



Correspondence of children's anticipated vocations, perceived competencies, and interests: Results from an Italian sample

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ABSTRACT

Relations among anticipated vocations, self-assessments of competence, and interests in sample of 190 Italian children were examined. Children were asked what activities they liked, those they thought they were good at, and what job they expected when they grew up. The responses were coded into RIASEC Holland codes and agreement across the three questions was examined using kappa statistics. Results indicated that there was no relation between anticipated occupations and either interest or perceived competence. Thus, these anticipated occupations appear to be based on unrealistic criteria and the validity of studying such early expressions of interest is questionable. Conversely, results demonstrated a correspondence between interest and competence and this correspondence was similar for boys and girls and increased with age.

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1. Introduction

In recent years, efforts have been made to examine the ways in which children express vocational preferences (Nota, Ferrari, Solberg, & Soresi, 2007), the role that their self-assessment of competence plays in these choices (Lent, Tracey, Brown, Soresi, & Nota, 2006; Nota, Soresi, & Ferrari, 2008; Tracey, 2002), and the ways in which the structure of interests of children differs from that of adults (Tracey, 2001; Tracey, Lent, Brown, Soresi, & Nota, 2006; Tracey & Ward, 1998). However, in contrast to the literature on adult interests, relatively little is known about the correspondence between children's anticipated occupations, their self-assessment of competence, and their general interests. The focus of this study was on examining the extent to which children's interests match with their competence perceptions and the extent to which both of these are related to anticipated occupations.

Most current models of career development and choice (e.g., Gottfredson, 1996; Holland, 1997; Lent, Brown, & Hackett, 1994) posit that occupational goals result from the expression of an individuals' interests and perceptions of competence (i.e., self-efficacy). Indeed, there is a wealth of research on the covariation of these three variables in adults. However, as common as this assumption is in all of our models of career choice for adults, it has not been examined in the literature assessing the processes by which children express vocational preferences. We anticipate that these three variables will be correlated also in children but to a much lesser degree given the relative lack of knowledge about self and the world of work. As children develop, we anticipate that they will learn more about what they like and what they are good at, that these two areas will become more aligned and similar, and finally that these will then manifest themselves in consistent and appropriate anticipated occupations.

Assessing anticipated occupation (also called expressed occupation) is a common form of occupational assessment with the literature supporting its predictive validity (Dolliver, 1969; Spokane & Decker, 1999). However, the validity of anticipated

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occupation is less clear when used in the assessment of children and it is often confused with occupational aspirations, which typically refers to vocational goals (Rojewski, 2004). The literature on children and adolescents focuses on vocational aspirations but it is often confused with anticipated vocation (e.g., Baird, 2008; Barak, Feldman, & Noy, 1991; Perry, Przybysz, & Al-Sheikh, 2009; Schoon, & Parsons, 2002; Schulenberg, Goldstein, & Vondracek, 1991; Teig, & Susskind, 2008; Tomasik, Hardy, Haase, & Heckhausen, 2009; Trice, 1990; Trice, Hughes, Odom, Woods, & McClellan, 1995; Trice & King, 1991). Some research appears to focus more on desired vocation and others on expected occupation, all under the label of aspiration; however, the two terms are often used interchangeably and, as Crites (1999) illustrated, the distinction is often not clearly made. The main difference between aspiration and anticipation is the basis of reality from which the expression of occupational interest is made. Given children's lack of knowledge about the world of work (DeFleur, 1966; Nelson, 1963) and the fantasy nature of these choices (Looft, 1971; Nurmi, 1991; Vondracek & Kirchner, 1974), it is plausible that there is little distinction between vocational aspiration and anticipation in children. While we maintain the distinction here by using the term vocational anticipation, we see anticipation as highly related to aspiration at a conceptual level in children. Further, Tracey and Ward (1998) have argued that focusing on children's vocational expectations and aspirations is of questionable validity given the lack of vocational knowledge in children. Given this lack of knowledge, we expect that the anticipated occupation will not be related to either interests or competence, and likely, children will be basing their anticipated occupation on things other than their own interests and competences.

A preferred model for conceptualizing these three vocational constructs is via Holland's (1997) RIASEC model. For a number of decades, Holland's model has been the reigning model of vocational personality types and work environments. Holland's system identifies six vocational personality types (realistic, investigative, artistic, social, enterprising, and conventional, hereafter referred to as RIASEC) arranged around a hexagon, which Tracey and Rounds (1993) noted was really a circular structure. In this study, we examined the similarity in RIASEC types across children's interests, competence perceptions and occupational expectations.

Beyond examining the correspondence of these three career constructs (interests, competence perceptions, and occupational anticipations), we were concerned about their moderation by gender and age. Past theory (e.g., Gottfredson, 1996) has argued and research (e.g., Teig, & Susskind, 2008) has demonstrated that the pattern of anticipated occupations for girls is different from that of boys. Given this difference, it is important to understand if the process by which these differences arise and their correspondence with interests and competence perceptions is also different by gender. As such, we also examined the correspondence of each career construct with each other as they differed by gender. In addition, we hypothesized that there would be differences in the correspondence among the three career constructs by age. A developmental model posits that as students learn more about themselves and the world of work, their interests and competence perceptions would agree more and that these would also agree more with anticipated occupation over time. Thus, we hypothesized a greater correspondence among the three career constructs with increased age.

2. Method

2.1. Participants and procedures

Participants were comprised of 190 Italian children (111 boys and 79 girls) ranging in age from 8 to 12 years of age (mean = 10.3 years, SD = 1.05 years). These children came from 2 elementary school grades (57 fourth graders and 69 fifth graders) and 1 middle school grade (64 sixth graders). A total of 11 classes including 200 students were involved. Responses were obtained from all of participants. Ten students (5%) were not taken into account: three of them had an intellectual disability and the other seven had recently immigrated to Italy and had difficulties speaking and understanding Italian. All the classes came from the same school in a northern Italian city.

Small-group administration was conducted in the children's classrooms by specialized psychologists. The students were given questionnaire packets to complete in class and were requested to answer every question individually. Question administration lasted approximately 20 minutes.

2.2. Instrument

The questionnaire requested that the children indicate their sex and grade, as well as three open-ended questions relating to job anticipation, interest, and competence. The job anticipation question was "What job do you think you would like when you grow up?" and students were encouraged to list as many options as they wished. The competence item was "Write about all the things that you think you are good at." The interest item was "Write all the things that you like."

The responses to these questions were categorized into one of the six RIASEC types by expert Italian raters familiar with the codes and the culture. For the purposes of this study, only the first option for each of the questions was examined because this was provided by most every individual and this one was viewed as being the most salient.

2.3. Analysis

The correspondence of the RIASEC codes for the open-ended questions was examined across the three items using the kappa agreement index. This index examines agreement while controlling for chance and is thus a superior index to percentage agreement. In addition, we also used a weighted kappa that resembled the circular order of the RIASEC types. The correspondence of these codes was then examined across the three items using the kappa agreement index. The kappa is a correlation in that it

ranges from -1.0 to 1.0 and indicates the extent to which variables agree with each other. For example, in this study, the RIASEC code for anticipated occupation was examined for the degree to which it agreed with that of interests. However, because the RIASEC types are not independent—in that those closer on the circle are more closely related to each other than those more distal (e.g., R and I are more similar than R and S)—we sought to take account of “near agreements” also which we accomplished using a weighted kappa. Specifically, the weighting we used resembled the circular order of the RIASEC types. Exact matches were given a weight of 1.0 (e.g., R occupation with R Interest); types one code away from exact match such as R occupation with I or C interest were given weights of $.67$, and types two codes away from a match such as R occupation with A or E interest were given weights of $.33$. Types that were opposite were given weights of 0 .

So we examined the correspondence of the RIASEC codes of each type of data (i.e., anticipated occupation, perceived competence, and interest) with each other using two different indices, regular kappa agreement index and the circular order weighted kappa. We conducted these kappa analyses for the total sample and also separately by gender and again separately by age. Given the sample sizes, we were not able to break the sample down into groups large enough to examine the gender by age interaction effect.

3. Results

The kappas for each of the pairwise comparisons are presented in Table 1. With regard to occupation and competence congruence, the kappa levels were all very low and only the regular kappa was significantly different from zero for the total sample but this was still very low ($\kappa = .080$). Some of the weighted kappas were even negative indicating that the agreement was less than chance. The correspondence of occupation and interest also was very low with none of the kappas attaining significance. These results indicate that there was little relation between anticipated occupation and either interest or competence.

The only place where there was correspondence was between competence and interests. For the entire sample, there was a significant agreement ($\kappa = .254, p < .05$) of one-letter codes of competence areas with one-letter codes of interest areas. However, when account was taken to assess for any circular structure, this pattern disappeared ($\kappa = -.002, p > .05$). So the correspondence only existed for exact matches for the entire sample. But when broken down into separate examinations by gender, both the regular kappas and the weighted kappas were significant. Males had kappa values of $.289$ for the regular kappa and $.289$ for the weighted kappa. Females had kappa values of $.123$ for the regular kappa and $.117$ for the weighted. Although these correspondence indices are significant, they are still rather low in magnitude.

Examination of the results by grade demonstrates that for the competence by interest examination only, there was significant correspondence. For the regular kappas, there was a significant agreement between interest and competence for each grade

Table 1
Regular and weighted kappas across Items.

Group	N	Regular κ	Weighted κ
<i>Occupation × Competence</i>			
All	170	.080*	.007
Gender			
Males	93	.005	-.007
Females	77	.053	-.028
Grade			
Fourth	47	.002	-.021
Fifth	63	.009	-.010
Sixth	60	.022	.024
<i>Occupation × Interest</i>			
All	168	.048	.067
Gender			
Males	92	-.026	-.008
Females	76	.028	.018
Grade			
Fourth	46	-.026	-.006
Fifth	62	.022	.022
Sixth	60	.050	.032
<i>Competence × Interest</i>			
All	188	.254*	-.002
Gender			
Males	110	.289*	.289*
Females	78	.123*	.117*
Grade			
Fourth	56	.131*	.001
Fifth	68	.222*	.112*
Sixth	64	.282*	.211*

* $P < .05$.

($\kappa = .131, .222, \text{ and } .282$ for grades 4, 5, and 6, respectively; all p 's < .05). The pattern was one of increasing agreement with increasing age. A similar age trend was found for the circular weighted kappas by grade. The circular weighted kappa was .001 ($p > .05$) for grade 4, .112 ($p < .05$) for grade 5, and .211 ($p < .05$) for grade 6. So for both the regular kappa and the circular weighted kappa, there was a trend for increasing agreement between competence and interest with age.

4. Discussion

The results obtained from this study indicate that there is little correspondence between children's anticipated occupations and their current interests and competence perceptions (i.e., self-efficacy). Such a result calls into question the utility of research examining the anticipated occupations of children in general and also occupational aspirations, given the lack of clarity of these constructs as they pertain to children in the literature and in children themselves. As Tracey and Ward (1998) have argued, occupational aspirations and expectations of children are not based on any assessment of what they like or are good at but more likely a function of occupational familiarity; they like what they know and this knowledge is often very limited to occupations in their immediate environment. Given this lack of knowledge of occupations in general, it is not always clear what occupational aspirations or occupational expectations represent in this age group.

This finding indicates that research into aspirations and expectations is more appropriate for use with older populations (i.e., adolescents and older) where there is some requisite knowledge about the world of work, and at least enough requisite knowledge on which to assess appropriateness. Indeed, Schoon and Parsons (2002) have demonstrated that occupational aspirations are more predictive of occupational entry than interests in a sample of 16-year-old English students. Similar results are true for expressed occupation (Spokane & Decker, 1999). So the issue is that aspirations and expressed occupations may indeed be important in the career choice process, but not for children.

Conversely, the findings from this study do indicate that there is some correspondence between perceptions of competence and interest (i.e., children tend to be interested in activities that they perceive themselves to be good at). This result supports the general utility of focusing on both interests and competence perceptions as they relate to each other. This is especially pertinent when considered with the fact that we found that the magnitude of the relation increased with age; meaning, the older the children were the greater the correspondence between interests and competence perceptions. More research is needed to examine this phenomenon and the possible normative trajectories inherent in the process, but presumably this trend would continue throughout adolescence and eventually would reach the stable levels witnessed in adult populations. Furthermore, with increased occupational knowledge, it would be expected that in mid-adolescence there would be a budding correspondence of interest and competence with occupational choice. Indeed, the findings of Tracey, Robbins, and Hofsess (2005), which demonstrated that interest occupational choice correspondence increased over the high school years, could be viewed as support for this assertion.

There were also some differences in correspondence between interests and correspondence across gender. While there was a correspondence between interest and competence in both sexes, it appeared that girls exhibited a slightly stronger tendency than boys to be interested in activities they have some perceived competence in; however, the relative difference in these values indicates a very minor difference and could be argued by some to be negligible.

This study adds to the relative paucity of literature assessing the broader topic of child vocational expectation and is one of only a few (Lent et al., 2006; Nota et al., 2007; Tracey et al., 2006) drawn from a sample of children residing outside of the United States. The findings are especially relevant for counselors working with children in the areas of career development and for those designing interventions for children in the areas of vocational anticipations, competence, and interests.

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