

An Examination of the Factors Affecting Prospective Teachers' Perceptions of Faculty Members Using Chaid Analysis

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Abstract

This study aims to examine prospective teachers' perceptions of faculty members and the demographic variables affecting these perceptions. The population of the study consists of undergraduate students attending the Faculty of Education of Van Yüzüncü Yıl University in the 2009-2010 academic year. A total of 500 students in their 1st, 2nd, 3rd and 4th year of university education, selected using stratified random sampling, made up the sample of the study. For data collection, the Perception of Faculty Members Scale (PFMS) developed by the researchers was used. Considering that scores received by the participants from the scale may have a heterogeneous structure, indicating that the individuals in the sample may have come from different populations, the dependent variable was subjected to a two-step cluster analysis. Predictors that may affect students' perceptions were modeled using Chaid analysis. The tree structure that emerged after the Chaid analysis of the Perception of Faculty Members Scale (PFMS) showed that the variables of whether the students perceive the university education they receive as adequate, whether they are attending the department of their choice, and gender were significant predictors of the dependent variable, in this order of significance.

Key Words

Perceptions of Faculty Members, Prospective Teachers, Chaid Analysis.

Every living organism requires an environment for living. Adjustment to the social environment is a product of perceptions. Perceiving the complex relationships between various stimuli, determining crucial environmental information and developing an expertise on this subject are all vital for survival. This process of perception has a dynamic nature and develops over time. The environment

constantly offers, besides simple audio and visual stimuli, new affordances such as complex relationships between objects and events. These affordances offered by the environment enable new acts, and experiences gained with each new act make new affordances possible. Thus, the affordances of objects, events, and surfaces are explored and learnt (Miller, 2008, p. 452-455). In the beginning, sensations are meaningless stimuli. However, it is almost impossible for a "pure" sensation to exist. This is because the brain instantly and automatically turns sensations into perceptions. Fields of association in the brain turn these meaningless pieces of information into perceptions (Plotnik, 2009). In sum, each sense organ directs the stimuli it receives to the relevant field of the brain, where they are first turned into meaningless pieces of information and then to meaningful images called perceptions.

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Perception is a special event that cannot be observed from the outside, the existence of which we can know only via inference. We can make inferences about the perceptions of an individual by examining his/her behavior, talk or acts. As such, perceptions are long-term and general evaluations concerning the object (including the individual himself or herself) or the issue in question (Petty & Cacioppo, 1986). The process of perception works pretty much the same in every individual, but the perceptual product that emerges is different in each case. In other words, in the process of turning sensations into perceptions, perceptions are also individualized. Personal experiences, emotions, memories, and knowledge individualize the process of perception. In this manner, perceptions become transformed, skewed and even distorted reflections of the real world (Goldstein, 2002). Perceptions are not accurate reflections of events, people, situations or objects. The same stimuli may result in different perceptions. For example, of the three people looking at the same dog, one may perceive the dog as a lovely creature, one may perceive it as scary/dangerous, and one may perceive it as dirty (Morris, 2002). This is why perceptions are individualized interpretations of the objects, animals, humans, and events in the real world, not accurate reflections of them (Plotnik, 2009).

As the process of giving meaning to sensations (Solso, Maclin, & Maclin, 2007), perception in most cases is not determined by the real characteristics of the object of sensation. This is directly related to the phenomenological world of the individual. Because the phenomenological worlds of individuals constantly change, perceptual processes have a dynamic nature. The process of perception thus follows a pattern and contains three different questions: (1) Are there things that are perceived without the individual being aware of them and can they influence behavior? (Abrams & Greenwald, 2000); (2) How big or how unusual do the objects need to be for sensations to turn into perceptions? (Swets, Dawes, & Monahan, 2000); (3) To what degree are perceptions affected or distorted by emotions and personal experiences? (National Advisory Mental Health Council [NAMHC], 1996).

Studies exploring these questions came up important findings concerning perception. Studies trying to answer the first question showed that perception is not the case if the individual is not aware (Epley, Savitsky, & Kacheliski, 1999). Studies on the second question, on the other hand, showed that for sensations to turn into perceptions, they need to pass a certain sensory threshold, and that this sensory threshold changes from case to case (Ali & Begüm,

1994; Hellstrom, 2000). Studies on whether perceptions change by cultural and personal experiences showed that perceptions are individualized by experiences, learning, emotions, memories, and expectations (Goldstein, 2002). Based on these studies, the following definition of perception will be used in this study: Perception is the process by which a certain stimulus that passes the sensory threshold is given a meaning in accordance with the phenomenological state of the individual.

This study aims to examine prospective teachers' perceptions of faculty members and the socio-demographic variables affecting these perceptions. The literature review conducted showed that there were many studies on perceptions and attitudes (Bulut, 2009; Medvec, Madey, & Gilovich, 1995; Oral, 2004; Pehlivan, 1994, 2004; Şahin, 2009), but that none explored the factors affecting prospective teachers' perceptions of faculty members. Identification of the factors affecting prospective teachers' perceptions of faculty members can have practical value in providing information about the prospective teachers and in structuring teaching activities (such as pre-planning of the lectures by faculty members, taking student satisfaction into consideration, and developing communication skills). These evaluations are worthy of study in that they can help to predict the behaviors of individuals (Zanna & Rempel, 1988). Thus, this study aims to examine prospective teachers' perceptions of faculty members. In other words, the aim of this study is to examine prospective teachers' "evaluations" of faculty members.

Within the framework of this general aim, prospective teachers' perceptions of faculty members concerning issues such as the preparedness/competence of the faculty members, the evaluation approaches they use and the relations they have with the students were examined, as well as different socio-demographic variables that affect these perceptions. Positive or negative evaluations students have concerning faculty members' academic, social, cognitive, and affective competencies can have positive or negative impacts on the academic achievement of students, and on their levels of satisfaction from their environments. As such, behaviors can be argued to have a significant correlation with perceptions and attitudes (Parker, Manstead, & Stradling, 1995). Thus, understanding the behaviors of prospective teachers requires learning about their perceptions and attitudes. Based upon these considerations, this study aims to examine prospective teachers' perceptions of faculty members.

pendent variables. The regression equation was as follows: Score for perception of faculty members = Constant + b1*finding the education received to be adequate or not + b2*attending a department of their choice or not + b3*being satisfied with their choice or not + b4* gender and covariates. The model was tested using the decision tree technique of Chaid analysis. Basic analyses and the CHAID analysis were conducted using SPSS 16.0.

Decision trees are known as a method of non-linear discrimination that can divide independent variables progressively into possible small groups (Türe, Kurt, Kurum, & Özdamar, 2005). The working mechanism of decision trees is based on iteration mechanisms in each branch of the tree, and modeling the strongest interaction between the independent variables that affect the dependent variable (Michael & Gordon, 2004). Chaid analysis, which is a form of decision tree, is considered to be an effective method for dividing the whole data set into two or more nodes in a repetitive manner (Türe et al., 2005). Chaid analysis explores the factors that have a significant effect on the dependent variable, and aims to identify the interactions between the variables in the model and common combinations (Doğan & Özdamar, 2003). From another angle, Chaid analysis is defined as a statistical method for dividing a dataset on categorical variables into detailed homogeneous sub-groups in such a way as to provide the best explanation for the dependent variable. In addition, Chaid analysis can be used when the dependent variable is categorical, ordinal or continuous, and the independent variables are categorical or continuous (Doğan, 2003). Chaid analysis creates an ideal tree structure by identifying pairs that are significant for the cross-tabulation of the categories of independent variables and categories of the dependent variable (Pehlivan, 2006). Chaid analysis is reported to be more effective in identifying the effects of lost data in the model, compared to other decision tree methods (C&RT; Classification & Regression Tree) (Kayri & Güntüç, 2010).

Discussion

Results of the study showed that 27.8% of the participants had negative perceptions of the faculty members, and 27.6% had positive perceptions. The rest of the participants had moderate (threshold) levels of perceptions. Keçeci and Taşocak (2009) found that university students' perceptions of faculty members were more negative compared to faculty members' perceptions of the students, paralleling the finding of the present study concerning negative perceptions held by 27.8% of the students. The tree structure that

emerged after the Chaid analysis of the Perception of Faculty Members Scale (PFMS) showed that the variables of whether the students perceive the university education they receive as adequate, whether they are attending the department of their choice, and gender were significant predictors of the dependent variable, in this order of significance. Students who found the university education they receive to be inadequate had more negative perceptions of the faculty members compared to students who found the education to be adequate. Whether students were attending a department of their choice was also a significant factor affecting their perceptions of faculty members. This finding parallels Pehlivan's (1994) finding that educational science students had positive attitudes towards their departments. Students who attend a department of their choice have positive perceptions both of their departments and their faculty members. Students who find the university education they receive to be inadequate are those who are not attending a department of their choice. Students who are attending a department of their choice have more positive perceptions of faculty members compared to those who are not attending the department of their choice. Medvec et al. (1995) found that those who make gains that are close to their expectations have more negative perceptions, which implies that students who are not attending a department of their choice would have more negative attitudes towards their education compared to those who are attending a department of their choice, even though their wish to attend university came true. Thus, the finding concerning the negative perceptions of faculty members among the students who are not attending a department of their choice parallels the findings of earlier studies in the literature. The variable of gender was found to be related to the variable of attending a department of one's choice or not. Bulut (2009) reports a failure to find any gender-based differences in teaching attitudes. Although the significance level of the variable of gender is lower compared to other variables discussed above, a larger portion of the female students report that they are not attending a department of their choice compared to male students, which can be explained with reference to the cultural pressures on women (Nirun, 1994). Yet, female students have more positive perceptions of faculty members compared to male students, probably because they had the chance to get a university education.

The decision trees that emerged from the Chaid analysis of the total scores received from the Perception of Faculty Members Scale (PFMS) and the Chaid analysis of the Communication Skills sub-dimension are similar. The tree structure that

also subject to change, and prospective teachers' perceptions of faculty members should be studied again using different measurement tools that take possible changes into account. Future studies can examine this subject using different variables and different samples, or by retaining the same variables and using different samples.

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