Journal of Vocational Behavior 75 (2009) 100–108

Contents lists available at ScienceDirect

Journal of Vocational Behavior

journal homepage: www.elsevier.com/locate/jvb

The relation of cultural context and social relationships to career development in middle school

Kimberly A.S. Howard [a,*], Lea Ferrari [b], Laura Nota [b], V. Scott H. Solberg [c], Salvatore Soresi [b]

[a] Department of Counseling Psychology, 233 Schreiner Hall, 115 North Orchard Street, University of Wisconsin, Madison, WI 53715, USA
[b] Department of Developmental Psychology and Socialization, University of Padova, Via Belzoni 80, Padova 35131, Italy
[c] Center on Education and Work, University of Wisconsin, 1025 W. Johnson Street, Madison, WI 53706, USA

ARTICLE INFO

Article history:
Received 16 June 2009
Available online 7 July 2009

Keywords:
Career development
Academic achievement
Distress
Career decidedness
Agency
Middle school
Social support

ABSTRACT

This study examined the role of supportive relationships (i.e., family, teacher, and peer) and agency (i.e., self-efficacy, motivation, and goal-setting orientation) on three outcomes: academic grades, distress, and career decidedness. Data from 588 middle school youth from Northern ($N = 322$) and Southern ($N = 266$) Italy were analyzed using path modeling. Results indicated that across gender and region, agency was consistently related to academic grades and career decidedness. However, the role of supportive relationships was found to differ across gender and region. For both boys from Northern Italy and girls from Southern Italy, the impact of family support on academic grades and career decidedness was mediated by agency. For girls from Northern Italy, family support related directly to academic grades and career decidedness. Implications for practice were described.

1. Introduction

For youth in Italy, the first critical career decision occurs during middle school when they choose whether to pursue a college preparatory or a vocational secondary school setting. Despite guidance support, many students experience distress as they struggle with indecision and uncertainty about their future (Nota & Soresi, 2004). This study evaluated whether supportive relationships and level of agency relate to middle school youth achievement, distress, and decidedness.

Agency was conceptualized in this study as consisting of three interrelated components (Kush & Cochran, 1993): self-efficacy (Bandura, 1986), motivation (Deci & Ryan, 1985) and goal-setting orientation (Baltes, 1997). According to Social Cognitive Theory (Bandura, 1986) self-efficacy is defined as the confidence one feels in one's ability to successfully perform a task. While self-efficacy addresses beliefs of whether one can accomplish a certain goal, intrinsic motivation (Deci & Ryan, 1985) may provide the impetus for setting a particular goal for one's self. We also examined the strategies that youth may use to pursue their academic and career goals. The Selection, Optimization, and Compensation (SOC) model (Baltes, 1997; Baltes, Baltes, Freund, & Lang, 1999) posits that successful goal setting and goal pursuit involves the use of three sets of strategies: selection, optimization, and compensation. Individuals who actively select their goals, do things to increase their chances of reaching these goals, and find ways to compensate when barriers appear or losses occur will be most successful. Self-regulation is predicated upon an integration of all three factors self-efficacy, motivation and goal setting (Bandura, 2001; Kush & Cochran, 1993) which we refer to collectively as agency. It is expected that individuals with higher agency will more actively regulate and manage their academic performances, health, and career direction.

* Corresponding author. Fax: +1 608 265 3347.
E-mail address: khoward@education.wisc.edu (K.A.S. Howard).

0001-8791/$ - see front matter © 2009 Elsevier Inc. All rights reserved.
doi:10.1016/j.jvb.2009.06.013

Supportive relationships influence development of one's sense of agency. Family support has been found to predict academic goal orientations (Wentzel, 1998), intrinsic motivation (Grolnick, Ryan, & Deci, 1991), and self-efficacy beliefs (Lapan, Hinkelman, Adams, & Turner, 1999). Further, teacher support has been found to predict youth academic interest, intrinsic motivation, goal-orientation (Wentzel, 1998), and academic self-efficacy (Roeser, Midgley, & Urdan, 1996), while support from peers has been found to predict intrinsic motivation (Grolnick et al.). Supportive relationships have also been found to predict academic achievement (Falbo, Lein, & Amador, 2001; Wentzel, 1998), emotional and physical health (Kenny, Gallagher, Alvarez-Salvat, & Silsby, 2002; Wentzel, 1998), and career development (Nota, Ferrari, Solberg, & Soresi, 2007; Wall, Covell, & MacIntyre, 1999).

1.1. Regional variations and youth development

There exist substantive cultural and economic variations between Northern and Southern Italy which may provide different developmental contexts for Italian youth. Economically, Northern Italy is characterized as an industrial setting with a host of industrial and manufacturing businesses while Southern Italy is mainly an agricultural economy. Unemployment is higher in the South (Censis, 2000), and in this region of the country finding a job frequently involves knowing someone or entering the family business. Over time, these different socioeconomic conditions are becoming associated with cultural differences: Northern Italy emphasizes individual achievement and the possibilities of seeking professional success, while in Southern Italy there is a tendency is to give importance to family and social relationships as a way to effectively adapting to a more rural economy and its higher unemployment (Gentili, 2004). While Triandis (1989) has identified Italy as one of the few historically collectivist cultures in Europe, the current regional economic differences in Italy suggest that a collectivist orientation may better represent Southern Italy, while the more industrialized nature of Northern Italy may facilitate development of an individualist orientation. Therefore, we have included middle school samples from both Northern and Southern Italy so as to investigate the role that sociocultural factors may play in shaping one's development (Bronfenbrenner, 1979; Lerner, 1995).

1.2. The present study

Using a sample of middle school Italian youth, this study explored the relationship between supportive relationships, agency, and three outcomes: academic achievement, distress, and career decidedness. Four hypotheses were evaluated. First, we hypothesized that supportive relationships (i.e., family support, teacher connections and peer connections) relate to agency (i.e., academic self-efficacy, intrinsic motivation, and goal-setting strategies). Second, we hypothesized that supportive relationships relate to academic achievement, distress and career decidedness. Specifically, it was hypothesized that all three sources of support directly influence academic achievement and career decidedness and that family support and peer connections directly influence distress. Third, we hypothesized that agency mediates the relationship between supportive relationships and academic achievement, distress, and career decidedness. Finally, we hypothesized regional differences among the pattern of results with the expectation that due to being more collectivist in orientation, supportive relationships for youth from Southern Italy may have stronger effects on agency, academic achievement, distress, and career decidedness than youth from Northern Italy.

2. Method

2.1. Participants and procedure

Participants were 588 youth who were receiving classroom-based vocational guidance activities. The participants including 322 Northern Italy youth (151 boys, 171 girls; *M* age = 11.87, *SD* = .95) from two middle schools in northern Italy and 266 youth (143 males, 123 females; *M* age = 12.12, *SD* = .85) from two middle schools in Southern Italy. All participants were in the seventh-grade, a grade chosen specifically because of the salience of high school choice to this grade-level of students. Data collection was conducted by psychologists in classroom settings. Each of the measures was described to the participants and they were given the opportunity to ask clarifying questions. Classroom teachers provided academic grades for the youth.

2.2. Instruments

2.2.1. Supportive relationships

Supportive relationships were assessed using three instruments. Perception of family support was assessed using the 7-items of the Social Provisions Scale (SPS; Russell & Cutrona, 1984; Solberg, Carlstrom, Howard, & Jones, 2007). On a 5-point scale ranging from 0 (Strongly Disagree) to 4 (Strongly Agree) youth indicate the degree to which they agreed with items about the support they received from family members. Sample items include the following: "There is a family member that I could talk to about important decisions in my life" and "Members of my family recognize my abilities and skills." Responses to the items were summed and the average was used as an indicator of family support. Factor analysis indicated that the

items loaded on one factor with values ranging from .58 to .70/.53 to .68 for the Northern and Southern Italian samples, respectively. Coefficient alphas of .78 and .68 were found in this study for Northern and Southern Italian samples, respectively.

Connections to teachers (5-items) and connections to peers (4-items) were assessed with items used by Solberg et al. (1998) that were based on the Pascarella and Terenzini (1980) scale. On a 5-point scale, ranging from 0 (Strongly Disagree) to 4 (Strongly Agree) youth indicated the degree to which they agreed with statements about their experiences in school with staff and other youth. Sample items include the following: "There is a friend that I can depend on for help" and "I have friends here at school." Factor analysis confirmed a two-factor structure with factor loading values ranging from .69 to .82/.42 to .86 for the Northern and Southern Italian samples, respectively. Coefficient alphas of .82 and .70 were obtained for *connections to teachers* and *connections to peers* for the Northern sample and .78 and .57 for the Southern sample.

2.2.2. Agency

Agency was assessed as a latent construct derived by combining Middle School Academic Self-efficacy, Middle School Motivation, and Goal-Setting Orientation. Scores for each of the measures were standardized and then summed using the average as an indicator of agency. A coefficient alpha of .85 was obtained for this indicator indicating good internal consistency for the Agency construct and validity and reliability of each of the measures are described below.

The Middle School Academic Self-efficacy Inventory is based on the 22-item of the College Self-efficacy Inventory (Solberg et al., 1993, 1998). On an 8-point scale ranging from 0 (Totally Unconfident) to 7 (Totally Confident), youth rate their confidence in performing a range of academically related tasks. Sample items include the following: "I feel confident in successfully preparing for a test; using a computer to search the web; and getting along with classmates." Factor analysis confirmed a three-factor structure with factor loading values ranging from .51 to .85 and .31 to .90 for the Northern and Southern Italian samples, respectively. For the Northern and Southern Italian samples, coefficient alphas of .84/.78, .59/.75 and .64/.58 were obtained for *academic performance, computer use,* and *social interactions*, and of .84/.79 for the full scale.

Motivation was assessed with 10 items on the Middle School Motivation scale, which is based on the Academic Self-regulation Scale of Ryan and Connell (1989). On a 5-point scale ranging from 0 (Very Much Untrue) to 4 (Very Much True) youth respond to the items assessing their reasons for attending school. Sample items include: "The reason I keep coming to school is. . .because I see the importance of learning. . .so important people in my life won't be disappointed in me." Factor analysis confirmed a two-factor structure with factor loading values ranging from .41 to .81/.40 to .83 for the Northern and Southern Italian samples, respectively. For the Northern and Southern samples, coefficient alphas of .75/.61 and .58/.58 were obtained for *intrinsic motivation* and *extrinsic motivation*, and of .72/.62 for the full scale, respectively. Only the intrinsic motivation items were used in this study.

Goal-setting orientation was assessed using the 24-item version of the Selection, Optimization, and Compensation scale (SOC; Baltes et al., 1999). This instrument asks youth about the frequency with which they use strategies of selection, optimization, and compensation when setting and pursuing goals. Each item presents the student with a situation and two general strategies for managing the situation, one of which is a SOC strategy. The student chooses the strategy (s)he is more likely to use. Sample items include the following: "When things don't work the way they used to, I look for other ways to achieve them vs. When things don't work the way they used to, I accept things the way they are" and "When I have started something that is important to me but has little chance at success, I try harder vs. When I start something that is important to me but has little chance at success, I usually stop trying." Students receive a score of 1 for every SOC strategy they endorse; scores are summed to provide an index of SOC-strategy use. Factor analysis confirmed a two-factor structure, as found by Ferrari (2005), with factor loading values ranging from .34 to .77 and .37 to .76 for the Northern and Southern Italian samples, respectively. For the Northern and Southern samples, coefficient alphas of .63/.61 and .62/.62 were obtained for *cognitive involvement and commitment*, and *persistence*, respectively, and of .70/.68 for the full scale.

2.2.3. Outcomes

Three outcomes were evaluated: Grades, Distress, and Career Decidedness. For Academic Performance, classroom teachers provided first semester grades for each student. Grades were reported on a 10-point scale, with values ranging from 1.0 to 10.0 (Northern Italian sample: $M = 6.39$, $SD = .92$; Southern Italian sample: $M = 6.68$, $SD = .69$).

Distress was assessed using the 22-item High School Distress Inventory (Solberg et al., 1998), which is based on the College Distress Inventory (CDI; Ryan, Hanin, & Solberg, 1994). On a 6-point scale youth indicated the degree to which they have experienced symptoms of distress in the past week, ranging from 0 (Never) to 5 (Always). Sample items include the following: "mood swings," "being tired but unable to sleep," and "getting sick a lot." Factor analysis confirmed a five-factor structure with factor loading values ranging from .81 to .93/.41 to .88 for the Northern and Southern Italian samples, respectively. For the Northern and Southern samples, coefficient alphas of .79/.70 for *agitation,* .83/.74 for *sleep problems,* .80/.80 for *feelings of anxiety and depression,* .81/.56 for *eating problems,* and .65/.79 for *physical problems* were found and of .91/.90 for the full scale.

Career decidedness was measured using the Ideas and Attitudes on Academic-career Future (IAACF) scale (Soresi & Nota, 2001). The IAACF is a 17-item self-report measure developed from the work of Jones (1989) and Savickas and Jarjoura (1991). Using a 5-point scale ranging from 1 (Does Not Describe Me At All) to 5 (Describes Me Very Well) youth are asked to rate how much each statement describes their usual way of thinking and behaving. Items are recoded such that higher scores represent more career decidedness. Sample items include the following: "I don't know what to think when I have to decide which

is the best school for me" and "I can't imagine what I will do when I grow up." Reliability estimates of .83/.85 (*self and academic/vocational knowledge)*, .64/.65 (*commitment and involvement in choice)*, and .65/.71 (*certainty of professional identity)* were obtained for the Northern and Southern Italian samples, respectively.

3. Results

Means and standard deviations of the study variables appear in Table 1 and are presented for each gender × region group. Table 2 presents the intercorrelations among study variables by gender × region. Consistent across all four groups, family support correlated significantly with grades and distress, agency related to grades and career decidedness, and connection to teachers correlated with agency. For the two groups of girls family and peer support also related to sense of agency and relationships with peers related to semester grades.

Two multiple group comparisons were run to test the invariance across gender and the invariance across gender by region. For both sets of analyses we compared the fit of the constrained and unconstrained models that resulted. Comparison of these two models revealed that the unconstrained model was a significantly better fit for gender $\Delta\chi^2(22, N = 591) = 38.13$, $p < .001$ and region $\Delta\chi^2(54, N = 591) = 124.47$, $p < .001$. Consequently, the sample was divided into four gender × region groups.

To examine the relation of the three types of supportive relationships and agency to academic performance, distress, and career decidedness, the hypothesised model was tested separately for each of the four groups of participants using the maximum-likelihood method in LISREL (Version 8.30; Jöreskog & Sörbom, 1999). Paths that failed to reach significance for all four groups were removed and the revised model was evaluated. The results from the revised model are depicted in Figs. 1 and 2. For ease of interpretation, Fig. 1 provides the results for male participants and Fig. 2 for female participants. Only paths that were significant for at least one of the two groups are represented in each figure. Full descriptions of model specification and parameter estimates can be obtained from the second author.

The results indicated that for both samples of boys (Fig. 2), youth reporting higher agency recorded better grades (.46 [Northern] and .35 [Southern], $p < .05$) and reported higher career decidedness (.32 [Northern] and .33 [Southern], $p < .05$). The significant path from teacher connections to grades for boys from southern Italy is likely a spurious effect as the intercorrelation (Table 2) between these variables was not significant ($r = -.07$). Unique paths were also found across samples, including a direct link between family support and grades for the Southern Italian boys (.37, $p < .05$), while family support related directly to agency (.37, $p < .05$) and career decidedness (.20, $p < .05$) for the Northern Italian boys. Teacher connections related directly to agency for the Northern Italian boys (.23, $p < .05$). None of the paths from the relational context variables to agency reached the level of significance for the Southern Italian boys.

The results indicated that for both samples of Italian girls, family support associated directly with less distress (−.31 [Northern] and −.21 [Southern], $p < .05$), teacher connections were associated with higher agency ratings (.40 [Northern] and .26 [Southern], $p < .05$), and peer connections associated with higher agency ratings (.17 [Northern] and .17 [Southern], $p < .05$). Higher reported agency associated with both increased grades (.29 [Northern] and .51 [Southern], $p < .05$) and more career decidedness (.26 [Northern] and .38 [Southern], $p < .05$). Unique paths for the girls from northern Italy were from family support to grades (.20, $p < .05$) and career decidedness (.21, $p < .05$), while for the girls from Southern Italy family support associated with higher reported agency (.26, $p < .05$).

3.1. Tests of mediation

Following the suggestions of Baron and Kenny (1986) and Holmbeck (1997), three steps were taken for each gender × region group to test for the hypothesized mediating effect of the latent variable agency. In the first step only the hypothesized direct paths were evaluated. The results indicated that in all four groups there were significant paths from family support to grades (.24 [Northern girls], .20 [Northern boys], .22 [Southern girls], and .41 [Southern boys], respectively,

Table 1
Means and standard deviations of all variables by regional samples and by gender groups.

Variable	Northern sample		No. females		No. males		Southern sample		So. females		So. males	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Family support	3.91	.79	3.96	.73	3.85	.85	4.04	.64	3.96	.67	4.11	.61
Connection to teachers	3.69	.88	3.78	.73	3.59	1.02	4.11	.72	4.20	.66	4.03	.75
Connection to peers	4.26	.79	4.36	.70	4.14	.87	4.27	.72	4.41	.62	4.15	.77
Agency	3.43	.65	3.51	.61	3.34	.68	4.58	.79	4.75	.78	4.44	.77
Grades	6.39	.92	6.58	.87	6.18	.94	6.69	.69	6.80	.71	6.58	.67
Distress	1.61	.90	1.59	.82	1.64	.99	1.54	.80	1.55	.71	1.53	.86
Decidedness	3.76	.77	3.85	.72	3.65	.81	3.57	.80	3.61	.77	3.53	.82

Note. Family support = perceived family support; connection to teachers = perceived connection to teachers; connection to peers = perceived connection to peers; agency = latent variable including Middle School Academic Self-efficacy, middle school intrinsic motivation, SOC; distress = experiences of distress; decidedness = career decidedness.

Table 2
Intercorrelations of all variables for Northern Italian female students (n = 171), Northern Italian male students (n = 152), Southern Italian female students (n = 123), and Southern Italian male students (n = 143).

Variable	Northern sample							Southern sample						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1. Family support	–	.33**	.27**	.38**	.27**	−.35**	.23**	–	.27**	.05	.42**	.25**	−.25**	.16
2. Connection to teachers	.52**	–	.35**	.52**	.12	−.16*	.05	.31**	–	.11	.40**	.15	−.11	.09
3. Connection to peers	.41**	.38**	–	.36**	.15*	−.17*	.03	.28**	.34**	–	.24**	.24**	−.14	.19
4. Agency	.59**	.44**	.33**	–	.33**	−.20**	.23**	.14	.29**	.12	–	.54**	−.27**	.37**
5. Grades	.31**	.27**	.19*	.46**	–	−.26**	.23**	.33**	−.07	−.04	.32**	–	−.17	.23*
6. Distress	−.26**	−.18*	−.19*	−.25**	−.20*	–	−.19*	−.18*	.10	.04	.14	−.28**	–	−.10
7. Decidedness	.26**	.09	.06	.34**	.18*	−.47**	–	.04	.03	.16	.29**	.25**	−.20*	–

Note: Values above the diagonal are for the female students; values below the diagonal are for the male students. Also see Note in Table 1.
* $p < .05$.
** $p < .01$.

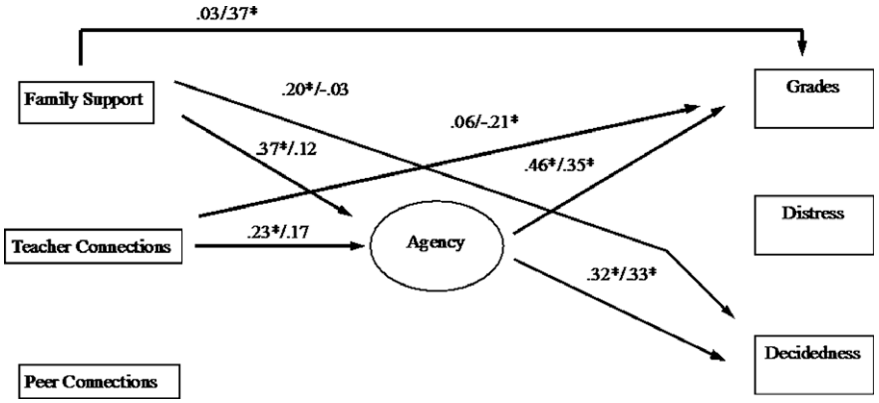

Fig. 1. Model for male participants (Northern Italy/Southern Italy). *Note:* For ease interpretation only paths that were significant for at least one group are shown. Path coefficients presented in pairs: coefficients for northern Italy male participants presented first and southern Italy male participants presented second. *denotes a significant path coefficient at the .05 level.

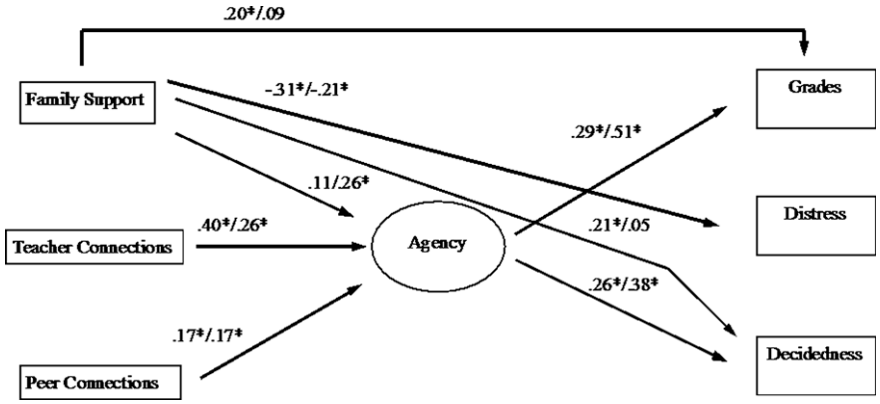

Fig. 2. Model for female participants (Northern Italy/Southern Italy). *Note:* For ease of interpretation only paths that were significant for at least one group are shown. Path coefficients presented in pairs: coefficients for northern Italy female participants presented first and southern Italy female participants presented second. *denotes a significant path coefficient at the .05 level.

$p < .05$) and family support to distress (−.34 [Northern girls], −.26 [Northern boys], −.25 [Southern girls], and −.18 [Southern boys], respectively, $p < .05$). In addition, for Northern Italy participants, significant paths were found between family support to career decidedness for both boys (.32, $p < .05$) and girls (.24, $p < .05$). Finally, for girls from Southern Italy, significant direct effects were found from peer connections to grades (.23, $p < .05$) and to career decidedness (.18, $p < .05$). No direct effects were found from teacher connections to grades or to career decidedness for any of the groups.

The second step in testing for mediation is to evaluate the fit of the overall model which includes the specification of direct effects of sources of support on the hypothesized outcomes, sources of support on agency, and agency on grades, distress, and career decidedness. The results of the four overall models are depicted in Figs. 1 and 2 and the fit indices (with the exception of RMSEA in three of the four cases) generally indicated an adequate or good fit for all four models (Hu & Bentler, 1999; Quintana & Maxwell, 1999; see Table 3). CFI values ranged from .76 to .95; GFI values ranged from .93 to .98, SRMR values ranged from .052 to .098; and RMSEA values ranged from .001 to .185. It is important to note that while RMSEA is high, there is some indication that this index may not be robust for generating unbiased fit estimates with smaller sample sizes (Hu & Bentler, 1999). In comparing the results of steps 1 and 2, evidence of partial mediation would be indicated if the addition of the agency construct resulted in a reduction in a specific path coefficient. Results indicated that the family support to grades path was mediated by agency for the samples of Northern Italian boys and Southern Italian girls. For Northern Italian boys, the addition of agency resulted in a coefficient reduction for the path from family support to grades from .20 in step 1 to .03 in step 2. For Southern Italian girls, the addition of agency resulted in a coefficient reduction for the path from family support to grades from .22 in step 1 to .09 in step 2. For Northern Italian boys, agency also partially mediated the path from family support to distress, and family support to career decidedness. For Northern Italian boys, the addition of agency resulted in a coefficient reduction in the path from family support to distress from −.26 in step 1 to −.17 in step 2, and resulted in a coefficient reduction in the path from family support to career decidedness from .32 in step 1 to .20 in step 2. For Southern Italian girls, agency also partially mediated the path from peer support to grades. For Southern Italian girls, the addition of agency resulted in a coefficient reduction in the path from peer support to grades from .23 in step 1 to .17 in step 2. The inclusion of agency in step 2 did not result in mediation effects for the samples of Southern Italian boys and Northern Italian girls.

Finally in the third and last step a fully mediated model was computed for each of the four participant groups and compared to step 2. In step 3, paths were constrained such that sources of support only led to agency and agency led to the three outcomes. If step 3 is found to provide a better fit than step 2, then evidence for a fully mediated model would be indicated. A χ^2-test of difference was computed in order to assess for differences between steps 2 and 3. For two groups, boys from Northern Italy and girls from Southern Italy, the χ^2 difference tests were not significant – $\Delta\chi^2(7, N = 153) = 9.796$, $p > .05$ for Northern boys and $\Delta\chi^2(7, N = 123) = 12.39$, $p > .05$ for Southern girls (see Table 3), suggesting that the model tested in both steps are similarly adequate. On the other hand, for boys from Southern Italy and girls from Northern Italy, significant χ^2 difference tests were obtained: $\Delta\chi^2(7, N = 143) = 30.26$, $p < .05$ for Southern boys and $\Delta\chi^2(7, N = 172) = 37.14$, $p < .05$ for Northern girls. However, the fit indices suggest that the fully mediated model provides a significantly *worse* fit for both groups as the indices dropped below thresholds for acceptable fit (e.g., CFI of .67 vs. .91 for step 3 vs. the step 2 for Southern boys and CFI of .83 vs. .97, respectively for Northern girls). One improvement in Model 3 was the path from agency to distress which was significant for three of the four samples. Agency related to lower distress for Northern Italian boys (−.25, $p < .05$), Northern Italian girls (−.20, $p < .05$), and Southern Italian girls (−.21, $p < .05$).

4. Discussion

As hypothesized, the results indicate that agency was associated with semester grades and career decidedness across all four gender × region groups, a finding consistent with existing research (e.g., Lent, Brown, Nota, & Soresi, 2003; Roeser et al., 1996). Students who reported being highly efficacious, intrinsically motivated, and goal-directed recorded higher academic

Table 3
χ^2 and fit indices among different models.

Model	*df*	χ^2	*p*	CFI	GFI	SRMR	RMSEA
Northern male							
Step 1	5	36.47	.001	.78	.93	.098	.206
Step 2	5	30.60	.001	.88	.95	.074	.185
Step 3	12	40.39	.001	.87	.93	.087	.126
Southern male							
Step 1	5	26.00	.001	.76	.94	.085	.174
Step 2	5	16.46	.006	.91	.97	.053	.128
Step 3	12	46.72	.001	.67	.91	.093	.144
Northern female							
Step 1	5	15.09	.01	.91	.97	.061	.110
Step 2	5	10.19	.07	.97	.98	.040	.079
Step 3	12	47.33	.001	.83	.93	.092	.132
Southern female							
Step 1	5	6.56	.255	.95	.98	.052	.051
Step 2	5	1.69	.891	1.00	1.00	.021	.001
Step 3	12	14.08	.295	.98	.97	.055	.038

Note: CFI = comparative fit index; GFI = goodness of fit index; SRMR = standardized root-mean-square residual; RMSEA = root-mean-square error of approximation.

outcomes and reported better career decision-making readiness. Agency also served a mediating role for two of the four groups in this study (i.e., Northern boys and Southern girls) as the fit of the fully mediated model was nearly equivalent to the fit of the full model. For the remaining two groups agency did not *fully* mediate the effects of support on academic outcomes, but nonetheless related to grades and career decidedness. However, in contrast to our hypothesis, agency was not a significant predictor of distress and thus was not a mediator between sources of social support and distress.

Our hypothesis that all three types of supportive relationships related positively to agency was only partially supported. While all three sources of social support predicted agency for at least one group, each group differed in the pathways *to* agency that were significant. Consistent with Social Integration Theory (Pascarella & Terenzini, 1980), girls' school-related supportive relationships (teachers and peers) associated with agency beliefs. However, for boys, the path from peer connections to agency was not significant, and the path from teacher connections to agency was only significant for boys from Northern Italy. Family support was found to predict agency for boys from Northern Italy and girls from Southern Italy.

For girls from Northern Italy, family support appears to be directly related to academic grades, distress, and career decidedness. Alternatively, for girls from Southern Italy, family support was only directly related to lower levels of distress. This direct and negative relationship from perceived family support to distress is consistent with the research of Wentzel (1998) and Kenny et al. (2002).

For boys from Southern Italy, support from family members related directly to grades and the effect was not mediated by agency. For boys from Northern Italy, family support related to career decidedness in a direct way. Further, for this group of boys from Northern Italy, family support appears to be related to academic outcomes through its relationship with agency. Also for boys from Northern Italy, teacher connections related to agency, however, teacher connections were not found to have direct nor indirect effects on grades, distress, or career decidedness.

With regard to context factors, family support was directly related to career decidedness for youth from Northern Italy but not Southern Italy. This regional difference may be due to how differing economic conditions impact the perceived need for making early career decisions. The industrial economy of Northern Italy creates many occupational opportunities and selecting a high school will often rule out many occupations due to the specialization of studies being offered. For this reason, families in Northern Italy more strongly emphasize the importance of early career exploration (Nota, Soresi, & Ferrari, 2005). The economic context of Southern Italy continues to evolve around agriculture and fishing. It is possible that family support does not directly relate to career decidedness because families and youth in this region do not feel the same press to engage in career exploration during the middle school years. Boys in Southern Italy are often expected to continue their fathers' profession and girls in Southern Italy are often expected to work in the home and only part-time outside the home (Ginevra, 2008).

4.1. Implications

The results of this study have implications for practice. Consistent throughout the results with both samples was the important role of familial support in the development of youths' sense of agency and in their academic and career outcomes. For girls, teachers and peers have an important role to play in developing agency. Interventions designed to create stronger connections to teachers, and peers (Solberg, 2006), may have an indirect and positive effect on female students' grades and their career decidedness through their impact on agency beliefs. While this may seem to be an obvious suggestion it is important to view this within the Italian context. The prevailing view in Italy of the student–teacher relationship is one characterized by formality and respectful deference by students to teachers. Such an approach to student–teacher relationships can make it more difficult to establish relationships that are *experienced* as close and emotionally supportive. Interventionists working with educators may need to address and discuss this tradition of formality before teachers can feel comfortable departing from the common stance of the teacher and foster such strong student–teacher connections.

The results are also consistent in regards to the role of agency in promoting academic and career decidedness outcomes. Interventions designed to assist youth in strengthening their academic self-efficacy, internal motivation, and goal-setting strategies can also be expected to contribute to improved outcomes in the form of higher grades and more career decidedness. Finding ways to *infuse* these "agency" building activities into the daily school curricula are key so that career development activities are not viewed as competing with, but complementing and supporting, classroom-based instruction.

Finally, this study also contributes to our on-going efforts as a field to understand and appreciate the impact of various cultural contexts on the phenomena of academic achievement, distress, and career development. It suggests both gender and regional similarities and differences in the ways in which home- and school-based sources of support influence youths' sense of being confident, motivated, and active in goal pursuit endeavors, as well as the outcomes they experience. It also affords us some modest information to further our understanding of how the experiences of youth are similar and different across various national contexts.

There are some limitations of this study that a consistent with conducting self-report surveys. Some of the measures included in this study yielded low internal reliability coefficients. Coefficient alphas below .7 were obtained in several cases. Future research endeavors would need to examine the structure of these scales to determine how we might more reliably measure these constructs.

4.2. Summary

In sum, the results of this study highlight the critical role that supportive others play in the lives of Italian youth. Feeling supported by one's family members and connected to one's teachers and peers can encourage a stronger sense of agency in the form of higher academic self-efficacy, more internal motivation for academic tasks, and more deliberate use of goal setting and pursuit strategies. A strong sense of agency, in turn, supports higher academic grades and more career decidedness. And finally, for some youth, familial support also directly supports the grades one receives in school, one's experiences of distress, and one's level of career decidedness.

References

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist, 52*, 366–380.

Baltes, P. B., Baltes, M. M., Freund, A. M., & Lang, F. (1999). *The measurement of selection, optimization, and compensation (SOC) by self report: Technical Report 1999*. Berlin: Max Planck Institut für Bildungsforschung.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (2001). The changing face of psychology at the dawning of a globalization era. *Canadian Psychology, 42*, 12–24.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Censis (2000). *Il rapporto annuale sulla situazione sociale del Paese* [Annual report on the social situation of the Country]. Milano, Italy: Franco Angeli.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human development*. New York: Plenum.

Falbo, T., Lein, L., & Amador, N. A. (2001). Parental involvement during the transition to high school. *Journal of Adolescent Research, 16*, 511–529.

Ferrari, L. (2005). *Self-efficacy, perceived support and indecision in adolescents at risk for school failure: Analysis of intervening variables and intervention proposal*. Unpublished doctoral thesis. University of Padua, Italy.

Gentili, C. (2004). Il riformismo formativo europeo e la riforma Moratti [European reformism and the Moratti's reform]. *Magellano, 21*, 5–14.

Ginevra, C. (2008). *L'autodeterminazione in un gruppo di studenti delle scuole superiori [Self-determination of a group of high school students]*. Unpublished thesis. University of Padova, Italy.

Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology, 83*, 508–517.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*, 599–610.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55.

Jones, L. K. (1989). Measuring three-dimensional construct of career indecision among college students: A revision of the Vocational Decision Scale – the Career Decision Profile. *Journal of Counseling Psychology, 36*, 477–486.

Jöreskog, K. G., & Sörbom, D. (1999). *LISREL 8.30*. Chicago: Scientific Software International.

Kenny, M. E., Gallagher, L. A., Alvarez-Salvat, R., & Silsby, J. (2002). Sources of support and psychological distress among academically successful inner-city youth. *Adolescence, 37*, 161–182.

Kush, K., & Cochran, L. (1993). Enhancing a sense of agency through career planning. *Journal of Counseling Psychology, 40*, 434–439.

Lapan, R. T., Hinkelman, J. M., Adams, A., & Turner, S. (1999). Understanding rural adolescents' interests, values, and efficacy expectations. *Journal of Career Development, 26*, 107–124.

Lent, R. W., Brown, S. D., Nota, L., & Soresi, S. (2003). Testing social cognitive interest and choice hypotheses across Holland types in Italian high school students. *Journal of Vocational Behavior, 62*, 101–118.

Lerner, R. M. (1995). *America's youth in crisis: Challenges and options for programs and policies*. Thousand Oaks, CA: Sage.

Nota, L., Ferrari, L., Solberg, S. V. H., & Soresi, S. (2007). Career search self-efficacy, family support, and career indecision with Italian youth. *Journal of Career Assessment, 15*, 181–193.

Nota, L., & Soresi, S. (2004). Improving the problem-solving and decision-making skills of a high indecision group of young adolescents: A test of the "Difficult: No Problem!" training. *International Journal for Educational and Vocational Guidance, 4*, 3–21.

Nota, L., Soresi, S., & Ferrari, L. (2005). Il concetto di lavoro in adolescenti dell'Italia settentrionale e meridionale [Concept of work in Northern and Southern Italian adolescents]. In S. Soresi (Ed.), *Orientamento alle scelte: rassegne, ricerche, strumenti ed applicazioni [Vocational guidance: Reviews, research, instruments and applications]* (pp. 128–138). Firenze: Giunti-Organizzazioni Speciali.

Pascarella, E. T., & Terenzini, P. T. (1980). Predicting freshman persistence, involuntary dropout decisions from a theoretical model. *Journal of Higher Education, 51*, 60–75.

Quintana, S. M., & Maxwell, S. E. (1999). Implications of recent developments in structural equation modeling for counseling psychology. *The Counseling Psychologist, 27*, 485–527.

Roeser, R. W., Midgley, C., & Urdan, T. C. (1996). Perceptions of the school psychological environment and early adolescents' psychological and behavioral functioning in school: The mediating roles of goals and belonging. *Journal of Educational Psychology, 88*, 408–422.

Russell, D., & Cutrona, C. (1984). *The provisions of social relationships and adaptation to stress*. Paper presented at the Annual Meeting of the American Psychological Association, Toronto, Canada.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*, 749–761.

Ryan, N. E., Hanin, D., & Solberg, V. S. (1994, August). Racial/ethnic, gender, and within group differences in college distress. In V. S. Solberg (Chair), *Recommendations for designing culturally relevant college persistence programming*. Symposium conducted at the 102nd Annual Convention of the American Psychological Association, Los Angeles.

Savickas, M. L., & Jarjoura, D. (1991). The Career Decision Scale as a type indictor. *Journal of Counseling Psychology, 38*, 85–90.

Solberg, V. S. (2006). *Success highways (Teacher Guide)*. Denver, CO: Scholarcentric.

Solberg, V. S. H., Carlstrom, A. H., Howard, K. A. S., & Jones, J. E. (2007). Classifying at-risk high school youth: The role of exposure to community violence and protective factors on academic and health outcomes. *Career Development Quarterly, 55*, 313–327.

Solberg, V. S., Gusavac, N., Hamann, T., Felch, J., Johnson, J., Lamborn, S., et al (1998). The adaptive success identity plan (ASIP): A career intervention for college students [Monograph]. *The Career Development Quarterly, 47*, 48–95.

Solberg, V. S., O'Brien, K., Villarreal, P., Kennel, R., & Davis, B. (1993). Self-efficacy and Hispanic college students: Validation of the College Self-Efficacy Inventory. *Hispanic Journal of Behavioral Sciences, 15*, 80–95.

Soresi, S., & Nota, L. (2001). *Introduzione e interessi e valori. Optimist, portfolio per l'orientamento [Introduction, and interest and values. Optimist, a vocational portfolio]*. Firenze: ITER-Institute for Training Educational and Research.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review, 96*, 506–520.

Wall, J., Covell, K., & MacIntyre, P. D. (1999). Implications of social supports for adolescents' education and career aspirations. *Canadian Journal of Behavioural Science, 31*, 63–71.
Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*, 202–209.