

EDUCATIONAL SUPPORT FOR ENHANCING PHYSICAL SELF- PERCEPTION

Alfredo Goñi, Eider Goñi

University of the Basque Country, Spain

E-mail: aralfredo@euskalnet.net

Abstract

Educational intervention is often very slow to take advantage of theoretical progress made in the field of psychology. Over the last twenty years, numerous studies have been carried out on the structure of physical self-concept and its relationship with many different behaviors (eating disorders, healthy habits, etc.) which have prompted a great deal of social interest, as well as a demand for criteria, guidelines and resources, not only in formal educational contexts but also in other non-formal and informal ones. This paper aims to establish a series of psychoeducational principles based on a review of new knowledge on physical self-perception: a) its multidimensional nature; b) its relationship with physical activity; c) its association with healthy habits; d) its susceptibility to socio-cultural influences; e) differences in the perceived physical self in accordance with age and gender. Based on these psychoeducational principles, the paper also reviews the most common educational programs aimed at improving self-concept and offers a number of suggestions and guidelines for intervention.

Key words: *educational support, human development, physical self-concept.*

Introduction

New theoretical knowledge does not usually generate practical applications directly, immediately or speedily, and it is the purpose of applied science to establish bridges between basic research and different areas of application. This is the case with educational psychology, whose main function is to ensure that educational intervention programmes benefit from the theoretical progress made in basic psychology. Thus, the purpose of this paper is to explore how educational aid for improving self-concept may benefit from new knowledge regarding physical self-concept. The thoughts and reflections outlined in this paper are aimed at people of all ages, and at education in many different contexts, although its principal field of reference is education for adolescents and young people within a school context.

Over recent years a number of important empirical studies have been published on physical self-perception; however, no such parallel progress has been made in the theoretical systematisation of this knowledge, and nor has the field of applied knowledge evolved at the same rate. As a result, educational programmes for improving self-concept tend to be based on poorly updated theoretical knowledge, and do not take full advantage of new theoretical findings. The main aim of this paper is to offer an overview of these theoretical advances and to suggest a series of psychoeducational principles and educational recommendations based on them.

Self-concept plays a decisive key role in personality development, since it is closely linked to numerous variables which are fundamental to humans. A positive self-concept is the basis of good

personal, social and professional functioning, and is, to a large extent, the cornerstone of personal satisfaction and of feeling good about oneself. Accordingly, the education systems of all countries include the fostering of a positive self-concept as one of their main aims and purposes.

In light of the above, one might ask why so much attention is paid to physical self-perceptions (physical self-concept), rather than self-concept in the widest sense of the term. The answer is that: a.) a better general self-concept requires work on each of its specific domains or dimensions; b.) physical self-perceptions play a fundamental role in general self-concept, especially during adolescence and youth; c.) physical self-concept is closely linked to numerous variables and this psychological centrality means that it plays a decisive role in social and personal development; and d.) it is the self-concept domain in which the most theoretical progress has been made over the last twenty years. We believe that, by the time the reader has finished the paper, the above answer will have been clearly explained.

Educational aid for improving physical self-concept

Educational programmes for improving self-concept have a long, fruitful history which has much to teach us. This section offers an overview of the possibilities for improvement using educational activities focusing on both general self-concept and, specifically, physical self-concept.

The first reviews focusing on clinical and educational intervention programmes (Wylie, 1979; Scheirer and Kraut, 1979), offered no clear conclusions regarding the effectiveness of these programmes for improving self-concept, a finding attributed to a lack of solid theoretical frameworks in the studies, the absence of adequate measurement instruments and the limitations of the programmes themselves. Nevertheless, subsequent reviews highlighted the fact that traditional educational programmes provide techniques that may help subjects gain a more positive self-concept (Burns, 1982; Gurney, 1987), but that in order to achieve said changes, the educational programmes must be applied over a long enough period in an adequate psychological climate (Espriu, 1993), and must also be sensitive to the self-concept dimensions most susceptible to change in each developmental period (Broc, 1994). With these provisos, the modifiability of self-concept through numerous educational programmes must be accepted as a proven empirical reality (Fox, 1988).

The characteristics of educational intervention programmes for the improvement of physical self-concept are as follows (Goñi and Zulaika, 2000; Goñi and Zulaika, 2001):

- a. the most common programmes aimed at improving physical self-concept are physical activity programmes (and more recently, the promotion of healthy habits), with the effectiveness of these programmes having been verified in, for example, primary school special needs children (Suárez, 2002), adolescents living in marginalised inner city areas (Valerín and Sánchez, 2004) and patients on chronic haemodialysis (Martorelli, Pechón and Mustaca, 1998).
- b. there are few cognitive programmes, which is surprising given the key role played by knowledge in the formation of self-concept; indeed, it is difficult to image an educational intervention programme aimed at improving physical self-concept which does not involve cognitive aspects (Shavelson, Hubner and Stanton, 1976).
- c. intervention programmes tend to eclectically articulate activities and resources inspired by different psychological theories, based on generic psychoeducational principles, such as providing information, fostering self-knowledge, creating cognitive dissonances, motivating, reinforcing, planning, etc. This is all very well, but programmes also need to take into account specific aspects of the theory of self-concept: domains and dimensions, the 'real self' versus the 'ideal self', developmental moments, etc.
- d. many programmes are based on a one-dimensional view of self-concept, rather than a hierarchical and multidimensional view, mainly because this latter view is a more recent development.

This brief summary provides a general overview of the situation, highlighting the many positive aspects but at the same time making it clear that the challenge now is to incorporate the educational consequences of the new psychological information currently available.

New knowledge regarding physical self-concept

Research carried out over recent years has provided much important information regarding the hierarchical and multidimensional nature of self-concept, especially physical self-concept, its dimensions and assessment, its development and its relationship to personal wellbeing, physical activity and healthy habits.

Hierarchical and multidimensional structure of self-concept

Although for years, psychology viewed self-concept as a one-dimensional construct, since the mid nineteen-seventies, the multidimensional and hierarchical view has been widely accepted. One of the most widely accepted theoretical models (Shavelson et al., 1976) proposes that global self-concept is made up by academic and non-academic self-concept, the latter being further divided into social, emotional and physical self-concept; and each of these domains are themselves made up by diverse dimensions or components. The physical self has occupied a unique position in the global self-concept system because the body, through its appearance, attributes and abilities provides the substantive interface between the individual and the world (Fox, 2000).

The clear advantage of multidimensional and hierarchical models of self-concept is that enable the examination of domain-specific self-perceptions within the hierarchical framework and provide a definitive framework to explain how each domain is structured and contributes to overall or global self-concept (Hagger, Asçi and Lindwall, 2004). General self-concept tends to be stable and resistant to change; however, the domains and, above all, the dimensions of self-concept depend to a much greater extent on specific situations, and are therefore less stable. Educational intervention for improving self-concept should therefore focus on the more specific and unstable components in order to bring about a long-term change in global self-concept.

This new multidimensional view has generated much research aiming to specify the number of elements that make up the different domains, particularly the physical domain. There is a fairly generalised acceptance of the inclusion of the *physical ability* and *physical attractiveness* dimensions in the physical self-concept structure (Marsh, Relich and Smith, 1983; Fox, 1988), and currently, these dimensions are joined by *physical fitness* and *physical strength* (Fox and Corbin, 1989; Goñi, Ruiz de Azúa and Rodríguez, 2006). This tetradimensional configuration has been corroborated in a number of different studies (Biddle, Page, Ashford, Jennings, Brooke and Fox, 1993; Moreno, 1997), providing sufficient empirical support for the independence of the physical self-concept dimensions. Among other things, this means that different educational activities should be designed to focus on the self-perception of *physical fitness*, *physical attractiveness*, *physical ability and strength*. These subdomains are viewed as specific and changeable aspects of self.

Changes in physical self-concept

It has been found (Goñi, Ruiz de Azúa and Rodríguez, 2006) that physical self-concept tends to drop in adolescence and then recover somewhat after the age of 18. Furthermore, men generally tend to score higher than women in all the dimensions of physical self-concept, at least until adulthood. And when both the gender and age variables are taken into account, research has revealed (Goñi and Rodríguez, 2007) that it is women between the ages of 15 and 18 who have the most difficulty maintaining a positive physical self-concept.

Physical or sporting activity has also been shown to be closely linked to physical self-concept in sample groups with different characteristics (Lindwall and Lindgren, 2005; Alfermann and Stoll, 2000; Knapen, Van Vliet, Van Coppenolle, Peuskens, Knapen and Pieters, 2003), with physical self-concept being the variable that best reflects the benefits obtained when subjects regularly engage in some kind of physical activity (Caglar and Asçi, 2006).

The more the subject engages in physical activities, the better their physical self-perceptions, be they adults (Fox, 2000; Rodríguez, Goñi and Ruiz de Azúa, 2006), adolescents (Goñi, Ruiz de Azúa and Rodríguez, 2004) or young people (Lindwall and Hasmenn, 2004).

Similarly, all healthy habits are, in general, related to better physical self-perception; in relation to self-perception linked to type of diet, it has been observed that those who believe they eat more healthily than average score higher on the *physical ability* and *physical fitness* dimensions, with no significant inter-gender differences (Rodríguez, Goñi and Ruiz de Azúa, 2006; Esnaola, 2006).

Risk of eating disorders (EDs)

The risk of suffering EDs it's linked to some factors like the sex and the age, the body dissatisfaction and the physical activity:

1. It was well known (O'Dea and Abraham, 1999) that eating behaviour disorders mainly affect the female population, especially during adolescence. Nevertheless, it is extremely important to specify this generic affirmation by testing the variability of the risk of suffering from EDs in accordance with factors such as age (early and late adolescence), physical self-concept and engagement in sporting activity, as well as the interaction between these factors. To date, no clear evolutionary guidelines have been established for eating disorders throughout adolescence; it seems that the risk of suffering from eating disorders is greater after early adolescence, although the particularly critical moments of its development were still largely unspecified, despite being of vital interest.
2. The relationship between body dissatisfaction and eating disorders is well known and has been extensively documented (Toro, 1988; Raich, Torras and Figueras, 1996). Poor body image is related to dissatisfaction with one's weight (Cash and Henry, 1995), the tendency to lose weight and body dissatisfaction (Tiggerman and Pickering, 1996). In fact, body dissatisfaction is the main risk factor for suffering from eating disorders, since it predisposes the subject to precipitates or maintains anorexia and bulimia; having negative feelings about one's own body may even be the only significant predictor for the onset of some kind of eating behaviour disorder (Attie and Brooks-Gunn, 1989). This relationship between the perceived physical-ego and eating disorders has been analysed mainly from clinical perspectives of body image, although during recent decades this field has been enriched by studies based on the model more commonly used in educational psychology, i.e. that of physical self-concept (Goñi and Rodríguez, 2004).
3. The relationship between physical activity and eating disorders has been the object of many studies, the majority of which highlight a close association between physical-sporting activity and eating problems. Excessive or compulsive physical activity contributes decisively to the pathogenesis and maintenance of such problems (Davis, Kennedy, Ravelski and Dionne, 1994). The prevalence of these disorders is greater among those who engage in sports such as rhythmic and artistic gymnastics, high diving, figure skating and ballet, and top-class sportsmen and women (Terry, Lane and Warren, 1999). In any case, the symptoms of the disorders seem to be more closely associated with obligatory attitudes to exercise than with the amount of exercise actually engaged in (Seigel and Hetta, 2001). Other studies, on the other hand, maintain that eating disorders have no relationship whatsoever with either physical activity (Meadows, 2005) or, more specifically, with high weekly hours of such activity (Kjelsas and Augestad, 2004), and that sportsmen and women have a better body image than those who do not engage in such activity (Furnham, Titman and Sleeman, 1994). Such apparently contradictory results may be derived from studies carried out with widely differing methodologies and non-equivalent sample groups.

In relation to the above, new findings (Goñi and Rodríguez, 2004) indicate that eating disorders are associated with poor physical self-concept although this relationship varies in accordance with variables such as gender, age group and physical-sporting activity, as well as a combination of these variables (Goñi and Rodríguez, 2007), as follows: a.) in the 15 to 18 age group, the risks are

higher than during early adolescence (12-14 years); b.) EDs are a pathology specific to women, with the perception of one's own physical attractiveness, for example, affecting each gender differently, correlating with eating disorders only in the case of women; c.) the usual gender differences are not found when subjects engage in some kind of regular physical activity since, in such cases, while gender differences remain, they are much reduced; and d.) both age and gender, and self-concept and physical activity are modulating variables of the risk of suffering from EDs.

The following has also been found (Ruiz de Azúa, Rodríguez and Goñi, 2005): a.) the greater the influence of dominant aesthetic models on a subject, the poorer their physical self-concept; and b.) women feel more pressure to emulate the aesthetic model currently prevailing in western culture.

Psychoeducational principles

The following are a series of psychoeducational principles in relation to two theoretical fields: the variables associated with physical self-concept, and the process of constructing physical self-concept.

- a. It has been shown how physical self-concept is related to a number of key variables, such as physical activity, healthy habits, eating disorders and cultural influences. It is not surprising, then, that any improvement in physical self-concept is accompanied by an improvement in these variables, and vice versa, i.e. the promotion of healthy habits or a greater degree of physical activity will contribute to improving physical self-concept. Thus, the continued existence of educational intervention programmes aimed at improving self-concept by focusing on one or more of these associated factors is fully justified.

In any case, the multidimensional nature of physical self-concept requires that this type of programme pay special attention to improving perceptions of *physical ability*, *physical fitness* and *physical strength*, providing specific activities to this end. It may safely be presumed that, from an educational perspective, it is easier to improve each of these dimensions individually than it is to improve global physical self-concept as a whole.

- b. Nevertheless, the key is to help each person process their own personal experiences; and in this sense, the following psychoeducational principles should be taken as the basis for designing educational activities:
 - *Be aware of the possible harmful influence of subjects' immediate environment and the written and visual media.*
 - *Ask who it is that judges*, since other people's opinions do not all affect self-concept in the same way; opinions that really matter are usually expressed by people who play a significant role in our lives. Thus, it is important to get into the habit of determining whether a specific opinion is having too great an influence, and if so, to learn how to put it into perspective.
 - *Be careful when choosing the reference groups with whom you are going to compare yourself.* Be aware that the groups one belongs to or wants to be part of are closely linked to one's level of aspirations. This should help reduce the distance separating the perceived self ('I have no exceptional sporting abilities') and the ideal self ('but no one expects me to be a top athlete').
 - *Be aware of the importance attached to each dimension of physical self-concept.* Self-concept drops when more importance is attached to those dimensions in which one is lacking, and not enough value is attached to those in which one is not. For example, someone may not consider themselves attractive, but this may not necessarily affect their physical self-concept, providing they keep the importance of beauty in perspective.
 - *Weighing up the dimensions of self-concept carefully* may enable certain compensations that protect general physical self-concept ('I may not be attractive, but I am skilful').

- *Keep an eye on what the causes of success and failure are attributed to.* Feelings of competence depend on the causes to which experiences of success and failure are attributed. Attributing success to external causes (luck) and failure to internal causes (inadequacy) results in a drop in self-concept, while assuming responsibility for any success achieved and attributing failure to external factors (bad luck, difficulty of the task) increases perceptions of competence.
- *Level of aspiration.* As William James said over a century ago, self-concept is the result of the distance between the self one aspires to and the self one has achieved; in other words, it is a magnificent opportunity to help people to begin building their own lives as they wish to live them.

Final recommendations

We feel we cannot conclude this paper without offering a few thoughts regarding the application of all that outlined above in the classroom itself.

Firstly, we feel we should highlight the key role played by physical self-concept in the configuration of general self-concept. Physical appearance is awarded primary importance in our society and it is extremely difficult for a growing, developing human to harmonise their physical self-perceptions with the prevailing aesthetic models. Therefore, the war for general self-concept depends to a large extent on having won the battle for physical self-acceptance.

Secondly, we should point out that adolescence is a period that requires special attention by educators, particularly as regards the construction and improvement of physical self-concept. There are a number of very powerful reasons for this: physical self-concept declines from the age of 12 onwards; there is a close relationship between an increase in eating disorders during this period and poor physical self-concept; and adolescents are especially at risk between the ages of 15 and 18, particularly if they do not play any sport.

And finally, a warning based on the observation of the workings of schools and classrooms. Educational programmes for improving physical self-concept both exist and are being updated every day. However, in addition to their quality (a factor discussed earlier in this paper), it is also vital to ensure that said programmes are applied in a broad enough manner and are properly integrated into the curriculum; in other words, a sporadic or not particularly systematic application of these programmes will not provide satisfactory results.

References

- Alfermann, D., and Stoll, O. (2000). Effects of physical exercise on self-concept and well-being. *International Journal of Sport and Psychology*, 30, 47-65.
- Attie, I., and Brooks-Gunn, J. (1989). Development of eating problems in adolescent girls: A longitudinal study. *Developmental Psychology*, 25: 70-79.
- Biddle, S., Page, A., Ashford, B., Jennings, D., Brooke, R., and Fox, K. (1993). Assessment of children's physical self-perceptions. *International Journal of Adolescence and Youth*, 4, 93-109.
- Broc, M. A. (1994). Rendimiento académico y autoconcepto en niños de educación infantil y primaria. *Revista de Educación*, 303, 281-297.
- Burns, R. (1982). *Self concept development and education*. Londres: Holt.
- Caglar, E., and Asci, F. H. (2006). Gender and physical activity level differences in physical self-perceptions of university students: a case of Turkey. *International Journal of Sport and Psychology*, 37, 58-74.
- Cash, T. F., and Henry, P. (1995). *Women's body images: Development, deviance and change*. New York: Guilford Press.
- Davis, D., Kennedy, S. H., Ravelski, E., and Dionne, M. (1994). The role of physical activity in the development and maintenance of eating disorders. *Psychological Medicine*, 24(4), 957-967.

- Esnaola, I. (2006). Autoconcepto y consumo de drogas legales en la adolescencia. *Revista Española de Drogodependencias*, 1, 57-66.
- Espriu, R. M. (1993). *El niño y la creatividad*. México: Trillas.
- Fox, K. R. (1988). The self-esteem complex and youth fitness. *Quest*, 40, 230-246.
- Fox, K. R. (2000). Self-esteem, self-perceptions and exercise. *International Journal of Sport Psychology*, 31, 228-240.
- Fox, K. R., and Corbin, C. B. (1989). The Physical Self-Perception Profile: Development and preliminary validation. *Journal of Sports & Exercise Psychology*, 11, 408-430.
- Furnham, A., Titman, P., and Sleeman, E. (1994). Perceptions of female body shapes as a function of exercise. *Journal of Social Behavior Personality*, 2, 335-352.
- Goñi, A., and Rodríguez, A. (2004). Eating disorders, sport practice and physical self-concept in adolescents (db.doyma.es/cgi_bin/wdbcgi.exe/doyma/mrevista_info). *Actas Españolas de Psiquiatría*, 32(1), 29-36.
- Goñi, A., and Rodríguez, A. (2007). Variables associated with the risk for eating disorders in adolescence. *Salud Mental*, 30 (4), 16-23.
- Goñi, A., and Rodríguez, A. (2007). Variables associées au risque de troubles de l'alimentation dans l'adolescence. *Revue Française de Psychiatrie et de Psychologie Médique*, (XI) 105, 41-48.
- Goñi, A., and Zulaika, L. M. (2000). Relationships between physical education classes and the enhancement of fifth grade pupils's self-concept. *Perceptual and Motor Skills*, 91, 246-250.
- Goñi, A., and Zulaika, L. M. (2001). L'éducation physique à l'école et l'amélioration du concept de soi. *STAPS. Revue Internationale de l'Education Physique et du Sport*, 56, 75-92.
- Goñi, A., Rodríguez, A., and Ruiz de Azúa, S. (2004). Bienestar psicológico y autoconcepto físico en la adolescencia y juventud. *Psiquis*, 25 (4), 141-151.
- Goñi, A., Ruiz de Azúa, S., and Rodríguez, A. (2004). Deporte y autoconcepto físico en la preadolescencia. *APUNTS. Educación Física y Deportes*, 77, 18-24.
- Goñi, A., Ruiz de Azúa, S., and Rodríguez, A. (2006). *Cuestionario de Autoconcepto Físico (CAF). Manual*. Madrid: EOS.
- Gurney, P. W. (1987). Self esteem enhancement in children: A review of research findings. *Educational Research*, 52, 123-142.
- Hagger, M. S., Asçi, F. H., and Lindwall, M. (2004). A cross-cultural evaluation of a multidimensional model of physical self-perceptions in three national samples. *Journal of Applied Social Psychology*, 34, 1075-1107.
- Kjelsas, E., and Augustad, L.B. (2004). Gender, eating behaviour, and personality characteristics in physically active students. *Scandinavian Journal of Medicine Science Sports*, 14, 258-268.
- Knapen, J., Van Vliet O., Van Copenolle, H., Peuskens, J., Knapen, K., and Pieters, G. (2003). The effectiveness of two psychomotor therapy programmes on physical fitness and physical self-concept in non-psychotic psychiatric patients: a randomized controlled trial. *Clinical Rehabilitation*, 17, 637-647.
- Lindwall, M., and Hassmén, P. (2004). The role of exercise and gender for physical self-perceptions and importance ratings Swedish university students. *Scandinavian Journal of Science and Sports*, 14, 373-380.
- Lindwall, M., and Lindgren, E. C. (2005). The effects of a 6-month exercise intervention programme on physical self-perceptions and social physique anxiety in non-physically active adolescent Swedish girls. *Psychology of Sport and Exercise*, 6, 643-658.
- Marsh, H. W., Relich, J. D., and Smith, I. D. (1983). Self-concept: The construct validity of interpretations based upon the SDQ. *Journal of Personality and Social Psychology*, 45, 390-407.
- Marsh, H. W., and Shavelson, R. J. (1985). Self concept: Its multifaceted, hierarjical structure. *Educational Psychologist*, 20, 107-123.
- Martorelli, A., Pechón, C., and Mustaca, A. (1998). Gimnasia expresiva y autoestima en pacientes con hemodiálisis crónica. In: www.psicología.com http://www.psiquiatria.com/psicología/vol2num2/art_2.htm
- Meadows, S. M. (2005). Correlates in the development of eating disorders among adolescent males. *Dissertation Abstracts International*, 65(7-B): 3716.
- Moreno, Y. (1997). *Propiedades psicométricas del Perfil de Autopercepción Física (PSPF)*. Valencia: Universidad.

- O'Dea, J. A., and Abraham, S. (1999). Onset of disordered eating attitudes and behaviours in early adolescence: Interplay of puberal status, gender, weight, and age. *Adolescence*, 34 (136), 671-679.
- Raich, R. M., Torras, J., and Figueras, M. (1996). Estudio de la imagen corporal y su relación con el deporte en una muestra de estudiantes universitarios. *Análisis y Modificación de Conducta*, 22 (85), 603-626.
- Rodríguez, A., Goñi, A., and Ruiz de Azúa, S. (2006). Autoconcepto físico y estilos de vida en la adolescencia. *Intervención Psicosocial*, 15 (1), 81-94.
- Ruiz de Azúa, S., Rodríguez, A., and Goñi, A. (2005). Variables socioculturales en la construcción del autoconcepto físico. *Cultura y Educación*, 17 (3), 225-238.
- Scheirer, M.A., and Kraut, R.E. (1979). Increasing educational achievement via self concept change. *Review of Educational Research*, 49, 131-150.
- Seigel, K., and Hetta, J. (2001). Exercise and eating disorders symptoms among young females. *Eating Weight Disorders*, 6 (1), 32-39.
- Shavelson, R. J., Hubner, J. J., and Stanton, J. C. (1976). Self concept: validation of construct interpretations. *Review of Educational Research*, 46, 407-441.
- Suárez, B. (2002). *Estrategias psicomotoras*. México: Limusa.
- Terry, P. C., Lane, A. M., and Warren, L. (1999). Eating attitudes, body shape perceptions and mood of elite rowers. *Journal of Science Medicine Sport*, 2 (1), 67-77.
- Tiggerman, M., and Pickering, A. S. (1996). Role of television in adolescent women's body dissatisfaction and drive for thinness. *International Journal of Eating Disorders*, 20, 193-202.
- Toro, J. (1988). Factores socioculturales en los trastornos de la ingesta. *Anuario de Psicología*, 38, 25-47.
- Valerín, C., and Sánchez, A. (2004). *Efecto de un programa de actividad física-recreativa en el autoconcepto físico y general*. Tesis doctoral. Universidad Nacional Heredia: Costa Rica.
- Wylie, R. C. (1979). *The self concept*. Lincoln: University of Nebraska.

*Advised by Antonio Valle,
University of Coruña, Spain*

Alfredo Goñi Professor, University of the Basque Country, Spain.
Paseo del Batán 10,4º izq, Vitoria-Gasteiz 01007, Spain.
Phone: 945 014292.
E-mail: aralfredo@euskalnet.net
Website: <http://www.ehu.es>

Eider Goñi Lecturer, University of the Basque Country, Spain.
Phone: 945 233097.
E-mail: eider.goni@ehu.es
Website: <http://www.ehu.es>