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Social and scholar integration and students satisfaction: the mediating role of career adaptability

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In the educational research, most of studies considered the quality of students life, focusing on several variables (Soresi et al., 2012; Tomyn and Cummins, 2011). Despite of it, there isn't evidence about the adaptability to future career as a mediator between integration at school and students satisfaction. This paper contributes to literature in two ways: first it explores the role of career adaptability as a mediator, and this represents an innovative topic because the concept and the operationalization of the career adaptability are recently developed, secondly, it can enhance the knowledge about educational research on career adaptability. This knowledge can be used by teachers and practitioners to improve promotion and prevention focus as useful strategies in scholar retention. The aim of the study is to explore the mediating role of Career adaptability on the relationship between scholar and social integration and students satisfaction, which is considered a positive outcome related to learning achievement, scholar performance and educational progress. Participants were 407 students from public high schools in the South of Italy. Findings evidenced that Career Adaptability mediated the relationship between the social integration but not scholar integration, and students overall satisfaction. Implications for educational practice and limitations of the study are discussed.

keywords: career adaptability, social and scholar integration, satisfaction, high school students, mediation model.

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1 Theoretical background

Research with adolescents evidenced that satisfaction can be a significant predictor of positive outcomes in personal and social life fields. Students with high levels of satisfaction, demonstrate an increase of social relationships and increased achievement (Wilkins et al., 2014). Furthermore, satisfaction at school has been studied related to mental health and subjective well being among adolescents (Tomyn and Cummins, 2011). While literature focused on satisfaction and scholar achievement, a few studies focused on personal variables, such as the adaptability to own future career, and their relation to students satisfaction (Tomyn and Cummins, 2011).

At the same level, academic satisfaction is positively related to academic performance and predicts academic progress (Huebner and Gilman, 2006). Given the importance of outcomes affecting the life of adolescents, more research is needed to examine the factors that influence satisfaction, especially about the personal variables such as adaptability to own future.

1.1 *Social and scholar integration as predictors variables of satisfaction*

Tinto developed a theoretical model based on attrition of college students and retention rates or students' persistence in college. The student attrition model states that students entering college possess a variety of attributes and past experiences, which, related to contextual factors, may influence their satisfaction and their commitment. The educational expectations on the hand, and the goal commitment on the another hand, change during the time and can depend by social and structural integration into the systems of the institution. The degree to which students can integrate into the educational and social systems will determine their commitment and influence, thus, their motivation and intention to persist or to leave the university or the school. The model is composed by variables considered as predictors (family background, parents education, personal characteristics), intervening variables (social and academic integration), and students outcomes.

Academic integration is a measure of the students' perceptions about their academic experience with administrative staff, counsellors, and faculty staff. Tinto defined the integration as individual's evaluation of the academic system. It represents students perceptions about their academic experience based on their interactions with faculty members, counsellors and administrators (Cabrera et al., 1993). Social integration concerns the students' informal contacts with faculty members, counsellors and peer groups. It involves students interaction with peers, environment interactions and interactions out of classroom with faculty members. Social and academic integration have been found positively related to persistence in college.
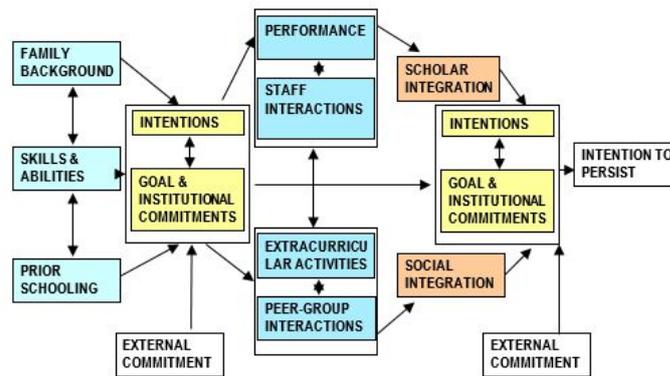
Figure 1: Adaptation by Tinto's model (1987)

1.2 *The mediating role of career adaptability*

Career adaptability is a psycho-social construct based on the personal resources used to control developmental tasks to prepare for future professional role. Adaptability concerns the ability to adjust to new situations and to cope with changes in working conditions (Santilli et al., 2014). The construct is composed by four dimensions that explain the problem solving and coping strategies used by individuals to integrate the self-concept into their professional roles. The dimensions are: concern, control, curiosity, and confidence. Career concern has been defined as "a sense that is important to prepare for tomorrow [. . .]"(Savickas et al., 2005: 52). The second dimension of the career adaptability is the control. Having a sense of control means taking the responsibility for own actions and counting on own effort. The career curiosity is the third dimension of the career adaptability. Savickas consider the curiosity as the exploration of the fit between the self and the labour market. Finally, the confidence represent the last dimension of the career adaptability and is defined as a feeling of self-efficacy toward a way to perform efficiently, learning new things, solving problems and cope with difficulties successfully (Nota et al., 2012).
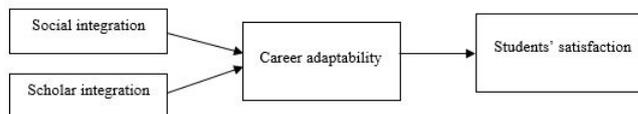

Figure 2: The theoretical model

Several studies (Neuenschwander and Garrett, 2008; Wilkins et al., 2014) stated that adolescents with higher levels of adaptability handle efficiently vocational transitions and decision making about own professional future than others. They feel more confident about decisions and more projected toward a professional area, more motivated to learn and to implement decision and change them into behaviours goal-oriented. Researchers shown a relationship significant between career adaptability and satisfaction; for instance, Hirschi (2009), using a longitudinal design, showed that higher levels of career adaptability over time increased students' life satisfaction. Recently, Nota et al. (2012) evidenced that higher levels of career adaptability in adolescents are related to a decrease of perceived internal and external career barriers, a whole range of professional interests and higher quality of life.

Starting from this theoretical background (adaptation of Tinto's model and Career Adaptability Model) (Cabrera et al., 1993; Savickas and Porfeli, 2012), the paper aims to examine the mediating role of career adaptability in the relation between social and scholar integration and students satisfaction. To the purpose of this research, we adapted the student attrition model of Tinto (developed for academic context and usually used for college students) to public schools.

2 Aims and Hypotheses

The overall purpose of this study was to identify the relationships between dimensions of the social and scholar integration, career adaptability and students satisfaction in a sample of high school students. In the present study, we hypothesize that career adaptability will mediate the relationship between the social and scholar integration and students , leading to the following hypotheses:

- H_1: social integration (H_1a) and scholar integration (H_1b) will be positively related to students satisfaction;

- H_2: social integration (H_2a), and scholar integration (H_2b) were positively related to career adaptability;

- H_3: career adaptability will be positively related to students satisfaction;

- H_4: career adaptability mediates the effect of social integration (H_4a) and scholar integration (H_4b) on students satisfaction.

3 Data analysis

According to the method developed by Baron and Kenny in 1986 (the most common method for testing mediation in psychological research), the mediating effects can be measured through four steps performed with three regression equations, establishing a variable mediates the relation between a predictor variable and an outcome variable. In the first step, the significant relation between a predictor variable and the outcome is

showed (path c in Figure 3 A). In the second step, the predictor variable is related to the mediator (Path a in Figure 3 B), In the third step we can see that the mediator variable is related to the outcome variable (Path b in Figure 3 B), this relation is estimated controlling for the effects of the predictor variable on the outcome. Finally, in the last step, the intensity of the relation between the predictor and the outcome is showed to be significantly reduced when the mediator is added to the model (see Figure 3 A Path c in comparison with Path c' in Figure 3 B) (Frazier et al., 2004). Regression analysis has been used to test the hypotheses. Hierarchical regression aims to examine how much the additional contribution that an independent variable X_2, inserted after the X_1, provides the explanation of the dependent variable. "[...] In hierarchical regression, the focus is on the change in predictability associated with predictor variables entered later in the analysis over and above that contributed by predictor variables entered earlier in the analysis. Change in R^2 ($\triangle R^2$) statistics are computed by entering predictor variables into the analysis at different steps. Statistics associated with predictor variables entered in later steps are computed with respect to predictor variables entered in earlier steps. Thus, $\triangle R^2$ and its corresponding change in F ($\triangle F$) and p values are the statistics of greatest interest when using hierarchical regression [...]"(Petrocelli, 2003: p. 11). Hierarchical regression was carried out to test mediating hypotheses.
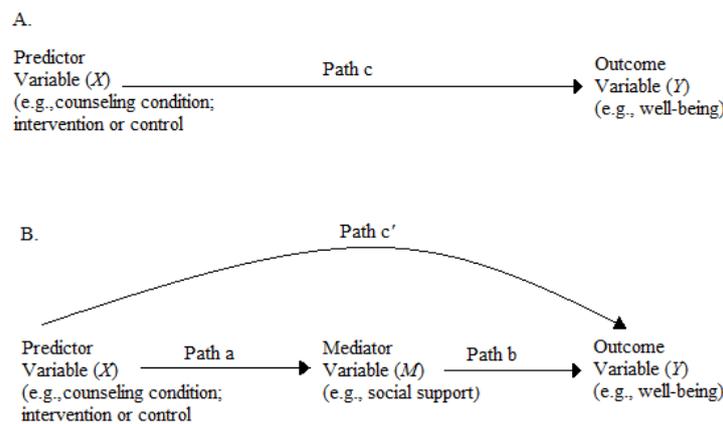

Figure 3: Adaptation of diagram of path in mediation models (Frazier et al., 2004)

In line with indications by Baron and Kenny (1986), a variable functions as a mediator to the extent that it accounts for the relation between the predictor and the criterion. Mediators explain how external physical events take on internal psychological significance. while moderator variables specify when certain effects will hold, mediators explain the intensity of the effects and the reasons why such effects are registered. Baron and Kenny (1986) introduce a path diagram as a model for represent this causal chain (Figure 4). "[...] This model assumes a three-variable system such that there are two causal paths feeding into the outcome variable: the direct impact of the independent variable (Path c) and the impact of the mediator (Path b). There is also a path from the independent variable to the mediator (Path a). According this approach, a vari-

able functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e., Path c), (b) variations in the mediator significantly account for variations in the dependent variable (i.e., Path b), and (c) when Paths a and b are controlled, a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when Path c is zero. In regard to the last condition we may envisage a continuum. When Path c is reduced to zero, we have strong evidence for a single, dominant mediator. If the residual Path c is not zero, this indicates the operation of multiple mediating factors. Because most areas of psychology, including social, treat phenomena that have multiple causes, a more realistic goal may be to seek mediators that significantly decrease Path c rather than eliminating the relation between the independent and dependent variables altogether [...]"(Baron and Kenny, 1986: 1176; 1986). From a theoretical perspective, a significant reduction demonstrates that a given mediator is indeed powerful, even if it is not a necessary and a sufficient condition for an effect to occur (Callea et al., 2016).
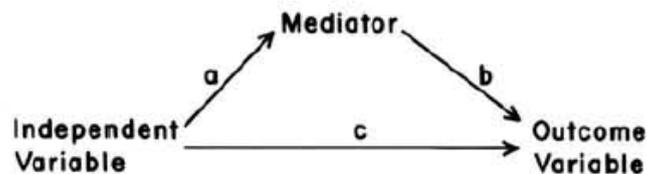

Figure 4: The path diagram (adapted from Baron and Kenny, 1986)

4 Data collection procedure

Participants were 407 Italian Technical high school students (44.3% males, 55.7% females), ranging in age from 13 to 21 years of age (mean = 16.15 years, SD = 1.59 years). Several studies (Benvenuto et al., 2000; Lehr et al., 2004) stated that one of variables involved in the relation between adaptability and scholar integration concerns the type of school. Students from technical areas are more likely to leave school because they are less adaptable to the professional future and they are less integrated to school activities. They completed a questionnaire individually during break time at school. The informed consent was requested and privacy was guaranteed. The distributed questionnaires were introduced by a short text explaining that the study dealt with the career adaptability and the students satisfaction about public services. Respondents live with their family. Parents of most of students have a high school diploma (43%); while, 33% of them have a lower qualication. Most of parents are employed (52%), while 26.5% of parents are freelancers. Most of the students stated to be supported (59.6%) by the family in achieving the goal of high school graduation. They attended assiduously to all the lessons (69.3%)

in which they were involved. However, some of the respondents (24%) said they had "decided to interrupt their studies", mainly to diculties in preparing/overcome exams (5.4%), lack of job opportunities in the future (4.7%), other interests (5.4%).

5 Variables and Measures

The questionnaire is composed by a socio-demographic section (family background, family support, parents educational qualification) and a section made up by the scales used to measure the constructs investigated. For the purpose of the present study, the social and scholar integration have been defined conceptually starting from theoretical Tinto's model, as explained above.

1. Social and Scholar integration (Tinto, 1987). Social integration scale was adapted from College Student Expectations Questionnaire di Koljatic and Kuh (2001). It concerns social integration with students (7 items). The second sub-scale is about the scholar integration. It was adapted from Student Engagement Scale, developed by Carini et al. (2006). It concerns integration with teachers, integration within educational context (5 items), examples of items for social integration are: "Since coming to this school I have developed close personal relationship with other students", or "It has been difficult for me to meet and make friends with other students"(item reverse). Examples of items for scholar integration are:"My non classroom interactions with teachers have had a positive influence on my career goals and aspirations"or "Most of the teachers and administrative staff I have had contact with are interested in helping students grow in more than just scholar areas"(item reverse). Response categories ranged from 1 (I'm not agree) to 5 (I'm absolutely agree). Firstly, it was made a translation (from English to Italian) and a back translation (from Italian to English) with the help of an expert English mother tongue. The result was a good correspondence between items.

2. Career Adapt - Abilities Scale - Italian form (CAAS. Soresi et al., 2012). The CAAS is a 24 item measure used to assess one's capability of exploring occupational transitions paths, developmental tasks. The scale is composed by 4 sub-scales: concern (example item: "Thinking about what my future will be like"), control (example item "Sticking up for my beliefs"), curiosity (example item "Investigating options before making a choice") and confidence (example item "Taking care to do things well"). Participants responded to each item, using a 5-point Likert scale (1 = not strong to 5 = strongest). For each sub-scale (composed by 6 items), mean was calculated.

3. Students Satisfaction. The students satisfaction is a single-item measure used to assess the global satisfaction (Ciavolino and Nitti, 2013a; Ciavolino and Nitti, 2013b; Nitti and Ciavolino, 2014; Ciavolino and Carpita, 2015; Ciavolino et al., 2015) about the choice of the type of the school. The item is: "Are you overall satisfied about your scholar choice?". Response categories ranged from 1 (I'm not satisfied) to 5 (I'm absolutely satisfied).

5.1 *Data analysis*

Means, correlations and Cronbach's alpha were performed. Furthermore, linear and hierarchical regression analyses were run in order to test the mediating role of career adaptability in the relationship between the social and scholar integration and students satisfaction, according to Baron and Kenny (1986). Conditional for mediation was that social and scholar integration were related to students satisfaction (H_1), social and scholar integration were related to career adaptability (H_2), and that career adaptability was related to students satisfaction (H_3). To test hypotheses H_1, independent variables were entered in the first step. To test hypotheses H_2, we regressed independent variables on mediator (Step 2). To test hypotheses H_3, we regressed mediator on dependent variable (Step 3). Finally, to test mediation hypotheses, we regressed independent variables and mediator on dependent variable (Step 4). Evidence for mediation was found just for the social integration, in fact, it had a non-significant relationship with students satisfaction when introducing career adaptability, while scholar integration continues to be related significantly to mediator variable.

6 Results

In the Table 1 means, standard deviations, correlation coefficients, and Cronbach's alpha coefficients for social and scholar integration, career adaptability and students satisfaction are showed.

Table 1: Means, standard deviations, correlations and Cronbach's alpha coefficients

Variables	M	SD	1	2	3	4	5	6	Cronbach's α
1. Age	16.5	1.60	-						
2. Family support	4.38	0.95	-.017	-					
3. Social integration	3.78	0.68	$-.128^*$	$.172^{**}$					.77
4. Scholar integration	3.12	0.60	$-.113^*$	$.133^{**}$	$.272^{**}$				.79
5. Career adaptability	3.63	0.55	$-.018$	$.186^{**}$	$.240^{**}$	$.402^{**}$			.89
6. Students satisfaction	3.51	1.03	$.275^{**}$	$.132^{**}$	$.239^{**}$	$.560^{**}$	$.442^{**}$		

N = 407; $^*p < .05$; $^{**}p < .01$.
Gender: 0 = female, 1 = male.

Firstly, scaled variables reached good reliability, with Cronbach's alpha coefficients between .77 and .89. Moreover, social integration was positively correlated to family support, scholar integration, career adaptability and students satisfaction. In order to test mediation hypotheses, regression analysis were performed (Table 2). In the Step I, social integration ($\beta = .530$, $p < .001$) and scholar integration ($\beta = .096; p < .05$), were positively related to students satisfaction. In the Step II, social integration ($\beta = .246, p < .001$) and scholar integration ($\beta = .114, p < .05$) were positively related to mediator variable (career adaptability). In the Step III the career adaptability, as the mediator variable was positively related ($\beta = .544, p < .001$) to students satisfaction. Finally, in the Step IV, career adaptability ($\beta = .292, p < .001$) and scholar integration, with a significant relationship ($\beta = .444, p < .001$), were still related to students satisfaction, but social integration had not a significant relation with the dependent variable confirming partially the hypothesis of mediation (H_4).

Table 2: Summary of hierarchical regression analysis: predicting students statisfaction

	Students satisfaction (N = 407)			
	Step I	**Step II**	**Step III**	**Step IV**
Social integration	.530***	.246***		.057
Scholar integration	.096*	.114*		.444***
Career adaptability			.544***	.292***
R	.568	.422	.438	.609
R^2	.323	.178	.192	.371
F	92.827**	41.636**	91.062**	74.736**

*$p < .05$; **$p < .01$; ***$p < 0.001$.
Step 1: regression of students satisfaction on independent variables
Step 2: regression of career adaptability on independent variables
Step 3: regression of students satisfaction on mediator variable (career adaptability)
Step 4: regression of students satisfaction on independent variables and on mediator variable (career adaptability)

7 Discussion and conclusions

The aim of the present study was to advance understanding about the students satisfaction in scholar contexts. Multiple regression have partially confirmed the hypotheses. Social and scholar integration at school were proved to be related significantly to students satisfaction (H_1a and H_1b) and positively related to career adaptability (H_2a and H_2b), career adaptability has been found positively related to students satisfaction (H_3), while, as regards to mediation hypotheses, career adaptability mediated the effect of social integration (H_4a) but not the effect of scholar integration on students satisfaction, confirming partially the hypotheses indicated. Even if partial, this result of mediation

has many interesting implications both for theory and for practice with some limitations. Firstly, the cross-sectional nature of the study limited the findings; we could not show evidence for causal direction between variables. Moreover, the self-reported data was another limitation, because the way students perceive themselves could be inaccurate. A further limitation of this study is the lack of generalizability of the results. About operative implications, from a theoretical point of view, this study contributed to the understanding of the role played by educational strategies developed with the aim to improve satisfaction and consequently, retention and persistence in public scholar institutions. Students satisfaction was related to persistence, it means that individuals were required to adapt to the new context, both intellectually and socially. Many people may have difficulties during this process of adaptation (Tinto, 1987). The difficulties come from different factors: the inability of individuals to separate themselves from previous forms of educational organization (especially for first year students), the difficulty for individuals to adapt to new and more challenging demands, both scholar and social, of the scholar environment.

With respect to the practical implications, results could be very useful to plan and design interventions and social policies for freshman students, with the aim to prevent drop out at school. At an individual level, results could help teachers and administrative staff to develop and improve strategies to grow their personal skills to adapt to future career. Adolescents' quality of life can change in relation to the challenges they have to deal with; these challenges are represented by unemployment, insufficient income, social isolation, inadequate supports, school failure, health and disability problems (Nota et al., 2011). A strong association also exists with ability to rely on the support of significant others, self-efficacy and social abilities, and sense of belonging to different significant social groups (McGrath et al., 2009).

At an organizational level, public schools, which are considered nowadays as well as an organization, can find better solutions to prevent drop out and financial problem deriving from it.

The current study contributed to previous research in a number of ways. It investigated the relationship between the social and scholar integration related to students satisfaction. We found that this relation can be partially mediated by career adaptability of students, it means that it's important to take care about the social activities and the context in which the educational programs are developing, but it's also important to consider individual's resources to handle developmental tasks to prepare for future professional role. This is important for the public school, to develop new strategies for future retention. Future research can revise the positive outcomes of satisfaction, because as Wilkins et al. (2014) postulated, if the students feel integrated, their commitment to remain at their current institution is strengthened. Furthermore, personal abilities have to be considered. The sample of the study is heterogeneous. Future research should focus on the students by secondary school to high school, and should consider different types of school (humanities compared with technical high school), designing a longitudinal study, to identify risk factors and to avoid the scholar drop-out. Finally the role of the quality of teaching can be crucial to increase the students satisfaction and prevent attrition. Future research would examine scholar success and learning achievements.

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