Relations between self-concept and social support appraisals during adolescence: A longitudinal study

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ABSTRACT This study examined the causal relationship between social support and self-concept. Although a positive relationship between these two variables has been observed in previous studies, their cross-sectional design does not allow any firm conclusion about the direction of causality. Social support in this study was assessed with the Social Support Appraisal scale (SSA: Vaux et al., 1986). Its four subscales assess the appraisals of support from parents, peers, teachers and others in general. Self-concept was assessed with the Portuguese version of Marsh's Self-Description Questionnaire (SDQ-I). The participants of the study were 169 7th and 9th grade boys and girls from low and average socioeconomic status, observed twice in one year. LISREL structural equations were used for comparing three theoretical models of causal ordering. The first model assumed that the buffering effect of social support in stressful situations has a positive influence on adolescents' self-concept. The second model suggested that self-concept influences the quality of social relationships, and therefore, the support provided by the social networks in everyday life. The third model defended a reciprocal effect of these variables. The results indicated that, there is a complex relation of causality between self-concept dimensions and social support appraisals from family, peers and teachers.

Key words: Adolescence, Self-concept, Social support.

Introduction

Self-concept

The interest in self-concept dates back to several decades already. Being one of the important aspects in the person's identity, it is natural that research in this field tries to clarify, as much as possible, the mechanisms that are responsible for its development. Reuchlin (1990) affirmed that the others are the mirror in which the person believes to see several images of oneself, which one can accept or deny. For Harter (1983) self-concept is the result of a process of observation, knowledge and evaluation of the self as object by the self as subject. In general terms we can define self-concept as the individual's perception of one's own self and, in specific terms, we can say that it is the attitude, feeling, knowledge or awareness about one's capabilities, skills, competences, appearance, social performance and acceptance, and other personal characteristics. These self-appraisals or evaluations are formed and developed through the person's own life experiences in his or her several life contexts, especially through feedback from others in social networks.

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Although there is considerable agreement as regards this general definition, there is still disagreement regarding the measurement of the construct. The divergence is particularly obvious when self-concept dimensions are discussed. Rosenberg (1985), for instance, proposed that self-concept is a unidimensional or global concept, independent of the several domains of the person's performances and achievements. On the other hand, Shavelson (Shavelson, Hubner, & Stanton, 1976) believes that the self-concept is an organised, structured, stable, developmental and evaluative construct differentiated from other constructs; it is also multi-dimensional and hierarchical. At the top of the hierarchy proposed by Shavelson, there is the general self-concept. At the second level, there are the academic and non-academic self-concept dimensions. Academic self-concept is then divided into some specific domains of learning and nonacademic self-concept is divided into social and physical domains. The hierarchical structure of the self-concept was confirmed in several investigations (Marsh, 1989; Marsh, Byrne, & Shavelson, 1988). Some authors make now a compromise between uni-dimensional and multi-dimensional perspectives, including one global dimension in the instruments that evaluate the several dimensions of self-concept (Harter, 1988; Marsh et al., 1988). In fact, global self-concept is not just the sum of the several dimensions, but a general evaluation that one makes about him or herself. This general evaluation may be identified with self-esteem.

Development of self-concept

Harter (1983) notes that the first step in the development of the self in childhood is the emergence of the 'I' or the self as active subject. Then, later will emerge the self as 'Me' or as the object of knowledge. Children then begin to describe themselves through their physical and action attributes and during adolescence the teenager uses progressively psychological processes to describe him or herself, such as cognition, emotions and attitudes, besides action and physical attributes.

According to Erikson (1968), one of the fundamental tasks in adolescence is the establishment of ego identity, which comprises three components: a sense of unity among partial self-concepts, a sense of continuity of these attributes across time and a sense of mutuality between his or her own self-concepts and the concepts that significant others have about him or her. Adolescents are frequently concerned about the way others see them. It is again the "looking-glass self" or the self as subject (Harter, 1983, p. 310), that needs the support from others to define or redefine him/herself as object. The support from others or social support is then a very important construct, that appears to be linked to the self-concept during adolescence.

Social Support

The importance of social support in physical and psychological well being has been studied for the last twenty five years, since Cassel (1974), Caplan (1974) and Cobb's (1976) first studies. Their perspective suggested that the investment in social bonds is a basic process that increases the ability of the person to cope with stress.

According to Vaux (1988), social support is a complex transactional process involving an active interplay between a focal person and his or her support network. The individual must develop and sustain his/her network resources, subject to the opportunities and constraints of one's particular life context. Often, s/he must actively seek assistance from network members and manage support incidents so that the offered supportive behavior meets current needs. S/he must actively appraise (perceive and evaluate) his/her relationships with others, both in terms of ongoing interactions and those that occur within support incidences. These appraisals may lead in turn to efforts to renew network resources (Barrera, 1986; Vaux, 1988, 1992).

Social networks are defined as groups which are part of a large net, formed by people related to the person and who maintain with him/her some kind of relationship. The person looks for

the support s/he needs in these networks –family, friends, neighbours, co-workers, etc. Some networks are stable with time and others are more variable, in number and importance to the individual (Vaux, 1988).

Social support has been studied in the research both in its role in buffering the effects of several stressful life events (Felton, 1989; Heller & Swindle, 1983; Thoits, 1982) and in its role in directly influencing the person's development independently of stress or crisis events (Heller, Swindle, & Dusenbury, 1986; Lin, Ensel & Dean, 1986; Vaux & Burda, 1981).

Social support modifications during adolescence

By the beginning of adolescence, a sense of self-aspiration, ideals, competencies and investments has emerged. With developments in perspective-taking (Selman, 1989), there is a growing sense of how one is seen by others and an effort to integrate such information with the self-concept. Thus, as Vaux (1988) sustains, "we see the beginning of a process whereby important others have an influence in shaping the person's identity" (p. 198).

Relationships with family members change, as relationships with peers do (Dunphy, 1963). During adolescence, youth may build up an important network of peer social support resources. Parents do not lose their importance; they continue to provide considerable financial and practical assistance and remain an important source of guidance; but it is perhaps in peers network that youth seek emotional support, as well as the necessary empathy to confide new experiences and to help them to cope with some stressful events.

Research on changing relationships during adolescence was the topic of a special issue of the Journal of Early Adolescence (Blyth & Serafica, 1985). About social support and adolescence, research often refers to the benefits of social support when coping with stress and psychological distress (Frey & Rothlisberger, 1996; Gore & Aseltine, 1995; Palfai & Hart, 1997), as well as to its role in the development of adolescent's identity (La Greca & Lopez, 1998; Rizzo & Corsaro, 1995). However, only few studies provide data on social support across age (Burke & Weir, 1978; Cauce, Felner, & Primavera, 1982; Coates, 1985; Hotaling, Atwell, & Linsky, 1978), and fewer have investigated the nature of the link between social support and self-concept (Coates, 1985).

From the emergency of the ecological perspective of the human development (Bronfenbrenner, 1979), it is accepted that the relationship between child and mother is not the only important relationship of the child's life and that s/he has, since early, an important role in the development of a supportive network (Lamb & Nash, 1989). After the father and other significant adults, the relationships with the siblings and peers begin to have importance in the child's life. The development of the notion of self and of social perspective taking help the child integrate information of the way others see him/her and to progressively differentiate the several facets of the self-concept.

During adolescence, the individuals become progressively more independent, and they establish a life outside the family. They enter in contact with a very large number of peers with whom they will have opportunity to develop relationships. These relationships will expose adolescents to values and attitudes different from those transmitted by their families. Through the interactions with the other ones, the adolescents redefine themselves, selecting or valueing those relationships that best shape their identity (Youniss & Smollar, 1985). The adolescents' relationships with the family do not lose their importance, but are modified. At the same time, new types of relationships emerge, such as intimate relationships. All these relationships interact with the self-concept. Once the conceptions of self are formed and turned relatively satisfactory and safe, the adolescent tries to avoid that these self-conceptions radically change, because in a world in fast change, stable conceptions of one's self are important to organize one's experience and to predict future

events. The strategies the individuals may use to protect their self-concept are: choose partners that reinforce one's identity or adopt transaction strategies that evoke confirming feedback (Sarason, Sarason, & Pierce, 1990).

In sum, the interpersonal relationships in the support network and the development and use of its resources seems to play a fundamental role in people's well-being and in the adolescents' life in particular, not only helping them in highly stressful situations, but also in preventing such situations (Vaux, 1988). The adolescents participate in the development of these network resources and they can use them in the development and maintenance of the self-concept.

The question raised was if different types of social support can influence the development of different dimensions of the self-concept or if the relationship between self-concept and social support is a reciprocal relationship, that is, the social support is not just used as resource for the development and maintenance of the self-concept, but self-concept can also take the adolescents to different forms of investment in the social network and, consequently, to different perceptions of the social support from different network resources.

Objectives

This study was designed after a previous cross-sectional one conducted by the same authors, in which it was found that there was a positive correlation between self-concept dimensions and the perceived social support from family, peers and teachers. Moreover, there appeared to be a preferential relationship between the two constructs, that is: (a) social support from family showed higher correlations with family relationship self-concept than social support from peers and teachers; (b) social support from peers was more highly correlated with peer relationship self-concept than social support from family and teachers, and (c) social support from teachers was more highly correlated with academic dimensions of self-concept than the other two sources of support (Table 1).

If there is a positive correlation between these two variables, and if others are so important for the development of self-concept during adolescence, we asked ourselves if there could be a causal predominance between self-concept and social support. To investigate this we went on with a longitudinal study, in which the effects of the existing self-concept and social

Table 1
Pearson correlation coefficients between social support appraisals, from family, peers and teachers, and several dimensions of self-concept

Social support appraisals/ Self-concept dimensions	Peers	Family	Teachers
Mathematics	.0000	.2518	.3308
Portuguese Language	.2506	.2353	.4509
General school subjects	.2073	.3292	.4960
Physical appearance	.2861	.3016	.1674
Physical competence	.2088	.2073	.1467
Relationships with parents	.2352	.6499	.4076
Relationship with peers	.4957	.3467	.2681
Global	.3760	.4511	.3361
Total self-concept	.4171	.5243	.5011

Note: $p < .001$. ($N = 654$, 7th to 10th grade boys and girls from low and middle-high socioeconomic status) – Cross sectional study

support measures (first testing) on the later one (second testing) were identified.

Using LISREL structural equations we built three models of causal ordering to test.

The first model assumed that the buffering effect of social support in stressful situations would have a positive influence in adolescents' self-concept –we called this the *buffer model.*

The second model assumed that self-concept would influence the quality of social relationships and, therefore, the support provided by the others in everyday life –we called this model the *self-confidence model.*

Finally, the third model defended the view that a reciprocal effect of these variables would exist –we called this model the *reciprocal model.*

The models (Figure 1), were tested using maximum likelihood analysis of structural equations and three indicators –chi-square (x^2), adjusted goodness of fit index (*AGFI*) and root mean square residual (*RMSR*)- were used to summarise the fitness of the models. The error

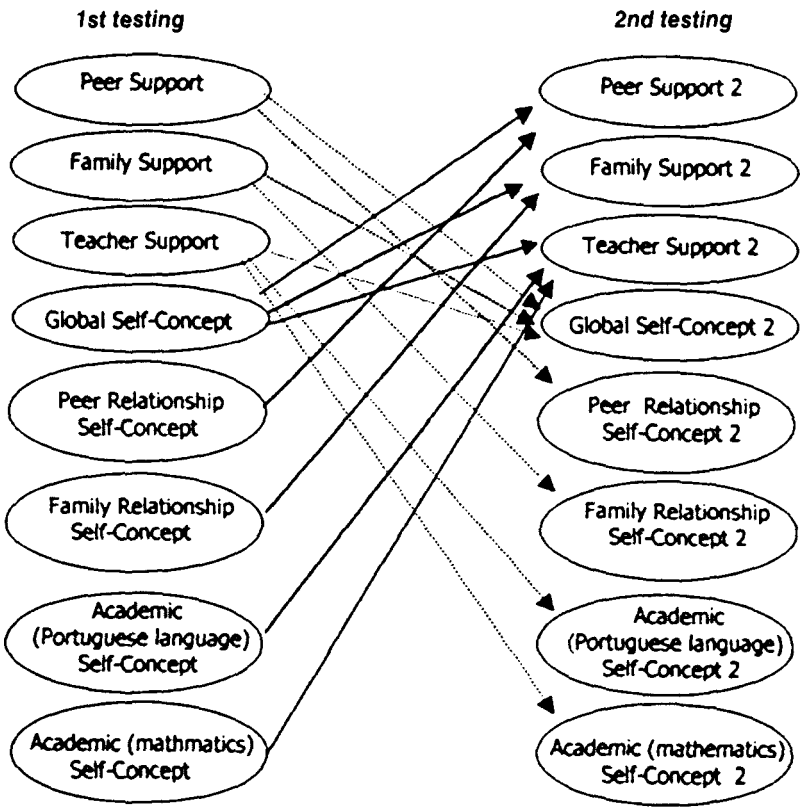

Figure 1: Hypothetical models

Note: First model: Buffer model.
Second model: Self-confidence model.
Third model: Reciprocal model.
The number of varriables assessment '2' after each variable means second testing.

measurement for the variables was estimated from internal consistencies.

The aims of this exploratory study consequently were: (a) to observe which model better fits data and (b) to verify if the causal predominance among social support appraisals and self-concept dimensions varies according to the characteristics of three social network sets -peers, family and teachers.

Method

Sample

The sample used was part of the sample from a previous cross-sectional study. It was composed of 169 boys and girls of low and middle socio-economic status, attending 7th and 9th grades, who were also observed one year later. More specifically, they were tested at the beginning of their 7th and 9th grade and then at the beginning of their 8th and 10th grade, respectively (Table 2).

Table 2
Sample distribution according to gender and socio-economic status

Status	Low			Middle-High			Total
Gender	Female	Male	Total	Female	Male	Total	
7th grade	19	18	37	16	26	42	79
9th grade	14	14	28	37	25	62	90
Total	33	32	65	53	51	104	169

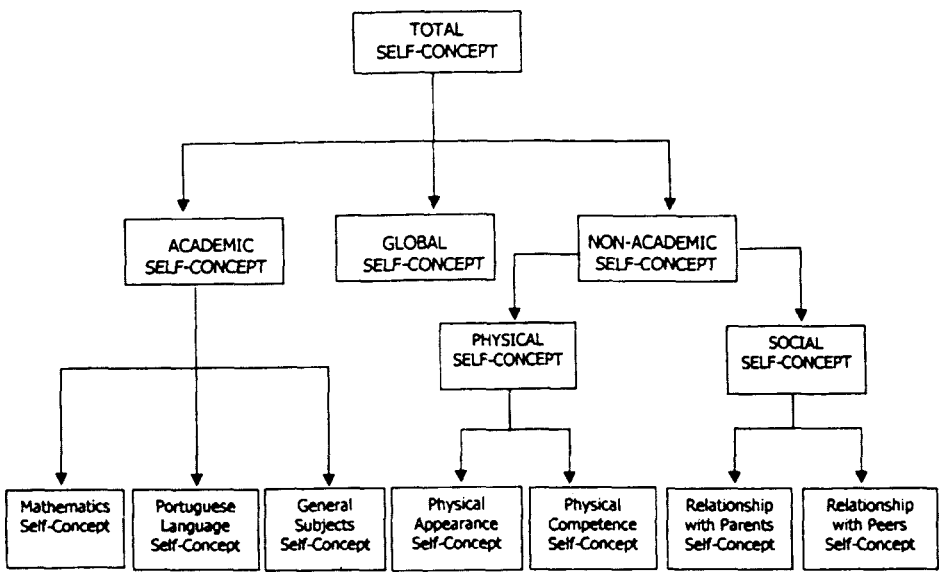

Figure 2: Marsh's hierarchical model of self-concept (based on Shavelson's model)

Questionnaires

The instrument used to assess self-concept was SDQ-I (Self Description Questionnaire), developed by Marsh and Smith (1983). In this study Marsh's hierarchical structure of self-concept was adopted, which is presented in Figure 2. The hierarchical structure of self-concept was tested and confirmed in his research work (Marsh, 1989; Marsh, Byrne, & Shavelson, 1988). For the purpose of this study only the following dimensions are mentioned: academic self-concept in mathematics; academic self-concept in Portuguese language; self-concept in relationship with peers; self-concept in relationship with family and global self-concept. Internal consistency of these sub-scales of SDQ-I are shown in Table 3.

To assess social support we used a Portuguese version of SSA (Social Support Appraisals) from Vaux et al. (1986). This instrument was designed to measure the degree to which a person feels cared for, respected and involved. We added to the twenty three original items, seven more to make a new subscale: support appraisals from teachers. The original scale has only three subscales, assessing perceived social support from family, peers and others in general. The Portuguese version, composed by thirty items, showed a good internal consistency (global scale: alpha = .91) although the subscales showed moderate internal consistency (support from peers: alpha = .79; support from family: alpha = .80; support from teachers: alpha = .79; support from others in general: alpha = .72) (Table 3). For the purpose of this study we only refer to the subscales: peers, family and teachers.

Results

The first and second models as simple or unidirectional causal models were found insufficient to explain relations between the variables considered, since the x^2, *AGFI* and *RMSR* revealed a poor adequacy of the models. In other words, there were no linear or simple effects between social support appraisals from peers, family and teachers, and the various dimensions of self-concept, in one direction or another.

Table 3
Reliability of Marsh's SDQ-I sub-scales and Vaux's SSA subscales in their Portuguese versions (*N* = 654)

Scale	Alpha Values
SSA	
Social support appraisals from friends	.79
Social support appraisals from family	.80
Social support appraisals from teachers	.79
SDQ	
Global self-concept	.82
Academic self-concept in mathematics	.94
Academic self-concept in Portuguese language	.90
Self-concept in relationship with parents	.90
Self-concept in relationship with peers	.79

Table 4

Pearson correlations between variables in the longitudinal study ($N = 169$)

	SSAp2	SSAf2	SSAteach2	PRsc2	Gsc2	AMsc2	FRsc2	APsc2	SSAp1	SSAf1	SSAteach1	PRsc1	Gsc1	AMsc1	FRsc1	APsc1
SSAp2	1.000															
SSAf2	.340	1.000														
SSAteach2	.360	.430	1.000													
PRsc2	.470	.290	.270	1.000												
Gsc2	.380	.490	.450	.580	1.000											
AMsc2	.100*	.280	.280	.070*	.210	1.000										
FRsc2	.210	.670	.390	.280	.540	.200	1.000									
APsc2	.190	.110*	.400	.250	.410	.120*	.230	1.000								
SSAp1	-.210	-.080	-.080*	-.150	.060*	-.020*	-.020*	.002*	1.000							
SSAf1	.130	.590	.160	.150	.260	.180	.520	.100*	.080*	1.000						
SSAteach1	.120*	.270	.380	.180	.310	.250	.320	.330	.050*	.350	1.000					
PRsc1	.050*	.110*	-.010*	.420	.150	.004*	.130	.050*	-.090*	.260	.180	1.000				
Gsc1	.120*	.330	.220	.270	.520	.130	.390	.160	.050*	.410	.320	.500	1.000			
AMsc1	.020*	.230	.210	.030*	.090*	.600	.140	.030*	-.004	.290	.330	.050*	.170	1.000		
FRsc1	-.001*	.490	.190	.090*	.310	.150	.650	.070*	.050*	.630	.260	.280	.540	.150	1.000	
APsc1	.040*	.100*	.330	.210	.370	.130	.250	.610	.100*	.200	.400	.220	.320	.140	.180	1.000

Note: (*) Not significant correlation. All other correlations are significant ($p < .05$).

Abbreviations: The number '1' after each variable label means first testing; number '2' after variable label means second testing.

SSAp = social support appraisals from peers; SSAf = social support appraisals from family; SSAteach = social support appraisals from teachers; PRsc = peers relationship self-concept; Gsc = global self-concept; AMsc = academic mathmatics self-concept; FRsc = family relationship self-concept; APsc = academic Portuguese language self-concept.

The third model seemed to better explain the relations observed through the correlation in the longitudinal study data (Table 4), $x^2(65) = 41.07$, $p = 991$, *GFI* = .972, *AGFI* = .941, *RMSR* = .040. Indeed, we observed a multiple and complex web of reciprocal influences between these two components of self development (self-concept and social support appraisals). The effects are summarised in Tables 5 and 6. Figures 3.1, 3.2 and 3.3 allow us to better observe and discuss partial results from the global model which is composed of the joint effects presented in all three figures.

In Figure 3.1 we can observe that there is

Table 5
Gamma effects in the reciprocal model

	SSA Peers (1)	SSA Fam (1)	SSA Teach (1)	Global SC (1)	Peer SC (1)	Family. SC (1)	Port. L. SC (1)	Math SC (1)
SSA Peers (2)	-.227	.101						
SSA Fam (2)		.440				.218		
SSA Teach.(2)		-.338	.234	.028			.080	.094
Global SC (2)	.127	-.319		.406			.234	
Peer SC (2)				-.401	.548			
Family SC (2)			.070	-.200		.500		
Port. L. SC (2)			.093	-.227			.567	
Math SC (2)								.588

Note: SSA Peers = Social support appraisals from peers; SSA Fam = idem from family; SSA Teach = idem from teachers; Global SC = Global self-concept; Port. L. SC = Academic self-concept in Portuguese language; Math SC = Academic self-concept in Mathematics. (1) = first testing of variables assessment; (2) = second testing of variables assessment

Table 6
Beta effects in the reciprocal model

	SSA Peers (2)	SSA Fam (2)	SSA Teach (2)	Global SC (2)	Peer SC (2)	Family SC (2)	Port. L. SC (2)	Math SC (2)
SSA Peers (2)			.233					
SSA Fam (2)	.249							.121
SSA Teach. (2)		.524					.239	
Global SC (2)	.245	.477						
Peer SC (2)	.246			.626				
Family SC (2)		.334		.319				
Port. L. SC (2)				.295				
Math SC (2)			.137					

Note: SSA Peers = Social support appraisals from peers; SSA Fam = idem from family; SSA Teach = idem from teachers; Global SC = Globel self-concept; Port. L .SC = Academic self-concept in Portuguese language; Math SC = Academic self-concept in Mathematics. (2) = second testing of variables assessment

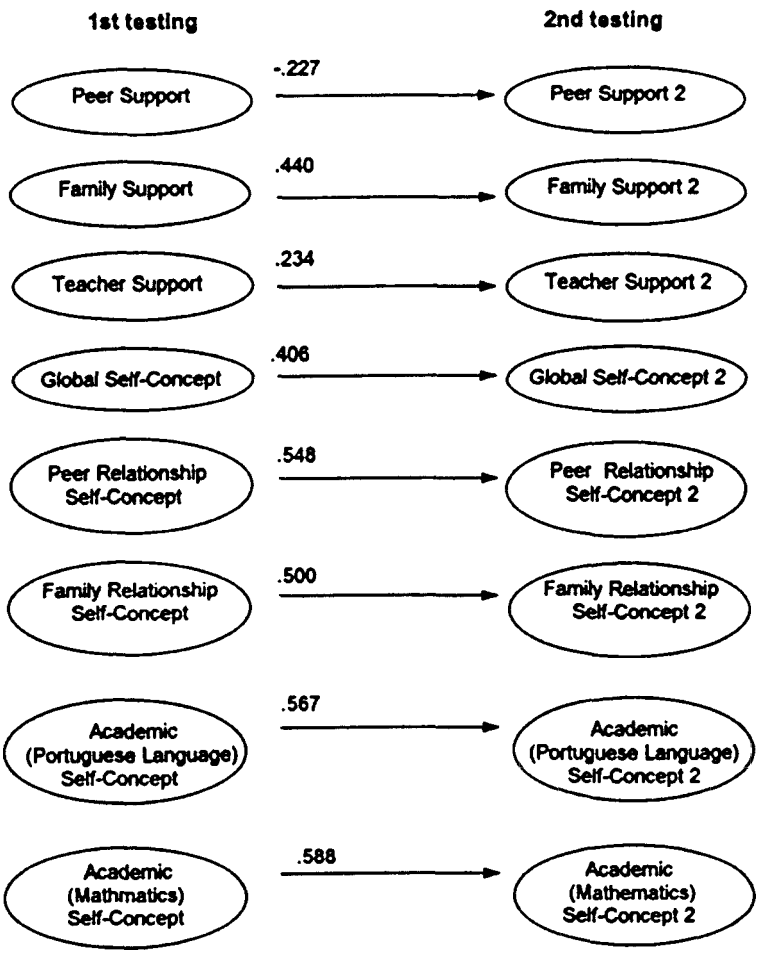

Figure 3.1: Within subjects effects

Note: The number '2' after each variable means second testing.

some stability of variables with time, with the exception of the variable "peers support", which had a negative effect on "peers support" one year later. This leads us to think that social support, especially perceived social support from family, and self-concept are stable characteristics in self-development at least at these ages and grades and in this population.

In Figure 3.2 we can observe relations within each variable –namely, social support and self-concept.

Appraisals of social support from family seemed to negatively influence social support appraisal from teachers one year later, but not within second testing. Family support also influenced peers support one year later, but was influenced by it in the second testing.

Global self-concept seemed to have quite puzzling effects , since it had a negative effect on self-concept in the relation with peers, self concept in the relation with family and self-concept in Portuguese language one year later;

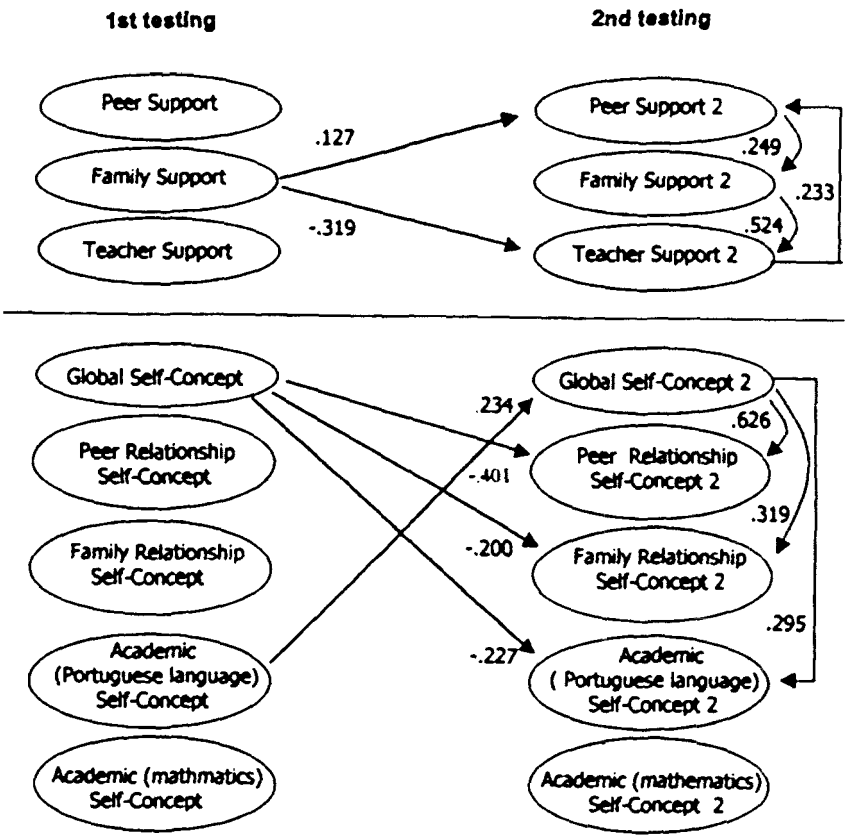

Figure 3.2: Within variables effects

Note: The number '2' after each variable means second testing.

but at the second testing, it had a positive influence on these same dimensions. Global self-concept was also influenced by self-concept in specific academic domain of Portuguese language one year later.

In Figure 3.3 we can observe effects between social support and self-concept.

Social support from peers had a positive effect on adolescents' global self-concept one year later. The same effect was present in cross-sectional data. At the second testing (cross-sectional data) peers support also influenced self-concept in relationship with peers.

Teacher support seems to be preferentially associated with academic self-concept. Teacher support influenced specific academic self-concept in Portuguese language but was influenced by self-concept in Mathematics one year later. In the second testing, the reciprocal model was observed for maths' relation with teacher support and the self-confidence model was observed for its relation with language. Teacher support also had an effect on family self-concept.

The relation between family support and family self-concept was better explained by the self-confidence model in longitudinal data and by the buffering model in cross-sectional data.

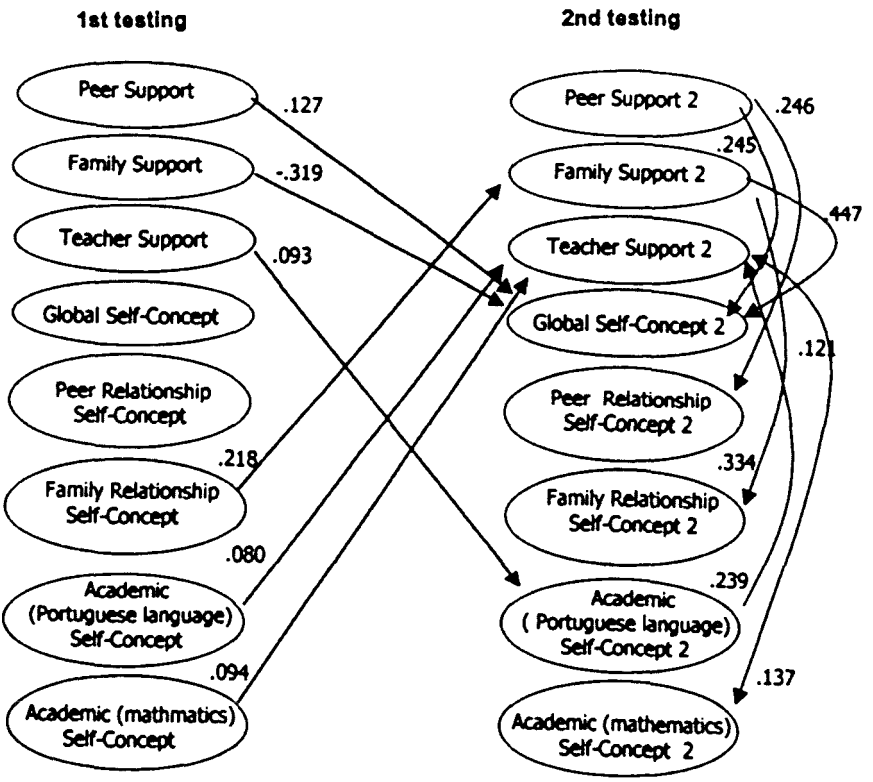

Figure 3.3: Between variables effects
Note: The number '2' after each variable means second testing.

Discussion

The observed negative effect of peers support on itself with time can be explained by the particular characteristics of the development of peer relations in adolescence. These relations can have a special and particular dynamic in each grade and age of our sample, which of course reflected adolescents' appraisals of support from their peers.

Family support was the most stable kind of support adolescents perceive. This finding has been supported by research. Family was seen as having great emotional effect on adolescents in spite of their efforts to become independent from parental authority (Blyth, Hill, & Thiel, 1982; Rowe, 1989; Youniss & Smollar, 1985).

The negative effect of family support on teacher support in the longitudinal data is quite puzzling, since this effect was indeed positive in the cross-sectional data of the second testing. At the second testing, family support appraisal influenced teacher support appraisal, which in turn influenced peers support, which in turn influenced family support. It seems to be a circular system of influences ruled by feedback loops. In this cycle, the highest influence was from family support to teacher support. The experience of supportive relationships adolescents have in each of these network sets seem to be important for them to "read" the experience they have in other groups, starting perhaps in the family.

It seems that there is some complexity in the dynamic of interrelations between global self-

concept and social support appraisals and also other dimensions of self-concept. The negative influence of family support on global self-concept (only in the longitudinal data) could be explained by the negative effect of family overprotection on adolescents' self-confidence. However, this hypothetical explanation must be tested in future research.

As expected, we can observe that the influence of social support on self-concept was differentiated or preferential, although the longitudinal data revealed some differences from the cross-sectional data. There are some dimensions of self-concept that were preferably influenced by social support from one or two groups. Adolescents probably use some information from their social support experience in order to develop or sustain their self-concept in some dimensions. This influence is stronger at the present rather than one year later, that is, the most useful information about social support is the one perceived at the time of testing. The use of social support resources and experience from the past seems to be a very complex process which needs further study.

Nevertheless, self-concept dimensions can also influence some appraisals of support over time. For instance, the family self-concept influenced adolescents' appraisals of family support one year later. However, at the second testing, it was the family support that influenced family self-concept, which probably means that this is a circular influence that works with constant feedback.

The academic dimensions of self-concept also influenced later teacher support appraisals (which also occured at the second testing). We think that the students who have higher academic self-concept and who in general are successful, are probably more supported by teachers. Teachers tend to give more positive feedback to students who have good results. Students who have lower achievement do not have such good academic self-concept and, accordingly, tend to feel less supported by teachers.

At this moment, we think that every possibility is still open in the study of the relations between self-concept and social support. Both variables are undoubtedly important for the development during adolescence, as well as during the whole life cycle. All explanations we have advanced in this research are purely speculative and we believe that some puzzling results and difficulties explaining them may be due to characteristics of the sample. Larger samples and longitudinal studies with more than two moments of observation are necessary to better understand this question.

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