coping develop later than skills for assimilative coping. Accommodative processes may, thus, represent an important developmental progression late in middle childhood. Decreasing goal importance and commitment to an unattainable goal is one accommodative strategy used to cope with low control conditions. If such accommodative strategies are available to a child, it may be that some children who perceive that they lack control to attain satisfying friendships may rate that goal to be less important. This is a point important to keep in mind in the interpretation of findings.

On the basis of a multi-dimensional conceptualization of assimilative strategies in the domain of friendship in middle childhood (Lopez & Little, 1996) *direct action*, *seeking help*, *avoidance behaviors*, and *doing nothing* were selected to represent domain-specific action strategies. Findings indicate that behavioral avoidance and doing nothing may represent related strategies to cope with problems in peer relationships (Little et al., 2001; Losoya et al., 1998). The present study examines whether behavioral avoidance and doing nothing can be represented as a higher-order construct representing the strategy of *omitting action*.

As reported in Section 2.2.1.8, the action-theoretical model of psychological control predicts that means-ends beliefs about external means (i.e., luck and powerful-others) are negatively related to effort investments and action outcomes. In contrast, all dimensions of agency beliefs (and self-related means-ends beliefs) are positively related to effort investment and action outcomes, although beliefs about external means may evince lower relationships than beliefs about self-related means.

On the basis of these assumptions and empirical findings based on domain-unspecific measures of perceived control the following hypotheses are derived: Firstly, external means-

ends beliefs may be positively related to action omission and either unrelated or negatively related to direct action. Secondly, domain-specific agency beliefs (and self-related means-ends beliefs) are positively related to both direct action and seeking help and negatively related to action omission. In addition, it is hypothesized that external means-ends beliefs are related to external means-ends beliefs.

Peer relationships have been characterized as being a rather controllable life domain. As a consequence, in line with assumptions of the action theory of psychological control, researchers have proposed that active problem-solving attempts are more adaptive than passive behaviors and accommodative modes of coping. In support of this hypothesis it has been shown that direct actions were positively related to self-reports of friendship quantity while passive behaviors were unrelated to this measure of network size. In addition, younger children's passive behaviors have been shown concurrently and longitudinally to predict low peer group acceptance. However, older children may implement these strategies in more adaptive ways. Moreover, findings show that in controllable domains such as peer relationships, children's problem-solving attempts increase during childhood.

The amount of objectively available control represents only one aspect in determining whether exerting action or turning to accommodative modes of coping is more adaptive. Due to the multifinality (an action can serve several goals; Shah & Kruglanski, 2000) and polyvalence of action (an action results in various intended and unintended outcomes, e.g., Brandtstädter, 1998), various consequences of action can be measured. So, for example, given the idea that there is no loss without a gain and no gain without a loss in development (Baltes, 1987), the effects of perceived control may be positive or negative depending on which of the possible outcomes is measured. Differences in evaluation perspectives illustrate this proposal: The individual's evaluations of his or her action outcomes may differ from the social context's (e.g., friends) evaluations of his or her action (e.g., Brandtstädter, 1998). The individual may focus on the intended positive consequences of an action whereas the social context may focus on unintended negative consequences. As outlined in section 2.4.3, children's peer status is related to both the children's competence and biases in the friends' interpretations of children's action (i.e., contingencies provided by the friends). Specifically,

low-accepted children are assumed to act under low conditions of control; that is, they have lower competencies compared to accepted children and their friends' tend to interpret their actions in a negatively biased way. Moreover, low-accepted children's views of their friendships have been found to be more positive than their friends' views. In addition, low-accepted children tend to overestimate their control.

It seems reasonable to expect that the more low-accepted children overestimate their control, the more systematically it may *negatively* affect the friends' views of the friendship. Generally, the more children's perceived control overestimates objective control conditions, the more often their actions may fail. In turn, the higher the amount of action failures, the more the friends' evaluation of friendship quality may be negatively affected. Consequently, low-accepted children's perceived control may be negatively related to the friends' views of friendships.

In contrast, if perceived control overestimates objective control conditions to lower degrees, action failure is less likely, and, thus, may less systematically negatively affect the friends' perceptions of the friendships. Instead, the child's successful actions may positively affect the friends' perceptions of the friendships. Thus, more realistic perceptions of control can be assumed to be *positively* related to action outcomes. However, although low-accepted children's illusory high perceived control may negatively affect their friends' views of the friendships, they nevertheless usually have friends. If they had low and, presumably, more realistic perceptions of control they would be less encouraged to interact with the friends. Shared activities have been shown to be a fundamental criterion of friendship (Hartup, 1993; Newcomb & Bagwell, 1995). As a consequence, children's perceived control may be *positively* related to the number of mutual friendships.

### 2.3.5 Excursion: Seeking out Adults' Help as a Strategy to Cope with Problems in Peer Relationships—An Appropriate and Useful Action Means at all Ages?

Schwarzer and Leppin (1991) have argued that perceived support may be most important under normal, everyday circumstances where people can usually cope on their own or have to rely only to a limited degree on others' help because in such situations perceived access to others' help increases feelings of control. This kind of support may account for the

“main effect” of social support on well-being<sup>33</sup>. Direct effects of social support occur where well-being is improved or maintained, independent of respective stress levels. This effect of social support may explain the positive relationships of agency beliefs about powerful others representing perceptions about having access to others’ help with action and action regulation (e.g., Skinner et al., 1998). Actually receiving social support may account for the “buffer effects” of social support on well-being (Schwarzer & Leppin, 1991). The buffer argument proposes that individuals are more resistant to the deleterious effects of stressful events if they have access to social support than if they lack access to help provided by others. Hence, the buffer effect relates to actually accessing and receiving others’ help.

As seen above, some models of action regulation stress the importance of recruiting external means such as help provided by others if problems during goal pursuit arise (e.g., Carver & Scheier, 1998; J. Heckhausen & Schulz, 1995; Freund & Baltes, 2000; Freund et al., 1999; Marsiske et al., 1995). These assumptions are supported by findings showing that other individuals may be involved in coping processes either as sources of information, advice, or support (see Cutrona & Russell, 1990 for a review). Generally, the efficiency of human actions can only be maximized by employing external resources (Schönplflug, 1998)<sup>34</sup>. Therefore, if powerful others have legitimate authority, act on the individual’s behalf, and are responsive to the self, they can be seen as benevolent sources of control that augment the power of the self (Antonovsky, 1979 nach Skinner 86). In particular, in times when demands exceed an individual’s expertise, confidence in the effectiveness and competence of confederates can supplement one’s beliefs in one’s own self-efficacy (Thompson et al., 1993). As a consequence, the active recruitment and utilization of external resources such as social support can save effort and can obviate potential frustration from personal failure (Schönplflug, 1998). However, social support is not unequivocally an useful means for action. Specifically, social support imposes demand on the recipient (e.g., social skills for soliciting help), as well as the costs arising from the provider (e.g., social obligations after accepting

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<sup>33</sup> Personal goal striving and well-being are highly interdependent processes because emotions are proposed to arise in response to events that are important to the individual's goals and motives (Frijda, 1988; see also, e.g., Bandura, 1997; Carver & Scheier, 1998).

<sup>34</sup> The employment of external resources such as others' help may either permit the conservation of personal resources while maintaining the personal level of performance or, if personal resources are fully exploited, permit the attainment of higher performance (Schönplflug, 1998).



support) (Schönflug, 1998; Carpenter & Scott, 1992). Moreover, it becomes socially visible that the actor can't solve the problem by own means (Carpenter & Scott, 1992). Finally, help provided by powerful others (proxy control), reduces opportunities to build the skills needed for successful actions (Bandura, 1997; M. M. Baltes & Carstensen, 1996).

Social agents such as parents, teachers and peers can provide security, instrumental, and emotional support (e.g., Birch & Ladd, 1996; Maccoby, 1983) and informational support (e.g., Carstensen, 1993; Skinner, 1995)<sup>35</sup>. Changes in the use of social relationships as sources of support are most likely related to the changing nature of social relationships with adults and friends during childhood and adolescence (Compas, 1987; Fuhrman & Buhrmester, 1992). Maccoby (1983) emphasizes that for young children a primary strategy to cope with threat is to go to attachment figures such as parents and teachers. Moreover, adults such as teachers have been found that they can fulfill children's needs for nurturance and assistance (Tinsley & Parke, 1984). With regard to age differences in the employment of teachers' assistance, elementary school children have been found to perceive teachers as more supportive than adolescents (Fuhrman & Buhrmester, 1992). Findings in various domains distinct from the friendship domain show that over time there is less use of social support, but children in later grades may prefer adult support while children in the lower grades prefer peer support (Altschuler & Ruble, 1989; Kliewer, 1991). This trend turns opposite to that found for preferred source of support between preschool and primary school years (Altschuler & Ruble, 1989; Rossman, 1992). A (4-wave) longitudinal study investigating the age range of 4 - 12 years in the domain of peer conflict (Losoya et al., 1998) provided further support for these developmental trends in preference of adults' support. These developmental trends may be explained by children's greater awareness with age of how peers view them (Fields & Prinz, 1997). As a result of help seeking behaviors it becomes socially visible that a person can't solve the problem by own means (Carpenter & Scott, 1992). As a consequence, children may be less willing to reveal weakness to peers and, thus, prefer to seek out adults for help (Altschuler & Ruble, 1989; see Krappmann & Oswald, 1988 for empirical evidence of

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<sup>35</sup> In addition, during middle childhood parents can provide more indirect kinds of support including influence on time, places and other resources facilitating children's peer activities (Krappmann & Oswald, 1990). In a similar vein, teachers influence the opportunities and constraints for children's peer interactions in the school environment (e.g., Epstein, 1989).

problems related to seeking help from friends and other peers). However, this assumption may mainly hold if seeking adults' help remains unnoticed by the peers. Assessing adult' help may mainly remain invisible if the target problem lies outside of the domain of peer relationships. If an adult intervenes on a given child's behalf when facing problems with peers the peers inevitably are informed about the child's help seeking behavior. Generally, peers are apparently well aware of a given child's typically enacted coping attempts when confronted with problems. Specifically, Causey and Dubow (1992) found modest to moderately positive correlations between the corresponding subscales of the self-report and peer-rated coping measures for problem-solving, seeking social support, and avoidance strategies when confronted with peer conflict and bad grades in school.

Because there is the expectation for children's dependency on adults to diminish over time, children who remain highly dependent on the classroom teacher and parents may be violating classroom norms for behavior (Birch & Ladd, 1996) and, consequently, their help seeking behavior may be negatively evaluated by the peers. Moreover, children's relationships with adults are construed as being complementary, asymmetrical, and falling along a vertical plain of dominance and power assertion. In contrast, their relationships with peers are proposed to be more egalitarian (Piaget, 1932; see also Smollar & Youniss, 1982; Youniss, 1980, 1982). As a consequence, the peers may show strong disapproval if a child involves an adult into their relationship affairs which they expect to be egalitarian. These assumptions are in line with the proposition that the "peer world" is not only rather separated from adults' influence but has its own rules and norms (e.g., Oswald & Krappmann, 1991).

The assumption that asking for adult intervention is a nonnormative behavior is further supported by findings showing that this behavior is more typical for rejected children than for accepted children (e.g., Asher, Renshaw, & Geraci 1980; Coie et al., 1982; Putallaz & Sheppard, 1992). For example, Asher and Renshaw (1981) found that unpopular children were relatively likely to endorse the strategy of seeking adults' help in response to friendship initiation stories. It appears that it is mainly the nonaggressive-rejected subgroup who refer themselves for help with their peer relations while aggressive-rejected children are unlikely to refer themselves for help with their peer relations (e.g., Boivin, Thomassin, & Alain, 1989;

Parkhurst & Asher, 1992). For example, Rubin and Krasnor (1986) found that it were the withdrawn children who were most likely to propose adult intervention as a useful strategy for friendship initiation.

However, although these findings provide evidence that the majority of children do not tend to ask for adult intervention they do not show that adult intervention causes peer rejection. Although, it has been shown that enactment of strategies that violate peer-group norms can negatively affect children's social acceptance (J. C. Wright et al., 1986; Boivin et al., 1995) it remains an open question whether seeking out adults' support when facing problems with peers has a negative influence on children's social acceptance or friendship relationships. It is possible that rejected children employ adults' help to supplement their personal control, although this action means is rather ineffective to attain relationship goals. Empirical support of the ineffectiveness of adults' support is provided by findings showing that teacher ratings of the frequency of the children's usage of adults' emotional support in the domain of peer conflict were unrelated to their ratings of the children's popularity (Losoya et al., 1998). Another study (Little et al., 2001) found that children's self-reports of seeking out adults' help in the domain of friendship were uncorrelated with their reports of the number of friends. Moreover, Oswald and Krappmann (1995; see also Krappmann, 1989) showed that parents influenced children's friendships mainly indirectly by being interested in children's friendships and providing opportunities for interactions, whereas parents' direct interventions into peer interactions were unrelated to children's self-reports of the number of high-quality friendships. However, the relationships of direct adult intervention with the number of from the friends' reciprocated friendship nominations and the friends' views of friendship quality may be negative.

The present dissertation addresses the relationships of help seeking behaviors in difficult situations in friendships with the number of mutual friends, the friends' views of friendship quality and children's own views of friendship quality. It seems reasonable to assume that the more the children themselves regard others' help as relationship enhancing action means the more positive they may view the quality of their friendships. In contrast, the friends may evaluate their friendships as less positive the more often the children report employing others'

help to solve problems with their friends. Notably, the literature provides no evidence whether or whether not children tend to involve other peers if they have problems with their friends. At least in part this may be explained by the fact that non-aggressive rejected children who are most likely to employ adults' help rather unlikely have access to their peers' or friends' help because they often lack relationships (e.g., Zakriski et al., 1997).

In sum, perceptions of having access to help provided by others such as parents and teachers may represent benevolent sources of feelings of control (i.e., a "secure base" that can be trusted or fallen back on if needed), at least, as long as their help is not actually accessed and employed. Recipients of help have to deal with demands and costs arising from accessing this action means. With age there is less use of social support. Seeking out adults' help in order to solve problems in peer relationships may violate peer-group norms and expectations of peer relationships as being egalitarian. Consequently, help seeking may be negatively evaluated by the friends which may be reflected in lower perceptions of friendship quality and, in the worst case, in a lack of mutual friendships at all.

#### **2.4 Friendship and Peer Group Acceptance - - Two Different Types of Peer Relationships**

Family and friends appear to be the most important people in the social networks of children and adolescents (e.g., Levitt, Guacci-Franco, & Levitt, 1993). However, in social settings such as the classroom children are brought into contact with a greater number and more diverse set of peers, although they are mostly similar to them in age (Rubin et al., 1998). As a consequence, in contemporary research, mainly two types of children's social experience with their peers are distinguished: Friendship and peer group acceptance or popularity. Friendship represents a dyadic concept, while peer group acceptance and popularity represent group-related concepts and these concepts are rather different, although they overlap empirically in some ways (Bukowski & Hoza, 1989). Generally, research on children's peer relationships mainly has focused on peer group acceptance and less often on children's friendships. These peer relationship constructs, the methods used to operationalize them, and their relationships are described in more detail below.

#### 2.4.1 Peer Group Acceptance and Sociometric Status

Children's peer group acceptance is an index of how well children fit into the social network of the classroom. The terms peer group acceptance, peer group status, social acceptance, and popularity are used interchangeably and refer to the group's view of an individual vis-à-vis the dimensions of liking and disliking (Bukowski & Hoza, 1989). Unlike friendships, peer group acceptance is analyzed at the classroom level, and consists of unilateral nominations or ratings.

Peer group acceptance is typically assessed by asking the children to nominate three children with whom they "like most (to play/work with)" and three children with whom they "like least (to play/work with)" and, consequently, represents interpersonal attraction (Aboud & Mendelson, 1996). Popularity and its correlates are often investigated by means of classifying children as belonging to various sociometric status groups (e.g., Coie et al., 1982; for reviews see, e.g., Asher & Coie, 1990; Coie et al., 1990; Crick & Dodge, 1994; Newcomb, Bukowski, & Pattee, 1993).

Based on the number of positive ("like most") and negative ("like least") nominations a child receives from the group asked, children are classified into various status groups (for a historical overview, see, e.g., Rubin et al., 1998). According to the most frequently used classification systems developed by Coie et al. (1982) children are classified into five extreme groups indicating varying types of acceptance and rejection by classmates. The groups have been labeled (a) *popular*—children who receive many positive nominations and few negative nominations, (b) *average*—children who receive an average number of positive and negative nominations, (c) *controversial*—children who receive many positive and many negative nominations, (d) *neglected*—children who receive few positive and few negative nominations, (e) *rejected*—children who receive few positive nominations and many negative nominations. The present dissertation focuses on popular, average, and rejected children.

Children who are sociometrically rejected are a heterogeneous group. Most empirical investigations have focused on two subgroups (e.g., Zakriski et al., 1997). One half of all socially rejected children have been observed to be highly aggressive (e.g., French, 1988; Rubin, Hymel, Lemare, & Rowden, 1989). The defining behavioral characteristics of the other

group of rejected children are less clear (e.g., Zakriski et al., 1997). Empirically, they have been shown to be less aggressive than both aggressive-rejected and popular children (French, 1988). Instead, there is some evidence that they are more withdrawn than both aggressive-rejected and popular children (Cillessen, van IJzendoorn, van Lieshout, & Hartup, 1992). Some researchers added a third subgroup of rejected children who are both withdrawn and aggressive (e.g., Hymel, Bowker, & Woody, 1993). Other researchers have found that nonaggressive-rejected children share certain beliefs about their peer rejection experiences, suggesting that it may be useful to consider them as one group (Patterson et al., 1990; Zakriski & Coie, 1996; Zakriski et al., 1997). Notably, relatively few girls are overtly aggressive (Robins, 1986), but many girls who are rejected are withdrawn (French, 1988). Consequently, girls may be rarely members of the aggressive-rejected subgroup.

Popular, average, and rejected classifications are more stable than all others, whereas neglected and controversial status are consistently reported to be highly unstable (for a review, see Rubin et al., 1998). In general, the category of peer rejection is the most stable. More specifically, approximately 30% to 50% of rejected children remain rejected over a 5-year period; even when they move into another status group it is rare for them to become extremely well accepted (Coie & Dodge, 1983; see also Burton & Krantz, 1990). Rejected children who are both aggressive and withdrawn may be most likely to experience stable rejection (Cillessen et al., 1992).

#### 2.4.2 Friendship

Whereas children's peer group acceptance is an index of how well children fit into the social network of the classroom children's friendships with classmates are dyadic, reciprocal, and voluntary. "Friendship reflects the presence of a close, mutual, and dyadic bilateral relationship" (Rubin & Coplan, 1992, p. 528). Friendships are defined by (a) reciprocity, (b) free choice on the part of the two children involved, and (c) affectional concerns rather than instrumental issues (e.g., Rubin et al., 1998). Bukowski and Hoza (1989) describe three different levels of analysis for friendships: participation (i.e., the presence or absence of friends), quantity (i.e., the size of the friendship network), and friendship quality (e.g., the extent to which the friendship can be characterized by certain relationship features). In the

following these units of analysis are briefly reviewed. Furthermore, findings with regard to the friendship duration are briefly described. Moreover, children's conceptions of friendships are presented because they may provide insights into children's goal representations in the domain of friendship. Finally, gender-related issues are presented.

#### 2.4.2.1 Friendship Participation and Quantity

One method to assess whether children participate in friendships is to ask them to name their friends (e.g., Hartup, 1996b). However, even children without friends almost always can name "friends" if they are asked to do so (Furman, 1996). Typically, a friendship is considered mutual when both members of a dyad have chosen each other as one of their friends (e.g., Bukowski & Hoza, 1989; Newcomb & Bagwell, 1996). Generally, the number of mutual friends increases with age (Berndt, 1981), although only few children (e.g., Brendgen et al., 2000) and adolescents (e.g., Berndt & Keefe, 1995) have three or more mutual friendships.

#### 2.4.2.2 Friendship Quality

Friendship quality includes both positive (e.g., intimacy, liking, and fun) and negative friendship features (e.g., conflict, inequality). Positive and negative friendship features are only weakly correlated (e.g., Berndt & Keefe, 1993). Several measures have been developed that assess children's perceptions of these specific relationship features (Bukowski, Hoza, Boivin, 1994; Furman & Buhrmester, 1985, 1992; Krappmann, Oswald, von Salisch, Schuster, Uhlendorff, & Weiss, 1991; Little, Krappmann, Brendgen, & Wanner, 1997; Sharabany, Gershoni, & Hofman, 1981). Thereby, many of the relationship features are operationalized as children's perceptions of their own and their friends' goal-directed behaviors in their friendship interactions.

2.4.2.2.1 Intimacy. Measures of positive friendship features generally assess six resources or provisions (i.e., stimulating companionship, help, intimacy, reliability, emotional security, and self-validation) that are provided more by friends than by nonfriends and that are related to satisfaction with the relationship (Berndt, 1996; Furman, 1996). However, as consistently found in research with children and adolescents, the subscales for the various positive aspects of best friendships are rather highly correlated (Berndt & Keefe, 1995; Furman, 1996; Little, Brendgen, Wanner, & Krappmann, 1999; Rose & Asher, 1999) and,

therefore, it has been proposed (Berndt, 1996; Furmann, 1996) to represent aspects of a rather broad conceptualization of friendship intimacy as proposed by Sullivan (1953). At a minimum intimate collaborative friendships involve engaging in mutual activities, self-disclosure and reciprocal feelings of satisfaction with the relationship (Buhrmester, 1990, Furman & Robbins, 1985; Sullivan, 1953, see also Oswald, Krappmann, & Fricke, 1988).

2.4.2.2.2 Conflict. To describe friendship quality accurately both positive and negative features have to be taken equally in account (e.g., Berndt, 1996). Generally, conflict may represent the most prevalent negative feature that characterizes friendships. Cahn (1992, p. 2) defines conflict as what occurs whenever there is disagreement, difference, or incompatibility in a relationship. It can arise from a specific disagreement, a problem-solving discussion, or stormy interactions in unhappy, dysfunctional, or dissolving relationships (Duck, 1996). Specific disagreements often result from the presence of perceived inequity within relationships, implying an imbalance in interaction rewards and costs (Laursen, Hartup, & Koplas, 1996). Given this broad approach, conflict is an almost inevitable consequence of being in a relationship with another person who has goals, needs, desires, and intentions that may be different from the own (Duck, 1996). Thus, in friendship interactions each child has not only to coordinate his or her own goals but also taking into account the friend's goals (Dodge, Asher, & Parkhurst, 1989). In contrast to cognitive problems, which are usually clearly defined, social interactions are almost always ill defined (Greene, 1976). As such, social interactions are open to multiple construals and multiple goal possibilities (Dodge et al., 1989). For example, two kind of social goals are, at least, salient to the children: (a) instrumental outcomes (e.g., whether or not a child does what you want them to do) and (b) relational outcomes (e.g., whether or not a peer likes you) (Crick & Ladd, 1990). Generally, goals can be in conflict and compete with each other for realization (e.g., Kuhl & Beckmann, 1994). For example, Dodge et al. (1989) proposed that children's problems with peer relationships may be related to difficulties to coordinate the pursuit of social goals. Children's goal construal and selection may be further complicated because they interact in social networks without institutionalized or socioculturally determined roles. As a consequence, children have to negotiate the interaction rules that specify the social partners' expectations of



the way and the contextual circumstances in which the children have to perform specific actions (Krappmann & Oswald, 1983; Oswald & Krappmann, 1988). Finally, the polyvalence of actions leading in addition to intended also to unintended or unnoticed outcomes can cause conflict (see Boesch, 1991; Brandtstädter, 1998). As a consequence, the ways in which a child construes the effects of his or her action may differ from the interpretations of his or her friend. Generally, any exerted behavior by one of the partners that is interpreted negatively by the other partner can cause conflict (e.g., Duck & Wood, 1995).

Conflict represents one of the few dimensions of interaction in which there are no differences between friends and nonfriends. Friends engage in about the same amount of conflict as pairs of nonfriends (Hartup, 1992a; Laursen et al., 1996). However, various researchers (Hartup, 1996b; Hartup & Laursen, 1992; Laursen et al., 1996; Newcomb & Bagwell, 1995) report that friends are more likely than nonfriends to resolve conflicts in a way that will preserve or promote the continuity of their relationship. However, if the friends do not succeed to resolve conflicts in a satisfactory manner the relationship is dissolved (e.g., Laursen et al., 1996). Importantly, on the one hand problems and conflicts in friendship relationships represent a risk factor for the development and maintenance of the relationship (Hartup, 1992). On the other hand, conflicts with peers are often good opportunities for learning about the importance of cooperation, competition, alliances, and loyalty - as well as about experiences to be avoided, such as bullying and rejection (Smith, Bowers, Binney, & Cowie, 1993).

2.4.2.2.3 Reciprocity. Children's experience within friendship is linked to the development of a concern for a balance between individual and communal goals (Rubin et al. 1998; see also Shulman, 1993), and, relatedly, to increasingly more explicit expectations of reciprocity, of receiving equal treatment, as children grow older (Berndt, 1982). Hence, perceptions of reciprocity of friendship provisions are assumed to represent an important feature of friendship quality. Thereby, a good relationship is not viewed as one that places no demands on either partner, but rather as one in which the benefits to both outweigh the demands (e.g., Berscheid, 1983). In a related manner, it has been posited that the concordance of the friends' views of positive and negative friendship features represents an additional

important determinant of friendship quality (e.g., Brendgen et al., 2000; see also Hartup, 1996b). Generally, if the friends agree that they find many positive and few negative features in their friendship the relationship can be characterized as having high quality. If at least one of the friends has a less positive view of the relationship the friendship may be regarded as having low quality (e.g., Brendgen et al., 2000). In addition, concordance of the friends' perceptions shows that the perceptions are anchored in a shared social reality which reflects shared interactional experiences as well as shared understanding of the meaning of each other's action (Buhrmester, 1990).

#### 2.4.2.3 Children's Conceptions of Friendship

Whereas measures of friendship quality reflect children's views of their own and their friends' action in friendships, measures of children's conceptions of friendships (e.g., Bigelow, 1977; Selman, 1976, 1980, 1981; Youniss, 1980) reflect their reasoning and their expectations about the features of friendships. Many of the friendship conceptions can be used to describe both friendship formation and maintenance (Rubin & Coplan, 1992). Therefore, these conceptions of friendship features can be assumed to represent relevant subgoals of the middle-level goal of having friendships. Children's conceptions of friendship develop during middle childhood. On a general level, children begin to realize that a friendship can serve as both a resource and a context that differs from the conditions that exist with nonfriends (Rubin et al., 1998). At the beginning of middle childhood a friend is a child who lives nearby, has nice toys, and shares the child's expectations about play activities. At the end of middle childhood and in preadolescence friends are expected to share values, rules, and interests, as well as to try actively to understand each other and to engage in self-disclosure (Berndt & Perry, 1986; Bigelow, 1977; Bigelow & la Gaipa, 1975; Bukowski & Hoza, 1989; Furman & Bierman, 1983; Hoppe-Graff & Keller, 1988; Keller & Wood, 1989; see also Selman, 1976, 1980, 1981). Moreover, the expectation of reciprocity, of receiving equal treatment, becomes increasingly explicit as children grow older (Berndt, 1982). Thus, during middle childhood friendship conceptions become more elaborated and more complex and reflect their own transitions from the world of the concrete to the abstract (Rubin et al., 1998). In action-psychological parlance, the goal of having friends is not only identified but this goal

becomes also more refined and maintained over time (e.g., Boesch, 1976, 1991; Brandtstädter 1998; Frese & Sabini, 1985; Gollwitzer & Bargh, 1996). These assumptions are supported by findings showing that changes in children's friendship conceptions are paralleled in the patterns and nature of involvement in friendships (for a review see, Rubin et al., 1998). For example, the development of conceptions that are related to intimacy and closeness (e.g., engagement in self disclosure) is paralleled in an increase of the number of reported "close friends" (Epstein, 1986).

The content of children's expectations about friendship may explain why situations such as initiating peer interactions trigger friendly and assertive responses but do not trigger hostile responses (Renshaw & Asher, 1983). In other words, children may regard action strategies involving aggression as being ineffective means for attaining friendship goals.

The finding that rejected children's conceptions of friendship are similar to those of accepted children (Bichard, Alden, Walker, & McMahon, 1988) indicates that the sociometric groups do not differ in their goal systems. Thus, differences in contents of friendship goals may not account for differences in accepted and rejected children's actions.

#### 2.4.2.4 Friendless Children differ in their Views of Friendship Quality, Conceptions of Friendship, and Perceived Control from Friendled Children

Whereas sociometric status appears to be unrelated to children's friendship conceptions, friendless children were found to have lower friendship conceptions than those of friendled children (Newcomb & Bagwell, 1996). Hence, differences in contents of friendship goals may account for differences in friendless and friendled children's actions. Moreover, friendless children appear to have lower perceptions of their competence than friendled children (for a review, see Newcomb & Bagwell, 1996). This is important for the present study because competence perceptions represent an important aspect of perceived control. More specifically, when controlling for popularity, friendless as compared to friendled children scored lower on social competence (Bukowski & Newcomb, 1987 as cited in Newcomb & Bagwell, 1996). However, so far no study has addressed whether friendless and friendled children differ in their perceived control about friendship. Moreover, Newcomb and Bagwell (1995) found in their meta analysis that children whose friendship nominations were not reciprocated perceived

these unilateral friendships less intimate than children whose friendships were reciprocated (see also, Krappmann et al., 1993). However, the findings that friendless children perceive their unilateral friendships less intimate than children whose friendships are reciprocated were based on samples of children without differentiating among sociometric status groups. Thus, friendless children of each peer status group may perceive their unilateral friendships less intimate than friended children. Taken together, these findings suggest that friendless children have rather pessimistic views of their peer relationships and control in this domain.

#### 2.4.2.5 Children Often Become Friends at School or Neighborhood

The fact that children become friends with peers from the same school or neighborhood has been a classic finding in many studies and recognized by the children themselves (Furman & Bierman, 1983; Spurgeon, Hicks, & Terry, 1983). These locations provide proximity. Proximity increases the opportunities for initial casual encounters and reduces the amount of effort required to maintain contact between potential friends (Clark & Drewry, 1985; Spurgeon et al., 1983). This may be more important for children than adolescents or adults, since children's mobility is more restricted (Epstein, 1989). Hence, if all children living in a neighborhood usually attend the same primary school the majority of children's friends should attend the same school. The present dissertation takes advantage of this circumstance.

#### 2.4.2.6 Children's Preference for Same-Sex Friendships

Generally, children make friends on the basis of common interests and common activities (Gottman, 1983). Common ground is facilitated by similarities between friends (Hartup, 1996b). During middle childhood and even in early adolescence, friends appear to be more similar than non-friends in terms of salient attributes (Hartup, 1996b) such as age, race, and, gender (Berndt, 1982, Hartup, 1983, 1993). However, some children have relationships with one or two children of the opposite sex, although relationships across the sex border have been found to be less intensive than relationships with peers of the same sex (Buhrmester & Furman, 1987; Oswald et al., 1988; Krappmann et al., 1993; Sroufe, Bennett, Englund, Urban, et al., 1993).

#### 2.4.2.7 Gender Differences in Friendship Quality and Quantity

With regard to gender differences girls report higher levels of intimacy in their friendship relationships than boys (e.g., Buhrmester, 1990; Buhrmester & Furman, 1987; Parker & Asher, 1993; Patrick et al., 1997; Patterson et al., 1990; Rose & Asher, 1999) but there is no gender difference in conflict (Bukowski et al., 1994; Parker & Asher, 1993; Rose & Asher, 1999). While for boys same-sex friends represent moderately important providers of intimacy across middle childhood until early adolescence (grade 8), for girls preadolescence (grade 5, ages 9 - 12) is a period in which disclosure between friends rapidly increases in importance (Buhrmeister & Furman, 1987). However, it has been criticized that these gender differences in intimacy mainly reflect the feminized manner of measurement which emphasizes the communal aspects of this friendship feature while, in part, agentic dimensions such as conflict management are neglected (see Hartup & Stevens, 1997).

Empirical findings concerning gender differences in the size of friendship networks are somewhat inconsistent across cultural contexts. While various German studies (e.g., Krappmann & Oswald, 1983; Krappmann et al., 1993; see Bukowski, Sippola, Gauze, Hoza, & Newcomb, 1993 as cited in Schneider, Wiener, & Murphy, 1994 for a study in the U.S.) report no differences in boys' and girls' number of friends, studies conducted in the U.S. often found that boys have a larger number of same-sex friends than girls (Benenson, 1990; Schneider et al., 1994). However, across both the U. S. (Benenson, 1990; Parker & Asher, 1993; Rose & Asher, 1999) and the German cultural contexts (Brendgen et al., 2000) boys do not appear to have more "best friends" or close friends than girls. This is important for the present dissertation because children's three best friendships in school are investigated.

#### 2.4.3 Friendship and Peer Group Acceptance are Different Types of Peer Relationships -- but they are Not Independent

Until recently, the assumption was prevalent that children who are rejected by most of their peers wouldn't have any friends. However, while popular children tend to have more reciprocal or mutual close friends than their less accepted classmates (e.g., Buzzelli, 1988), even children who experience general social rejection by their classroom peers often<sup>36</sup> have at

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<sup>36</sup> Rejected children tend to have unilateral relationships. About one third of the rejected children don't have any friend who reciprocates the relationship (e.g., Brendgen et al., 2000; Parker & Asher, 1993).

least one close, mutual friend (e.g., Asher & Parker, 1993; Brendgen et al., 2000; Buzzelli, 1988; Furman & Robbins, 1985). In this context, aggressive subgroups of children do tend to have relationships (e.g., Cairns & Cairns, 1991; Zakriski et al., 1997). Moreover, it is possible to be generally popular<sup>37</sup> while not having any really close friends (e.g., Brendgen et al., 2000; Bukowski et al., 1996; Parker & Asher, 1988). As a consequence, these findings provide evidence for multidirectionality of development (e.g., Baltes, 1984; Baltes, 1987) in the domain of peer relations and the distinctiveness of friendship and popularity (Bukowski & Hoza, 1989). Even in kindergarten, where these two facets of peer relations might be expected to be as similar as they ever are (Mendelson, Aboud, & Lanthier, 1994), friendship and popularity appear to be distinct types of peer relationships.

Differentiation among these two types of relationships increases in early adolescence when the construct of friendship becomes more differentiated as it assumes features beyond mutual liking (Bigelow & LaGaipa, 1975). By definition, the dimension of liking represents the main link between popularity and friendship. Liking is, aside of disliking, one of the two fundamental dimensions of popularity, and reciprocated liking is a basic feature of friendship.

From a methodological point of view, as a consequence of the relationship among the goals of friendship and popularity findings showing differences between children who have mutual friends and friendless children are difficult to interpret because they are confounded with popularity (cf., Newcomb & Bagwell, 1996). In a similar vein, differences among sociometric status groups are difficult to interpret because they are confounded with the children's friendship participation as well as the quality of the friendship relationships. Notably, the effects of friendship participation on outcome measures are also often confounded with friendship quality (cf., Hartup, 1996b).

In Section 2.1.1.2 it has been outlined that goal systems can be characterized by their vertical and horizontal coherence (Sheldon & Kasser, 1995). As depicted in Figure 4, there may be some horizontal coherence between the goals of peer acceptance and friendship as indicated by the lateral association between the two goals. On the one side, goal coherence is

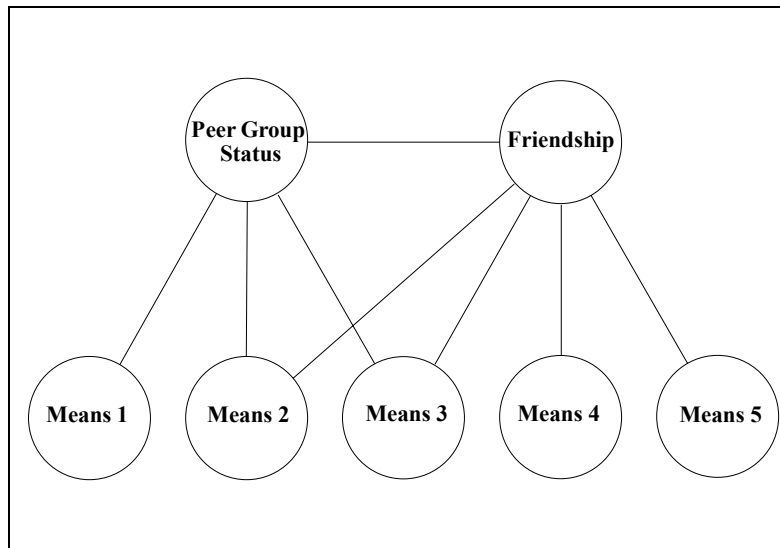
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<sup>37</sup>In addition to popular children there are also average children whose friendship nominations are not reciprocated by the other children although they are relatively rare (about 10 percent) (e.g., Brendgen et al., 2000).

related to savings of resources when attempting to attain these goals. On the other side, when children fail to successfully integrate into the peer group the pursuit of the goal of having friendships may be negatively affected and vice versa. More specifically, it has been proposed that children's peer group status influences their friendship relationships by providing opportunities and constraints for actions they pursue to attain the goal of having good friendships (e.g., Bukowski et al., 1996; Hartup & Stevens, 1997). For example, Bukowski et al. (1996) showed that being initially popular predicted later friendship whereas initial friendship was not observed to be associated with later popularity. Children's popularity or position in the peer group determines, in part, the number of peers the children have direct and indirect contact with. In turn, these contacts influence how many opportunities the children have to form friendships. Thus, rejected children, in part, have difficulties to establish friendships because they lack the opportunities to get in contact with peers. The other way round, Sabongui, Bukowski, & Newcomb (1998) provided evidence that the best friendship can affect the stability of the children's sociometric status. The best friends' sociometric preference score (i.e., difference between the rejection score and the acceptance score) predicted the child's own sociometric preference score a half year later. The authors propose that this relationship is due to the friends' network embeddedness. A child who has a friend that is very popular has indirect links to several other peers; a child who has a friend that is not very popular has indirect links to relatively few (or no) other peers. In turn, membership in a social network has been found to be linked to greater peer acceptance (Benenson, 1990). As a consequence, rejected children, on the one hand, may be more dependent on dyadic friendship relationships than accepted children in order to compensate for peer-related problems. On the other hand, they have fewer chances of establishing dyadic friendships than accepted children (Bukowski et al., 1993; Parker & Asher, 1993).

In support of the assumption that success in one domain may compensate for some of the negative consequences of failure in the other domain (Brim, 1992), findings show that the support of a single close friendship can compensate for at least some of the disadvantages that result from peer rejection (Boulton et al., 1999; Bukowski & Newcomb, 1987, as cited in Rubin & Coplan, 1992; Parker & Asher, 1993; Sanderson & Siegal, 1995; Vernberg, 1990).

Figure 4  
*Friendship and Sociometric Status: Horizontal Coherence and Shared Action Means*



The proposed sequence of developmental significance of peer group status and friendship (cf., Sullivan, 1953), may affect the strength of the bi-directional influence of the two peer relationship goals. In line with the sequence of developmental significance, Bukowski et al. (1996) propose that peer group status represents the basis for children's subsequent opportunities to establish friendships. As described in the following, the social reputation that is related to peer group status may influence the potential friends' interpretation of children's actions in the domain of friendship. Hence, children's sociometric status can be assumed to represent a marker of contingencies on their action provided by the peers. Moreover, as seen in Figure 4, the specific action means such as social skills and competencies that may be causally related to the acquired peer group status may, in part, also present the means serving friendship goals (multifinality, see Shah & Kruglanski, 2000). As a consequence of both the developmental sequencing and the overlap of mean-ends relationships between the two peer-relationship goals, deficits in social competencies that are related to peer group status may also cause friendship problems. Consequently, children's sociometric status can be assumed to represent a marker of individual differences in competencies.



### 2.4.3.1 Sociometric Status as a Marker of Contingencies Provided by the Peers as Social Context

In understanding the role that sociometric status might play for the adaptivity of perceived control for friendship relationships, it is important to consider what sociometric status means for the children. Popularity is a group construct and the processes of rejection and acceptance are group processes. The members of the group share their evaluations explicitly and indirectly with one another. In particular, peer rejection is often an overt phenomenon because, for example, ridicule and rejecting behavior tends to be expressed openly in children's peer groups (Crick & Ladd, 1993). By the middle to late elementary school years, children are aware of their own and others' social position within the peer group (e.g., Ausubel, Schiff, & Gasser, 1952; Krantz & Burton, 1985; Glidewell, Kantor, Smith, & Stringer, 1966).

These shared evaluations probably contribute to the findings that the peers interpret and evaluate rejected children's behaviors more negatively than average children's behaviors while they interpret popular children's behaviors more positively (Hobfoll, 1998; Hymel, 1986; Hymel et al., 1990; Schuster, 2001, Waas & Honer, 1990). In addition, research has shown that surface characteristics such as sex, attractiveness, race and physical disabilities are correlates of peer sociometric status (see Hartup, 1983). These surface characteristics have also been shown to evoke biased evaluations of others because they provoke stereotyping (see Hymel et al., 1990). These biases serve to maintain prior beliefs and attitudes about others regardless of actual social behavior. Biases may be manifested in differential impressions and evaluations of behavior, selective recall of expectancy-congruent information, and biased attributional interpretation of behavior. Thereby, the polyvalence of actions in terms of multiple outcomes (Boesch, 1991; Brandtstädter, 1998) and the resulting ambiguity of most social behaviors (e.g., Hymel et al., 1990; Zakriski et al., 1997) may facilitate biased interpretation of others' actions. It has been found that the peers tend to interpret rejected children's action more negative than average children' actions while they interpret popular children more positive than average children's actions (e.g., Hymel et al., 1990; Waas & Honer, 1990). As a consequence, the peers' and, in particular, the friends' responses on a

rejected child's actions may be less contingent than on an average child's actions. In contrast, the peers and the friends may respond even more contingent on a popular child's actions than on an average child's actions. Thus, the *contingencies* provided by the social context may differ across sociometric groups. Importantly, the effects of reputational biases are more pronounced at the end of middle childhood than at the beginning of this age period (Waas & Honer, 1990).

#### 2.4.3.2 Sociometric Status as a Marker of Individual Differences in Children's Competencies

The vast majority of studies on peer acceptance and rejection (for reviews, see Coie et al., 1990; Crick & Dodge, 1994; Newcomb et al., 1993) was conducted to provide empirical evidence for the social skill deficit hypothesis claiming that inadequate social cognitions and behaviors represent the primary reason for peer rejection. The developmental-lag hypothesis (Garber, 1984; for reviews and further discussions, see Crick & Dodge, 1994; Dodge & Feldman, 1990) represents a prominent example of such research. This hypothesis suggests that children with difficulties in peer relationships are lagging in the social-cognitive skills relative to their peers. According to the action theory of psychological control these assumptions refer to the *competence* aspect of objective control conditions.

However, in line with the above outlined action theoretical assumptions of reciprocal relationships of action and social and physical context, some researchers make the claim that a child's actions and cognitions are reciprocally related to his or her popularity (e.g., Coie & Kupersmidt, 1983; Dodge, 1983; Dodge & Feldman, 1990; Zakriski et al., 1997). For example, rejected children's withdrawn and solitary behaviors appear to be a consequence of being the target of aggression and exclusion of the social context. It has been shown that rejected children often show inappropriate withdrawn and solitary behavior after experiences of being rejected and rebuffed by their peers (for a review see Coie et al., 1990).

In contrast, aggression is the primary correlate of rejected status at all ages and is hypothesized to represent an antecedent of peer rejection (Coie, Dodge, & Kupersmidt, 1990; Newcomb, Bukowski, and Pattee, 1993). At the younger ages, hitting and name-calling constitute aggressiveness, whereas at the older ages, aggressiveness becomes more differentiated and less overt (Coie et al., 1990).

Another important correlate of social rejection represents rule violation (Carlson, Lahey, & Neeper, 1984). In contrast, social acceptance has been found to be related, at all ages, to rule conformity (Boivin & Begin, 1989) and prosocial behaviors (Boivin & Begin, 1989; Coie et al., 1982; Coie et al., 1990; Wentzel & Erdley, 1993). It appears that children in the popular group are higher on these attributes compared to children in the average group (e.g., Newcomb, Bukowski, and Pattee, 1993).

Furthermore, social acceptance has been found to be related to intelligence (e.g., Krasnor, 1981 as cited in Rubin & Krasnor, 1986) and academic achievement (e.g., Alexander & Entwisle, 1988; DeRosier, Kupersmidt, DeRosier, & Patterson, 1993; Dodge, 1983; Krappmann, 1985; Kupersmidt, & Patterson, 1991; Ladd, 1990; Vandell & Hembree 1994; Wentzel, 1991). Although, children's friendships have been found to make positive contributions to children's school adjustment (for reviews, see Birch & Ladd, 1996; Hartup, 1996b; Newcomb & Bagwell, 1996), longitudinal findings provided evidence that school grades predicted changes in friends' support rather than the reverse (DuBois, Felner, Brand, Adan, & Evans, 1992). These findings suggest that academic achievement may influence both children's social acceptance and friendships.

In a similar vein, it may be that aggression, rule conformity, and intelligence may represent important contributors to both types of peer relationships. As a consequence, in the present study the influence of academic achievement, aggression, rule conformity, and intelligence on the relationships of perceived control, action strategies, and friendship quality is controlled when assessing peer-status group differences in the relationships between perceived control and the friends' views of friendship quality as well as the relationships between action strategies and the friends' friendship evaluations.

Dodge and Feldman (1990) suggested that the strongest and most robust status group differences in social cognition occur in those situations that are especially problematic or crucial for that particular age and gender peer group. By a problematic situation is meant one that is highly salient and developmentally relevant to a subcultural group at a particular time (see also, Higgins & Parsons, 1983). For example, accepted and rejected children's social cognition and behaviors mainly differ in problematic situations such as experiences of social

failure, provocation, joining a group, and conflict situations (for a review, see Dodge & Feldman, 1990). Importantly, friendship initiation often has been studied as a critical situation in peer relationships (e.g., see Dodge & Feldman, 1990). This is in line with the assumption that developmental tasks such as friendships represent challenging goals in middle childhood.

In fact, research has shown that rejected children's social cognitions and behaviors are deficient when solving friendship tasks (e.g., Asher & Renshaw, 1981; Austin, 1985; Gottman, Gonso, & Rasmussen, 1975; Putallaz, 1983; Putallaz & Gottman, 1981; Rizzo, 1988; for findings showing a lack of peer group status differences in nonstressful social initiation, see Dodge, 1986; Richard & Dodge, 1982; Rubin & Krasnor, 1986). Wentzel and Erdley (1993) provided empirical evidence of relationships between children's social cognitions about friendships and their peer acceptance. Specifically, children's knowledge of both appropriate and inappropriate strategies for making friends was associated with their peers' perceptions of their prosocial and antisocial behavior. Moreover, the findings also suggested that displays of prosocial behaviors represent an intermediate process that links knowledge about making friends to popularity.

Importantly, there is empirical evidence that rejected children's social cognitions deteriorate after failure experiences and when difficulties arise during goal pursuit. It has been shown that the quality of behavioral strategies that accepted and nonaccepted children generated in response to hypothetical conflict situations showed initially no difference. Over time and under stress nonaccepted children gave higher percentages of aggressive and inept responses such as adult intervention (Putallaz & Sheppard 1992; see also Richard & Dodge, 1982). As a consequence, researchers have proposed that rejected children may differ in their perceived control from accepted children (e.g., Crick & Ladd, 1990; Renshaw & Asher, 1982). The assumption that rejected children's perceptions of control may be of crucial importance for their behaviors is supported by Rabiner and Coie's (1989) finding that rejected girls (but not boys) who were led to expect social success behaved more competently and were preferred by new peers over control, rejected children.

In sum, deficits in rejected children's social competences are mainly apparent in difficult and challenging situations such as friendship initiation and after failure. In such

situations when goal striving is threatened or challenged, control-related perceptions are most important (e.g., Boggiano, Main, & Katz, 1988; Licht & Dweck, 1984; Lazarus & Folkman, 1984). In situations characterized by failure and/or unexpected outcomes and ones that are novel perceived control likely to be spontaneously experienced (Diener & Dweck, 1978; Weiner, 1985b). However, in order to account for rejected children's evinced deficits in social cognitive processing (e.g., Crick & Dodge, 1994) and behaviors (e.g., Dodge & Feldman, 1990) their perceptions of control theoretically should be lower than accepted children's control-related beliefs. However, there is empirical evidence that rejected children, and in particular the aggressive sub-group, may overestimate their perceived control and their action outcomes. Before a brief review of the literature of perceived control in the domain of peer relationships is provided, a review of differences in children's own views of friendship quality and their friends' views of friendship quality across peer status groups is provided.

#### 2.4.3.3 Sociometric Status as a Marker of the Veridicality of Children's Outcome Perceptions of Both Peer Acceptance and Friendship Relationships

It appears that aggressive-rejected children demonstrate a pattern of beliefs that one might expect from a well-accepted child (Zakriski et al., 1997). Aggressive-rejected children appear to be either unaware or in denial of their peer rejection (cf. Asher et al., 1990) whereas nonaggressive-rejected children appear to know about their rejection (for reviews see, Crick & Dodge, 1994; Zakriski et al., 1997). Another possible reason for aggressive-rejected children's unawareness of their social rejection is that the peers are less open or direct in their expressions of dislike for aggressive-rejected children as they are toward nonaggressive-rejected children. One reason for being less open with the aggressive children is that peers may worry about physical retaliation and intimidation if they make their feelings known (Zakriski & Coie, 1996; Zakriski et al., 1997). There is some evidence that although aggressive-rejected and nonaggressive-rejected children do not differ in actual rejection (Hymel et al., 1993), aggressive-rejected children may be less excluded by their peers (e.g., Boivin et al., 1991) and suffer less active and passive peer disregard than nonaggressive-rejected children (Boivin et al., 1991). The observation that peers provide less direct feedback

to aggressive-rejected children than to nonaggressive-rejected children may extend to rejected children's friends.

Is there empirical evidence that rejected children's tendency to evaluate their relationship experiences more positive as they are extends to their evaluations of friendship quality? Generally, whether the friends of rejected, average, and popular children display similar mean ratings of the quality of their relationships as the children themselves, depends on the extent to which children of a specific sociometric status are friends with children of the same status. If children tend to have mainly friendships with children of similar sociometric status, as some researchers have suggested (e.g., Putallaz & Gottman, 1981), then the friends share characteristics such as social behavioral and cognitive characteristics that might influence the partners' evaluation of each other. In addition, in such cases the friends' also would share perceptual biases. As a consequence, no mean level differences would be expected between children's and their friends' perceptions of the various aspects of their relationships. Although some studies found that there is a tendency that friends have similar sociometric status (e.g., George & Hartmann, 1996; Uhlendorff & Krappmann, 1999), there is empirical evidence that children are friends with others rather irrespective of each others' sociometric status (e.g., Brendgen et al., 2000; Parker & Asher, 1993; Phillipsen, 1999). In that case, factors such as perceptual biases and social behaviors and cognitions may be less shared between the children of a particular sociometric status and their friends. Consequently, differences may emerge between children's and their friends' mean perceptions of their relationships. For rejected children, such mean-level differences might emerge as they have more positive perceptions of their friendships compared to their friends' perceptions. This expectation mainly is based on three arguments: First, the tendency of (aggressive-) rejected children to perceive their social interactions positively biased. Second, there is some evidence that rejected children display social behavioral deficits even in interaction with their friends (e.g., Austin, 1985; Rizzo, 1988) which might elicit less positive evaluations of friendship quality from their friends. Third, because knowledge of a child's peer status may bias others' interpretations and evaluations of a child's behavior (e.g., Hymel et al., 1990; Waas & Honer,

1990), the negative bias toward rejected children's behaviors may also be apparent in their friends' evaluations of friendship quality.

With regard to research on children's own perceptions of the quality of their friendship relationships the findings are somewhat inconsistent. Some studies (Brendgen et al., 2000; Kerns, Klepac, & Cole, 1996; Patterson et al., 1990) found that rejected children did not differ from average and popular children in how they perceived the positive and negative features of their friendship. Another study (Parker & Asher, 1983) found that rejected children generally perceived their friendships less positively than both average and popular children, who did not differ in their ratings of friendship quality. Rose and Asher (1999) suggested that these differences in the results may be due to differences in statistical power among the studies; significant results have emerged in the study with the largest sample size. This suggestion implies that if the children's views of friendship quality differ across the sociometric groups the effect size (i.e., difference) is rather small. Hence, popular, average, and rejected children's perceptions of the quality of their mutual friendships appears to be rather similar.

Brendgen et al. (2000) showed that the mean levels of the friends' evaluations of the friendships varied with the children's sociometric status. Rejected children's friends had lower perceptions of intimacy and higher perceptions of conflict than average children's friends. In contrast, popular children's friends viewed their friendships more intimate and less conflictual than the average children's friends. Average children's friends' evaluations of both intimacy and conflict did not differ from average children's evaluations and, consequently, from popular and rejected children's evaluations which were equal. Rose and Asher (1999) also found a significant relationship between the friends' views of conflict and peer group acceptance. However, these authors found a nonsignificant relationship between the friends' views of positive friendship features and peer group acceptance.

Moreover, Brendgen et al. (2000) found that average and popular children's perspectives on the positive aspects of their friendships were concordant to their friends' perspectives. In contrast, rejected children's views of positive friendship features were unrelated to their friends' views. Regarding children's perceptions of conflict, across all three

peer status groups the children's own and their friends' perceptions corresponded to a moderate degree.

In sum, these findings show that rejected children who had mutual friendships perceived, at least, negative friendship quality to be more positive than did their friends. Moreover, there is some evidence that popular children's friends perceive positive friendship features more positively than the popular children themselves whose views are rather similar to both the average and rejected group of children. Moreover, average children's views of their relationship appears not to differ from their friends' views. While the friends' perceptions of negative friendship features have been found to be concordant independent of the children's sociometric status, the friends' perceptions of positive friendship features have been found to be concordant only for the groups of popular and average children but there was no relationship between rejected children and their friends' views of positive friendship features.

#### 2.4.4 Empirical Evidence of Perceived Control in the Domains of Peer Group Acceptance and Friendship

The majority of studies on perceived control in the domain of peer relationships investigated its relationships with peer group acceptance while only few studies investigated the relationships of perceived control and friendship. In the following, firstly, findings of studies examining the relationships of children's perceptions of competence and peer group acceptance will be briefly reviewed. Secondly, findings of relationships of children's perceptions of contingencies will be summarized. Thirdly, findings of studies employing multi-dimensional assessments of control will be presented. Finally, empirical evidence of relationships between perceived control and friendship will be summarized.

##### 2.4.4.1 Children's Competence Perceptions and Popularity: Perceived Social Competence and Self-efficacy

In the following research on children's competence beliefs employing measures of perceived social competence and self-efficacy will be briefly summarized.

The majority of studies assessing perceived social competence employed a measure developed by Harter and her colleagues (Harter, 1982; Harter & Pike, 1984). This measure



assesses a child's perceptions of peer status and is confounded with perceptions of loneliness and views of own likability (see, e.g., Zakriski & Coie, 1996). Several studies provide empirical evidence that low-accepted children perceive their peer status less positive than accepted children (e.g., Hymel & Franke, 1985; Oswald et al., 1993). However, the majority of studies found no evidence that low-accepted children have lower perceptions of social competence than their peers (e.g., Boivin et al., 1989; Patterson et al., 1990; Rubin, Chen, & Hymel, 1994; Rubin et al., 1989). Moreover, older withdrawn and rejected children have been shown to hold more negative beliefs in social competence than their peers (e.g., Boivin et al., 1989; Rubin et al., 1994). Hence, the findings of the previous studies reporting differences in perceptions of social competence may be due to the withdrawn and nonaggressive subgroup of rejected children.

Relatively few studies have employed measures that can be classified to represent generalized self-efficacy measures. In part, the findings of studies comparing low-accepted and accepted children's self-efficacy are rather inconsistent which, partly, may be due to the heterogeneity of the employed measures designed to assess both popularity and self-efficacy. Moreover, the findings suggest that rejected children mainly differ in their beliefs about skills related to aggressive responses from their peers while their beliefs about nonaggressive skills may be rather similar to accepted children's beliefs.

Empirical evidence comparing aggressive (low-accepted) and nonaggressive (accepted) children's self-efficacy for antisocial responses is rather consistent. Aggressive children have been found to have higher generalized self-efficacy beliefs for antisocial abilities than nonaggressive children (Erdley & Asher, 1996; Perry, Perry, & Rasmussen, 1986). Thereby, aggressive children evinced both higher self-efficacy beliefs for and higher endorsements of aggressive responses than other children independent of whether they attributed hostile intent of the protagonist in an ambiguous social provocation or not (Erdley & Asher, 1996). In a similar vein, children classified by means of peer ratings as being overtly aggressive and relationally aggressive evinced higher self-efficacy evaluations of the respective type of responses characterizing them regarding these two types of aggression compared to other children (Crick & Wellmann, 1999). However, the findings of this study have to be

interpreted with some caution because they are based on aggregate measures combining feelings of self-efficacy, outcome expectations, response decisions, and response evaluation (i.e., moral judgment of a specific response) for each specific type of aggressive responses.

In contrast to the findings for self-efficacy for antisocial responses, the findings are inconsistent with regard to differences in self-efficacy beliefs for prosocial abilities and generalized beliefs about the attainability of desirable outcomes across low-accepted and accepted groups of children. Specifically, no differences in self-efficacy beliefs for prosocial abilities and verbal persuasive skills have been found when comparing aggressive and nonaggressive children (Perry et al., 1986). Similarly, groups of children classified as solely aggressive, solely withdrawn, combined aggressive and withdrawn, neither withdrawn nor aggressive did not differ with regard to the generalized expectancies of success and failure in the future (M. J. Schneider & Leitenberg, 1989). Moreover, preadolescents' self-efficacy beliefs for peer relationships, for self-assertiveness, and for leisure-time activities were unrelated to peer nominated social preference (i.e., difference of like-most and like-least nominations) (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). In contrast, other studies found that low-accepted children had lower self-efficacy perceptions for social situations (Hymel & Franke, 1985; Sobol & Earn, 1985; Toner & Munro, 1995) and peer evaluations (Hymel & Franke, 1985; Sobol & Earn, 1985) than accepted children. Moreover, Erdley and Asher (1996) found that aggressive children feel less self-efficacious about their prosocial skills than did their nonaggressive counterparts. The authors proposed that low-accepted and accepted children's self-efficacy beliefs differ in situations triggering aggression while these children's beliefs don't differ in situations that don't trigger aggressive responses. Rejected children may have lower perceptions of competence with regard to inhibiting aggressive responses. However, against this proposition speaks the finding of another study (Wheeler & Ladd, 1982) showing that self-efficacy for verbal persuasive skills in hypothetical nonconflict situations correlated positively with positive peer nominations of the children's popularity and social influence while self-efficacy beliefs for verbal persuasive skills in conflict situations were uncorrelated with these measures.

Children's self-efficacy beliefs for specific domains consistently have been found to correlate with the respective self-reported behavioral responses to hypothetical situations in this domain (Crick & Wellmann, 1999; Erdley & Asher, 1996; Perry et al., 1986). Moreover, a study (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999) found a positive relationship between perceived social self-efficacy and an aggregate measure of prosocial behaviors comprised of self ratings, teacher ratings, and peer ratings.

In sum, studies employing measures of children's competence perceptions such as perceived social competence and self-efficacy found that, in particular, the aggressive subgroup of rejected children tend to overestimate their social competencies. These rejected children's beliefs about competence don't differ from their accepted peers. In contrast, differences in rejected children's beliefs about competence compared to accepted children's beliefs have been mainly found if the beliefs referred to aggressive responses. Finally, there is evidence that children's self-efficacy judgments are related to self-reported and other-reported behavioral responses.

#### 2.4.4.2 Children's Contingency Perceptions and Popularity: Attributions and Locus of Control

In the following research on children's attributions and locus of control and their relationships with peer group acceptance will be summarized. Both attributions and locus of control focus on children's contingency perceptions.

Regarding to attributions of intent of others and its behavioral consequences there is well-established that aggressive-rejected children differ from other sociometric groups. When aggressive-rejected children experience an interpersonal slight, they infer hostile intentions and want to retaliate against the perpetrator (Crick & Dodge, 1994; Dodge & Frame, 1982; Graham, 1998). However, studies investigating the link between peer group acceptance and attributions for peer-social events or situations provided inconsistent and contradictory findings (see Toner & Munro, 1996 for a review). Thus, empirical evidence does not provide a clear pattern of attributional tendencies associated with peer group acceptance. Methodological differences may account for some of the inconsistencies in the findings of attributional tendencies of low-accepted and high-accepted children. In these studies children

were presented hypothetical social scenarios representing success and failure situations in peer relationships. The implemented categories of attributions considerably varied across the studies. In addition, the studies differed in the assessment of peer acceptance, aggression, and the formation of subgroups. Notably, none of the studies assessed situations that were specifically and exclusively tied to the domain of friendships.

However, there is evidence in support of the assumptions of attribution theory (e.g., Weiner, 1985a, 1986) with regard to relationships between attributions and generalized perceptions of control. Both accepted and low-accepted children who had low perceptions of personal control tended to forgo credit for success outcomes (Toner & Munro, 1995) and attributed social failure to stable factors (Toner & Munro, 1995; Sobol & Earn, 1990). Notably, these relationships were not moderated by peer acceptance.

Studies investigating children's contingency perceptions as assessed with measures of locus of control provide consistently evidence of relationships with peer group acceptance and related constructs. Various studies on samples spanning the age range between 7 and 27 years provide evidence of relationships of external locus of control with aggression (Nay & Wagner, 1990), conduct disorders (Raine & Jones, 1987), and observation scores of social skills (Lefcourt, Martin, Fick, and Saleh, 1985). In a sample of third and sixth graders internal locus of control evinced moderate strong concurrent and predictive (half-year time lag between first and second assessment) relationships with children's perspective-taking skills (Adalbjarnardottir, 1995). A validation study of an domain-specific measure of locus of control for social interactions (Dahlquist & Ottinger, 1983) found that elementary school children (grades 3 to 6) with an internal orientation were more likely to receive positive peer nominations and less likely to receive negative peer nominations. In a similar vein, children classified as popular were more internal and less external than children classified as rejected and isolated. Another study (Ferrer & Krantz, 1987) found that these findings replicated for older children (grade 5) but not for younger children (grade 3). A three year (2 waves) longitudinal study (Burton & Krantz, 1992) on kindergarten children and first-grade and second-grade children employing the same domain-specific measure of locus of control found that children who were rejected in the first and second grades reported less internal social

locus of control orientation and lower self control of their behavior than did children in the popular, average, and neglected status groups three years later. The latter three groups did not differ in social locus of control and self control.

#### 2.4.4.3 Multi-dimensional Assessments of Perceived Control and their Relationships with Popularity and Peer Interaction

In line with the findings based on measures of locus of control<sup>38</sup>, two studies employing multi-dimensional measures of children's perceptions of contingencies provide further evidence of relationships of this type of control beliefs and peer group acceptance. Specifically, Connell (1985) found in a sample of 92 elementary school children (grades 4 - 6) that sociometric choices for a fun project and a graded project were negatively associated with means-ends beliefs about powerful others but unrelated to means-ends beliefs for internal causes (and for unknown causes). The assessed means-ends beliefs were defined for the goal of being popular. Moreover, the author found in three elementary school samples (range 126 - 380 children; grades 3 - 6) that children who believed that popular children and the teacher represent important influences on their popularity had lower self ratings of popularity (i.e., perceived social competence; Harter, 1982) and lower teacher ratings of social competence while means-ends beliefs about internal causes (and for unknown causes) were unrelated to these measures. Another study conducted by Ollendick and Schmidt (1987) found in a sample of 86 children (grades 2 to grades 6) that generalized locus of control (Nowicki & Strickland, 1973) and domain-specific outcome expectancy represented the stronger predictors of three types of peer interactions (i.e., isolated play, positive and negative peer interactions) than domain-specific self-efficacy. More specifically, self-efficacy only was related to lower levels of negative peer interaction but was unrelated with positive peer interaction and solitary play. In contrast, both measures of children's beliefs about contingencies (i.e., domain-specific outcome expectancies and generalized locus of control) evinced significant relationships with all three types of peer interactions. However, self-efficacy and outcome expectancy may have shared a considerable part of the variance when the peer-interaction criteria were regressed on them because they were moderately highly and positively correlated ( $r = .38$ ). Finally,

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<sup>38</sup> Usually, locus of control is assessed as a single bi-polar dimension.

children's evaluations of importance of peer interactions represented also a significant predictor of three types of peer interactions.

In sum, studies employing locus of control and response outcome perceptions as measures of children's perceptions of contingencies consistently provide evidence of relationships of these measures with popularity, aggression, and peer interaction. However, the studies have not investigated whether aggressive-rejected and nonaggressive-rejected children or friended or friendless rejected children differ in their contingency perceptions. Moreover, children's contingency perceptions in the domain of friendship may differ from domain-unspecific generalized locus of control and contingency perceptions tied to the domain of peer acceptance.

#### 2.4.4.4 Relationships of Perceived Control and Friendship

Contrary to the findings in the domain of peer group acceptance, a study (Wanner, 1995) on a sample of 326 elementary school children (grades 2 - 5) provided evidence that children's perceptions of competence (i.e., agency beliefs) were superior in predicting friendship outcomes when compared to beliefs about contingencies (i.e., means-ends beliefs). Specifically, agency and means beliefs for Self and Luck correlated significantly with self-reports of the number of both same-sex and opposite-sex friends, and satisfaction with the friendship network. Agency and means-ends beliefs about corresponding causes were highly correlated. As a consequence, the relationships of means-ends beliefs with the friendship outcomes mirrored the relationships of agency beliefs about corresponding causes, although agency beliefs explained the larger amount of unique variance of the friendship outcomes. Contrary to the findings in the domain of peer group acceptance reporting that contingency perceptions of external means (e.g., means-ends beliefs for powerful others such as adults and external locus of control) were the major predictors of popularity, both agency and means-ends beliefs for adults were uncorrelated with the friendship outcomes. Finally, the findings showed that gender did not affect agency and means-ends beliefs, with the exception that girls believed more in the availability and the usefulness of adults' help than did boys.

However, when interpreting these differences in the findings of belief-outcome relationships across the domains of friendship and popularity it should be noted that the

measured outcomes did not only differ in the domain but, in addition, in the sources of ratings. Generally, children's own views of peer relationships can differ from the views of adult external observers and their peers (Coie et al., 1993). One study (Buhrmester, 1990) investigating the relationships among children's own views and the friends' views of self-efficacy and friendship intimacy provides some support for differences in relationships according to the source of ratings. The findings showed that preadolescents' (grades 5 and 6) perceptions of competence (i.e., self-efficacy) were only significantly and lowly correlated with the friends' views of intimacy but uncorrelated with their own views of intimacy. However, the friends' views of the preadolescents' self-efficacy were significantly and moderately highly correlated with their own (i.e., friends') views of intimacy but uncorrelated with the preadolescents' views of this friendship feature. In contrast, in adolescence (grades 8 and 9) both the adolescents' and the friends' perceptions of their self-efficacy correlated highly with both self-rated and friend-rated intimacy.

Moreover, there is also evidence of relationships among children's perceptions that outcomes are contingent on external means and friendship measures. A study (Cohen, Kershner, & Wehrspann, 1985) on a sample of 6- to 12-year old children showed that a more external locus of control was related to a less mature understanding of friendship.

Finally, there is empirical evidence that the relationship between the goals of friendship and popularity is also perceived by the children themselves. Specifically, perceived social competence as a measure of children's perceptions of popularity has been found to be positively correlated with children's self-reports of both friendship quantity (e.g., Alsaker, 1989; Oswald et al., 1994) and friendship quality (Oswald et al., 1994).

In sum, the reviewed studies provide some evidence that children's perceptions of both competence and contingency are related to various measures of friendship. However, none of the studies controlled for effects due to peer group status. In the present dissertation, it is proposed that the relationships among children's perceived control and their friends' views of friendship quality are moderated by children's peer group status (see Section 2.5). In contrast, if the children themselves are the source of rating of friendship quality it is assumed that the

relationships between friended children's perceived control and friendship quality are not affected by sociometric status.

#### 2.4.5 Summary

The present dissertation investigates the three most stable classifications of sociometric status, representing a measure of peer group acceptance: Popular, average, and rejected children. The group of rejected children is rather heterogeneous. In previous work, one half of such children have been observed to be highly aggressive while the remaining children are nonaggressive and tend to be withdrawn. Notably, it is the aggressive-rejected subgroup of children who tend to have friendships whereas about one third of the remaining rejected children don't participate in a mutual friendship. The investigated aspects of friendship quality represent the children's views of positive (e.g., intimacy) and negative (e.g., conflict) action outcomes.

During middle childhood, children are mainly friended with children of the same gender who attend the same school or live in the neighborhood. Due to developmental processes, the influence of sociometric status on friendships may be stronger than the influence of friendships on sociometric status. As a consequence, failure to attain the goal of being accepted by peers likely results in constraints for actions in the domain of friendship. Social sanctions and the social reputation consequences of sociometric status may have spillover effects on attempts to establish good friendships. For instance, the friends may interpret rejected children's actions more negatively than average children's action. In contrast, they may interpret popular children's actions more positively. Hence, the contingencies on children's actions provided by the friends may differ across sociometric groups.

In addition, it is assumed that some of the children's social competences are useful for the attainment of both friendship and positive sociometric status. Because both competence and contingency constitute objective control conditions, it is hypothesized that sociometric status represents a marker of objective control in the domain of friendship. Empirical findings of mean level differences in the friends' views of friendship quality provide support for the differences in objective control across sociometric groups. The following rank ordering of



mean levels of friend-rated friendship quality has been found: Popular children > average children > rejected children.

An intriguing finding reported in the literature is that rejected children who are aggressive and friended tend to view their peer experiences in a positively biased manner. Specifically, their perceptions of peer group acceptance, friendship quality, and competence-related perceptions of control do not differ from accepted children's corresponding perceptions. Hence, it is hypothesized that rejected children who are friended don't differ from accepted children who are friended in the mean levels of their perceptions of friendship quality, perceived control, and self-reported action strategies.

In contrast, the nonaggressive-rejected group of children has been found to have lower perceptions of social competence than their peers. Moreover, it is mainly the nonaggressive-rejected subgroup who refer themselves for help with their peer relations while aggressive-rejected children are unlikely to refer themselves for help with their peer relations (see Section 2.3.5). Many of these rejected children are friendless. Friendless children have been shown to perceive their friendships less intimate and their social competence lower than friended children. Although these findings are, in part, confounded with sociometric status they suggest that friendless children may have lower perceptions of control and action outcomes in the domain of friendship.

Finally, children's conceptions of friendships can be assumed to represent relevant subgoals associated with the middle-level goal of having high-quality friendships. Hence, the finding that friendless children have lower friendship conceptions than friended children may indicate that friendless children's actions differ from friended children's actions with regard to pursued subgoals. In contrast, children's conceptions of friendships have not been found to differ across sociometric groups. Thus, popular, average, and rejected children who have mutual friends may not differ in their pursued friendship goals.

### **2.5 Central Questions Examined in the Present Study**

The present study investigates to what extent friends' and children's own evaluations of friendship, and participation in mutual friendships are a function of children's peer group status, perceived control, and action strategies.

- 1a) Is the functioning of children's perceived control and, consequently, its relationships with action strategies, and children's own views of friendship quality similar across sociometric groups of friended and friendless children?
- 1b) For both rejected and accepted children (i.e., popular and average children), is the failure to participate in mutual friendship related to low perceptions of control? Does children's sociometric status moderate the relationships of perceived control and the number of mutual friendships?
- 2) Do friended-rejected children hold similar strong control beliefs and employ similar action strategies as accepted children although their friends evaluate the friendships less positive than accepted children's friends? Is rejected children's *illusory*-high perceived control negatively related to the friends' views of the friendships? Is accepted children's perceived control positively related to the friends' views of the friendships?
- 3) Alternatively or complementary to low perceived control: Are children who don't participate in mutual friendships less motivated to do so? Do friendless children equally endorse the importance of friendships as friended children?

The theoretical background to these questions has been summarized in Section 2.1.3, Section 2.2.3, Section 2.3.4, and Section 2.4.5. Based on an integration of the outlined theoretical background and empirical findings in the domains of perceived control and peer relationships, a conceptual model of the relationships among perceived control, action strategies, and the children's own views of friendship quality and their friends' views of friendship quality is derived.

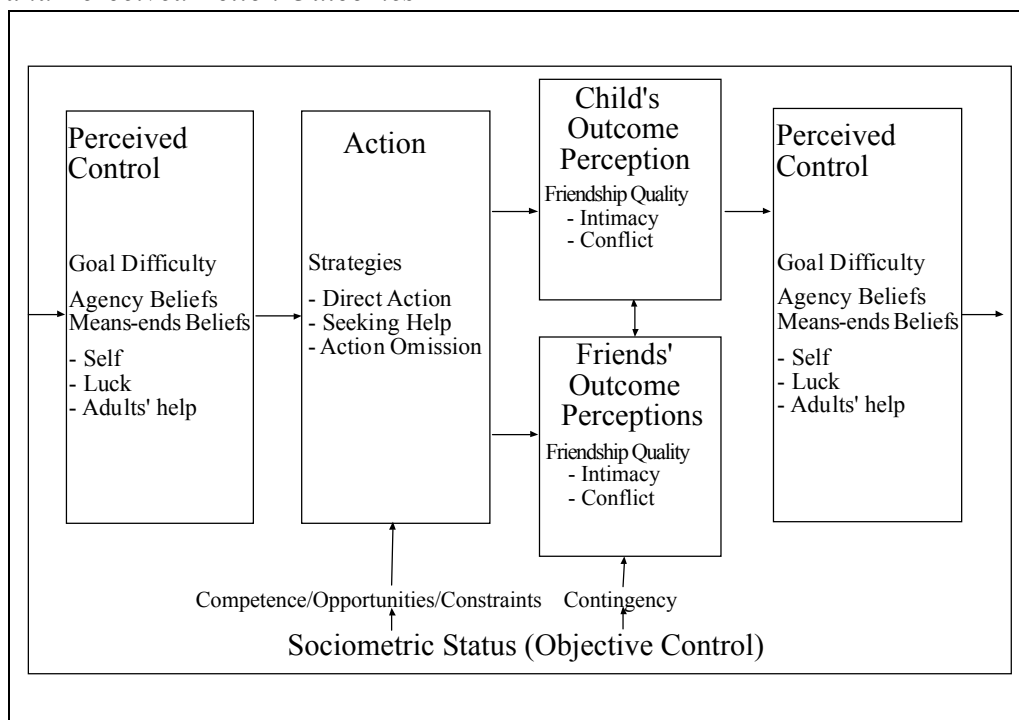
The Investigated Conceptual Model of the Relationships among Perceived Control, Action Strategies, and the Children's Own Views of Friendship Quality and their Friends' Views of Friendship Quality

Figure 5 depicts the conceptual model of relationships among perceived control, action strategies, children's own views of friendship quality and their friends' views of friendship quality that is investigated in the present study. It is hypothesized that the effects of children's perceived control on both their own and their friends' views of friendship quality is mediated

by the action strategies they implement when confronted with problems in their relationships. In turn, their perceptions of friendship quality feeds back into their perceptions of control. Moreover, it is assumed that sociometric status as a marker of objective control conditions represents the context of children's actions in the domain of friendship.

Figure 5

*Conceptual Model: Reciprocal Relationships among Perceived Control, Action, and Perceived Action Outcomes*



The major goal of the present dissertation is the investigation the influence of peer group acceptance or sociometric status on the relationships among various types of perceived control (i.e., agency, and means-ends beliefs, and goal difficulty) and their associations with action (in this case operationalized as self-reported coping with difficult situations in friendship relationships), action outcomes (operationalized as self-reported and friend-reported friendship quality, and number of mutual friendships). Specifically, I use a multi-dimensional control belief scale (Multi-dimensional Control, Agency, and Means-ends beliefs Inventory; Multi-CAM, Little & Wanner, 1997) to assess perceived control and action strategies. Based on findings of children's spontaneous attributions of outcomes in peer relationships (Sobol & Earn, 1985), the present study investigates beliefs about the following action means: Personal attributes, effort, ability, luck, and teachers and parents as powerful

others. Moreover, I use the Friendship Inventory (Little et al., 1997) to assess children's own and their friends' perceptions of friendship quality and sociometric procedures (Coie et al., 1982) to assess children's sociometric status.

**A: Does Children's Sociometric Status Moderate the Relationships among Perceived Control, Action Strategies, and Friendship Outcomes (i.e., Self-rated and Friend-rated Friendship Quality, and Number of Mutual Friends)?**

The major goal of the present dissertation is the investigation of the the influence of peer group acceptance or sociometric status on the relationships of perceived control, action strategies, and friendship outcomes. Thereby, it is assumed that the effects of sociometric status differ according to the specific friendship outcome.

As depicted in Figure 5, the action theory of psychological control posits that the effects of perceived control (i.e., agency and means-ends beliefs, and Goal Difficulty) on outcomes such as friendship relationships are mediated by goal-directed behaviors. In the present study, children's self-reported action strategies to cope with difficulties in friendship relationships are assumed to result in friendship outcomes such as friendship quality. In turn, children's evaluation of friendship outcomes are posited to feed back on their perceived control about friendship. Thus, the relationships of perceived control, action strategies, and friendship outcomes are assumed to be reciprocal. Importantly, the assessment of children's action strategies to cope with difficulties in friendship relationships is in line with the assumption that perceived control is most important when difficulties arise during goal pursuit (e.g., Bandura, 1982; 1997; Carver & Scheier, 1998).

On the basis of a multi-dimensional model of children's coping in the domain of friendship (Lopez & Little, 1996) and research findings of children's coping strategies, the action strategies *Direct Action*, *Seeking Help*, *Avoidance Behaviors*, and *Doing Nothing* are identified to represent important strategies children employ when confronted with difficulties in friendships. Based on previous findings indicating that Behavioral Avoidance and Doing Nothing represent related strategies to cope with problems in peer relationships (Little et al., 2001; Losoya et al., 1998), in preparatory analyses, I will examine whether these two action

strategies can be invariantly represented as a higher-order construct representing the strategy *Action Omission* across the investigated age range.

In line with assumptions of the action theory of psychological control, some researchers (Dodge & Feldman, 1990; Rubin & Krasnor, 1986; Spivack & Shure, 1974) have posited that active problem solving attempts (i.e., Direct Action) are more adaptive in peer relationships than passive behaviors (i.e., Action Omission). Moreover, on the basis of various theories in the fields of coping and peer relationships and research on relationships of adult intervention and peer relationships, I hypothesize that seeking out adults' help may be also a maladaptive action strategy in the domain of friendship. Hence, I hypothesize that Direct Action is positively related to friendship outcomes while both Action Omission and Seeking Help are negatively related to friendship outcomes.

Preparatory analyses: Development of the correlational structure of dimensions of perceived control and their functioning in the domain of friendship. The action-theory of psychological control posits that the relationships of agency and means-ends beliefs, action strategies, and friendship outcomes are affected by children's development. Because research on the development of perceived control about friendship is scarce, as preparatory analyses, I cross-sectionally examine the development of perceived control about friendship across grades 3 to 6. During middle childhood children's understanding that powerful others and luck are potentially uncontrollable represents a major development (Flammer, 1990; Skinner, 1991, 1995; Skinner et al., 1998; Weisz, 1983). This developmental change in children's understanding of these action means is reflected in children's means-ends beliefs. Empirical findings show that in the friendship domain children's means-ends beliefs about Powerful Others (i.e., Parents) and Luck show decreases in mean levels and are less highly correlated with self-related (i.e., Effort and Personal Attributes) belief dimensions at the end of the investigated age range (grades 3 - 6) (Skinner 1990b). The preparatory analyses explore whether these differences in the mean-levels and intercorrelations found in the means-ends beliefs (e.g., Skinner, 1990b) are also found in the agency belief system. The assumption, that agency and means-ends beliefs may show similar developmental differences is based on previous findings indicating that both types of beliefs are highly correlated; children of grades

3 - 5 differentiate only to a low degree among agency and means-ends beliefs (Wanner, 1995). Alternatively, it could be that the lack of developmental differences in the agency beliefs found in the academic domain generalizes into the friendship domain. However, based on assumptions of the action theory of control (e.g., Skinner, 1995), I hypothesize that with age and accumulating failure experiences children increasingly differentiate among agency and means-ends beliefs (i.e., the correlations of agency and means-ends beliefs decrease).

The action theory of psychological control posits that the developmental increases in differentiation between (a) agency and means-ends beliefs and (b) beliefs about external and self-related causes are related to their functioning. In line with theoretical assumptions of locus of control (Rotter, 1966), when children understand that external means such as Luck and Help provided by Powerful Others are less controllable than self-related means such as Effort, high means-ends beliefs about external means indicate low feelings of control. Thus, at older ages external means-ends beliefs are hypothesized to be negatively related to effort investments (i.e., Direct Action) and friendship outcomes. Moreover, at older ages external means-ends beliefs are hypothesized to be positively related to Action Omission and Seeking Help. In contrast, at earlier ages external means-ends beliefs are hypothesized to evince similar relationships with Direct Action and friendship outcomes as external agency beliefs. All dimensions of agency beliefs and self-related means-ends beliefs are hypothesized to be positively related to Direct Action and friendship outcomes, although agency beliefs about external means may evince lower relationships than beliefs about self-related means. In contrast, agency beliefs are hypothesized to be negatively related to Action Omission and Seeking Help. Moreover, I hypothesize that with increasing age the relationships among agency beliefs (and self-related means-ends beliefs), action strategies, and friendship outcomes may increase because with age and accumulating experiences, children's perceived control about friendship may become more realistic.

Furthermore, as preparatory analyses, I will examine whether both agency and means-ends beliefs can be invariantly represented by higher-order structures across the investigated age range. Specifically, I assume that beliefs about the means Effort, Ability, and Personal Attributes can be invariantly represented as higher-order constructs (i.e., agency and means-

ends beliefs about Self) across the investigated grade levels. I hypothesize that, contrary to findings in the academic domain, in the friendship domain even in grade 6 children do not differentiate between means-ends beliefs about Effort and Ability. Thus, the previous finding that beliefs about self-related causes (i.e., Effort, Ability, and Personal Attributes) remain invariantly highly correlated across grade 3 to grade 5 (Wanner, 1995) is hypothesized to extend to grade 6. This hypothesis is based on findings indicating that developmental increases in differentiation among means-ends beliefs are delayed in the friendship domain compared to the academic domain (cf., Skinner, 1990b). In addition, it may be that children's understanding of the inverse relationship of effort and ability (e.g., Nicholls, 1978) may not affect beliefs about perceived control in the friendship domain, although it does so in the academic domain (e.g., Chapman & Skinner, 1989). Moreover, I assume that beliefs about Parents and Teachers as Powerful Others can be invariantly represented as a higher-order construct (i.e., agency and means-ends beliefs about Adults as Powerful Others). I expect that earlier findings indicating that means-ends beliefs about Parents and Teachers as Powerful others are invariantly highly correlated across grades 2 to 5 (Wanner, 1995) extend to grade 6.

Sociometric status is a proxy variable of objective control conditions. Figure 5 also depicts the assumption of action theory that action happens in context (e.g., Boesch, 1976). Based on an integration of empirical findings in the domain of peer relationships and assumptions of the action theory of psychological control, I propose that children's sociometric status is a proxy variable of objective control conditions. Specifically, sociometric status is related to children's competence and contingencies provided by the peers. Research has shown that rejected children manifest lower social competencies than accepted children (e.g., Crick & Dodge, 1994). Moreover, due to reputational biases, that the peers tend to interpret rejected children's action more negative than average children's actions while they interpret popular children more positive than average children's actions (e.g., Hymel, et al., 1990). Thus, the contingency of the friends' responses to children's actions appears to be inversely related to the children's sociometric status. Hence, I assume that popular children act under higher objective conditions of control than average children, while rejected children act under lower conditions of control than average children.

The correlational structure of dimensions of perceived control and their relationships with action strategies, and own views of friendship quality are invariant across sociometric groups. According to the action theory of psychological control, the cyclic relationships of perceived control, action, and action outcomes are unaffected by differences in objective control conditions. Differences in objective control are posited to affect the mean levels of beliefs. Accordingly, if children perceive their friendship outcomes to be low, their perceived control can be assumed to be low. In contrast, if children perceive friendship quality to be high, their their perceived control can be assumed to be high. Thus, the relationships of perceived control, action strategies, and own views of friendship quality are hypothesized to be invariant across sociometric groups. In a similar vein, the correlational structure of perceived control is hypothesized to be invariant across sociometric groups.

To summarize the expected relationships of the investigated constructs: Agency beliefs, self-related means-ends beliefs, and Direct Action are expected to be positively correlated. Moreover, these constructs are expected to correlate positively with self ratings of friendship quality (inverse relationships with conflict). Agency beliefs, self-related means-ends beliefs are expected to be negatively related to Action Omission and Seeking Help. Generally, the relationships of self-related agency and means-ends beliefs with the remaining constructs are expected to be higher than the corresponding relationships of external agency beliefs. External means-ends beliefs and Goal Difficulty are assumed to be positively correlated with Action Omission and Seeking Help. External means-ends beliefs, Goal Difficulty, Action Omission, and Seeking Help are hypothesized to be inversely related to friendship outcomes compared to agency beliefs (and self-related means-ends beliefs, and Direct Action); that is, external means-ends beliefs, Goal Difficulty, Action Omission, and Seeking Help are hypothesized to be negatively related to friendship outcomes.

Do friended-rejected children overestimate their control? In line with the assumption of differences in objective control, there is empirical evidence that friended-rejected children's friends perceive friendship quality less positively than popular and average children's friends and the rejected children themselves (e.g., Brendgen et al., 2000). In contrast, friended-rejected children have been found to perceive the quality of their mutual friendships (e.g.,



Brendgen et al., 2000) and competence-related aspects of perceived control equally positive as popular and average children (e.g., Patterson et al., 1990). Based on these findings and the proposed cyclic relationships among perceived control, action, and action outcomes, I hypothesize that the three friended groups of children also do not differ in the mean-level profiles of perceived control and action strategies. This would be consistent with the assumption that friended-rejected children's subjective views of perceived control do not correspond with objective conditions of control as indicated by sociometric status. Because rejected children are assumed to act under lower objective conditions of control compared to well-integrated children, equally high perceptions of control indicate that rejected children overestimate their actual amount of control.

Does children's sociometric status moderate the relationships among perceived control, action strategies, friend-rated friendship quality, and number of mutual friendships? Although it has been proposed that psychologically healthy individuals are characterized by illusory high perceptions of control (e.g., Taylor & Brown, 1988), empirical evidence regarding the effects of illusory high perceived control is mixed. On the basis of the literature on positive illusions and assumptions of life span theory (Baltes, 1987), I conclude that the effects of illusory high perceived control may be neutral, negative, or positive depending on which of the possible action outcomes are considered.. Specifically, as outlined above, I expect that illusory high perceived control has a neutral effect on self ratings of friendship quality. In contrast, I assume that illusory high perceived control has negative effects on rejected children's friends' views of friendship quality whereas I expect positive effects of rejected children's illusory high perceived control on the number of mutual friendships. The hypothesized effects of illusory high perceived control are first outlined for the friends' views of friendship quality. Subsequently, the hypothesized effects of illusory high control on friendship participation or the number of mutual friendships is outlined.

Generally, the expected lack of mean level differences in perceived control across sociometric groups of friended children indicates that the amount of overestimation of objective control varies across sociometric status. Specifically, popular children's perceived control may be more realistic than friended-average children's perceived control, whereas

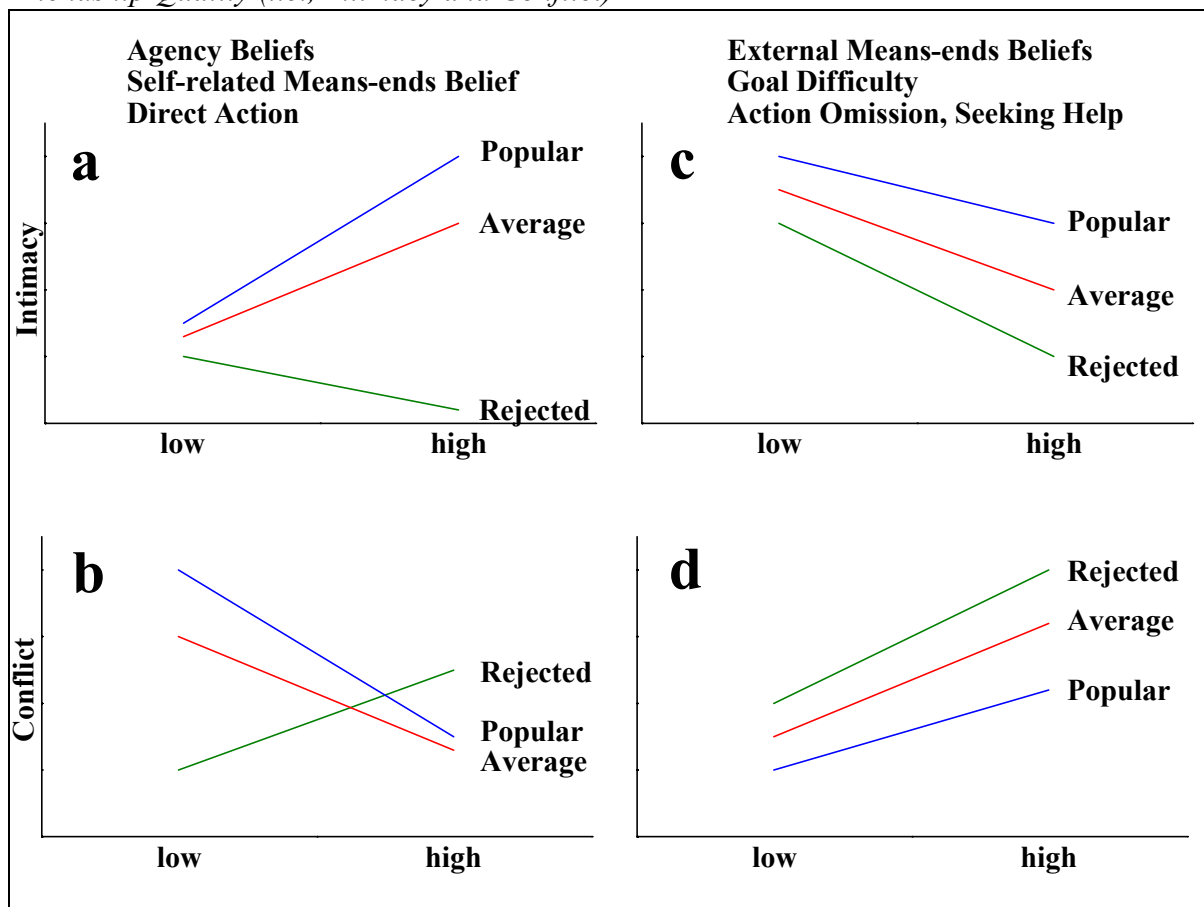
friended-rejected children may overestimate objective control conditions to a higher degree than average children. As a consequence of the varying degrees of correspondence between perceived and objective control across the different sociometric status groups (i.e., Perceived Control x Objective Control/Sociometric Status interaction), I expect that sociometric status moderates the relationships of perceived control and friendship outcomes (i.e., friends' views of friendship quality and the number of mutual friendships).

In general, a negative relationship between perceived control and friend-rated friendship quality can be expected if perceived control overestimates objective control conditions to a high degree. The more children's perceived control is higher than their objective control, the more likely their actions fail. In turn, the more often children's actions fail, the more action failure may negatively affect the friends' evaluation of friendship quality. Consequently, the higher the illusion of perceived control, the more systematically it may negatively affect the friends' evaluation of friendship quality. Thus, as depicted in Figure 6, I hypothesize that rejected children's illusory high agency beliefs (and self-related means-ends beliefs and Direct Action) are negatively related to the friends' views of friendship quality. Friendship intimacy and conflict are expected to be inversely correlated with agency beliefs (and self-related means-ends beliefs and Direct Action), so that high agency beliefs should be related to low intimacy (Fig. 5a) and high conflict (Fig. 5b).

If, on the other hand, perceived control overestimates objective control conditions to a lower degree, action failure is less likely, and, thus, may affect the friends' perceptions of friendship quality less systematically. As a consequence, I hypothesize that popular and average children's agency beliefs (and self-related means-ends beliefs and Direct Action) will be positively related to the friends' views of friendship quality. Friendship intimacy and conflict are expected to be inversely correlated with agency beliefs (and self-related means-ends beliefs and Direct Action), so that high agency beliefs should be related to high intimacy (Fig. 5a) and low conflict (Fig. 6b). However, as seen in Figure 6 (Fig. 6a and 6b), I assume that the relationship of perceived control and the friends' evaluation of friendship quality is higher in the popular group compared to the average group.

Figure 6

*Expected Relationships of Perceived Control and Action Strategies with Friend-rated Friendship Quality (i.e., Intimacy and Conflict)*

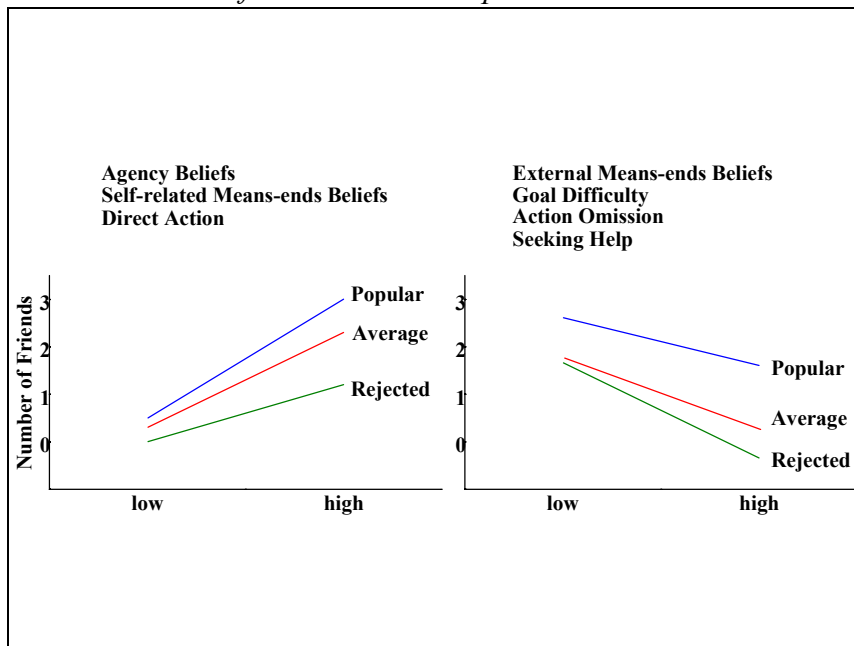


External means-ends beliefs (and Goal Difficulty, Action Omission, and Seeking Help) are expected to be negatively related to friend-rated friendship quality, namely negatively with intimacy (Fig. 6c) and positively with conflict (Fig. 6d). However, whereas for agency beliefs the relationships with friendship quality is expected to be higher for popular children than for average children (Fig. 6a and Fig. 6b), for external means-ends beliefs the relationships should be higher for average children than popular children (Fig. 6c and Fig. 6d). Generally, friends tend to interpret the popular children's actions more positively compared to average children's actions (e.g., Hymel, 1986). Thus, the friends' tendencies to positively interpret popular children's action strategies may attenuate the expected negative relationships among Action Omission, Help Seeking (and external means-ends beliefs and Goal Difficulty), and friend-rated friendship quality. The attenuation of these relationships may be stronger in the popular group than in the average group. In addition, popular children may implement these strategies more often in appropriate situations than average children because they have higher social

skills. As a consequence, for popular children compared to average children, implementing passive and help seeking strategies may be less detrimental for the friends' evaluations of friendship. In a similar vein, if rejected children behave passively or seek adults' help their friends can be expected to interpret these behaviors much more negatively than if average children do the same. In addition, due to their expected deficits in social competence, rejected children may employ these strategies in inappropriate situations. Therefore, high external means-ends beliefs (and goal difficulty) should be more highly related to low friend-rated friendship quality in the rejected group than in the average group (Fig. 6c and Fig. 6d).

Figure 7

*Expected Relationships of Perceived Control and Action Strategies with the Number of Mutual Friendships*



As depicted in Figure 7, with a single exception, I expect similar relationships of perceived control and the number of mutual friendships as expected for the friends' views of friendship quality, namely friendship intimacy (Fig. 6a and Fig. 6b). The exception is that rejected children's illusory high agency beliefs (and self-related means-ends beliefs and Direct Action) may be *positively* related to the number of mutual friendships, although these relationships may be weaker compared to the average group (Fig. 7). Rejected children's illusory high agency beliefs encourage direct actions when facing problems with friends. Active problem-solving attempts imply interaction and involvement. As a consequence, the

nominated friends may perceive a relationship with the rejected children, although the friends' regard the quality of these relationships as being low.

In contrast, as can be seen in Figure 7, across sociometric groups friendless children can be assumed to have lower perceptions of control as indicated by *lower* agency beliefs (and self-related means-ends beliefs and Direct Action) and *higher* external means-ends beliefs (and Goal Difficulty, Action Omission, and Seeking Help) when compared to the groups of friended children. This assumption is supported by the finding that, when controlling for popularity, friendless as compared to friended children score lower on social competence (Newcomb & Bagwell, 1995). Moreover, due to the assumed cyclic relationships of perceived control and friendship outcomes, children who have low perceptions of friendship outcomes can be assumed also to have low feelings of control. Thus, the finding that friendless children perceive their friendships less intimate than children whose friendships are reciprocated (Newcomb & Bagwell, 1995; see also, Krappmann et al., 1993) provides further support for the assumption that friendless children have low perceptions of control. As a consequence, in terms of mean level differences it is expected that sociometric groups of friendless children have lower perceptions of control compared to sociometric groups of friended children.

**B: What mechanisms might underlie the relationship between perceived control and friendship? Do Friendless Children Differ in the Ascribed Importance of Friendships from Friended Children?**

Theories of goal striving and the literature on peer relationships propose two alternative explanations of children's failure to establish satisfying and mutual friendships. These explanations are based on the premise that, in addition to perceived control, goal importance determines whether efforts are invested in goal pursuit (e.g., Atkinson, 1964). Given this, friendless children may regard friendships as unimportant. This could occur because they may not have adopted having friendships as a personal goal. Alternatively, friendless children may have reactively decreased the importance of this goal because they feel low in control to obtain it. Decreasing goal importance and commitment to an unattainable goal is one strategy used to cope with low control conditions (e.g., J. Heckhausen & Schulz, 1995). If such accommodative strategies are available to a child, it may be that some children who perceive

that they lack control to attain satisfying friendships may rate that goal to be less important. Overall, the literature on children's coping shows that their coping responses can be classified according to two strategy types derived from the adult literature: Assimilative (or problem-focused coping) and accommodative (or emotions-focused) coping. Assimilative processes are targeted at changing the situation in accordance with goals. Accommodative processes are targeted at changing goals in accordance to situational circumstances. However, it appears that skills necessary for accommodative coping develop later than skills for assimilative coping. Accommodative processes such as re-scaling goal importance may represent an important developmental progression late in middle childhood. However, abandoning friendship goals may be difficult for these children because alternative goal options are restricted in childhood. Due to the cross-sectional design of the present study it will not be possible to disentangle this issue, but it will be important to keep in mind in the interpretation of findings. As a consequence, mean levels of perceptions of Goal Importance of friendship goals are compared across groups of friended and friendless children. With regard to friended popular, average, and rejected children, I hypothesize that they don't differ in their perceptions of Goal Importance. However, in general, I assume that Goal Importance is highly related to agency beliefs, thus, both types of constructs may evince similar correlations with action strategies and friendship outcomes.

An overview of the family of hypotheses addressed in this dissertation is provided in Table 3.

Table 3  
*Overview of the Hypotheses*

<b>A: Does Children's Sociometric Status Moderate the Relationships among Perceived Control, Action Strategies, and Friendship Outcomes (i.e., Self-rated and Friend-rated Friendship Quality, and Number of Mutual Friendships)?</b>	
<i>A1: Do Friendled-Rejected Children Overestimate their Control whereas Friendless Children have Low Perceptions of Control?</i>	
Main effect of friendship participation (friendled vs. friendless): Friendless children have lower perceived control than friendled children Friendled-rejected children's perceived control does not differ from friendled-accepted children's perceived control	
<i>No main effect of sociometric status, no interactions</i>	
=> Expected mean levels of perceived control and action strategies across sociometric groups:	
Agency Beliefs, Means-ends: Self, and Direct Action:	friendled children > friendless children
Means-ends: Luck, Means-ends: Adults, Goal Difficulty, Seeking Help, Action Omission:	friendled children < friendless children
<i>A2: Correlations of Perceived Control, Action Strategies, and Self-rated Friendship Quality are invariant across sociometric groups of friendled and friendless children</i>	
The correlational structure of dimensions of perceived control and their correlations with action strategies and self-rated friendship quality are invariant across sociometric groups of friendled and friendless children. Similarly, the correlations of action strategies and self-rated friendship quality are invariant across sociometric groups of friendled and friendless children	
<i>A3: Correlations of Perceived Control, Action Strategies, and Number of Mutual Friendships are moderated by sociometric status</i>	
Agency beliefs, Self-related means-ends beliefs, and Direct Action are <i>positively</i> correlated with the number of mutual friendships	
Rank ordering according strength of relationships: popular > average > rejected	
External means-ends beliefs, Goal Difficulty, Seeking Help, and Action Omission are <i>negatively</i> correlated with the number of mutual friendships	
Rank ordering according strength of relationships: rejected > average > popular	
<i>A4: Correlations of Perceived Control, Action Strategies, and Friend-rated Friendship Quality are moderated by sociometric status</i>	
Agency beliefs, Self-related means-ends beliefs, and Direct Action:	
<i>For Popular and Average children:</i>	<i>Positive</i> correlations with Friend: Intimacy <i>Negative</i> correlations with Friend: Conflict
Rank ordering according strength of relationships: popular > average	
<i>For Rejected children reversed correlations:</i>	<i>Negative</i> correlations with Friend: Intimacy <i>Positive</i> correlations with Friend: Conflict
External means-ends beliefs, Goal Difficulty, Seeking Help, and Action Omission:	
<i>For Popular, Average, and Rejected children:</i>	<i>Negative</i> correlations with Friend: Intimacy <i>Positive</i> correlations with Friend: Conflict
Rank ordering according strength of relationships: Rejected > average > popular	

Table 3 continued

<b>B: Exploratory Analyses of a Possible Mechanism Underlying the Relationship between Perceived Control and Friendship: Do Friendless Children Differ in their Ascribed Importance of Friendships from Friended Children?</b>
Do friendless children have lower mean levels of Goal Importance compared to friended children?
No mean level differences in Goal Importance across popular, average, and rejected groups of friended children
Goal Importance is <i>positively</i> correlated with agency beliefs (self-related means-ends beliefs, Direct Action)
Goal Importance is <i>negatively</i> correlated with external means-ends beliefs (Goal Difficulty, Action Omission, and Seeking Help)