The lexical approach to personality that follows a simple rationale: “All significant individual differences are embodied in language” (De Raad, 2000, p.16) is now considered as one of the focal points in personality psychology. The approach has a long history, dating from Galton (1884), and then following the interrupted trajectory of development for almost a century, to be settled in the mainstream of personality research with the seminal studies of Goldberg (1981, 1982, 1990). In this paper, I will review the three directions of application of the lexical approach to personality, with special emphasis, and with applications from research in Croatia. These three directions are: various national taxonomies of personality-descriptive words, adjective markers derived from such taxonomies (or developed independently from the taxonomies) and the common item format for cross-national comparisons of individual differences.
1. *National taxonomies of personality descriptive words*

Following the studies of Allport and Odbert (1936), Cattell (1943, 1945) Fiske (1949), Tupes and Christal (1958, 1961) and Norman (1967); Goldberg (1981, 1982, 1990) conducted a series of explorations in the language of personality and concluded that any structural model of personality will have to encompass something similar to the “Big-Five” dimensions. These factors were: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Intellect (Goldberg, 1990). After that, the lexical approach spread to Europe, with various national taxonomies following two types of related methodologies: Dutch (e.g. Brokken, 1978; Caprara & Perugini, 1994; De Raad, 1992) and German (e.g. Hřebíčková, 1995; Ostendorf, 1990; Szarota, 1996) or used some combination of the two approaches (Di Blas & Forzi, 1998; Szirmak & De Raad, 1994).

The results of such taxonomies and other studies in the field have supported the validity of the Big-Five model. However, it should be noted that lexical studies with results that depart more or less from the original Big-Five structure are not uncommon (Boies et al. 2001, Church et al., 1998; Di Blas & Forzi, 1998, Szirmak & De Raad, 1994). However, the dispute about the optimal model of personality description is beyond the scope of this paper.

2. *Application: the croatian personality taxonomy*

Mlačić (1999) and Mlačić & Ostendorf (2005) described the development of the Croatian taxonomy of personality-descriptive terms through three studies. In the first study three judges extracted person-descriptive terms from a standard dictionary of the Croatian language. In the second study, seven judges classified the personality-descriptive adjectives into 13 different categories of descriptors. In the third study, 515 University of Zagreb students used the 483 adjectives that the majority of judges in the second study classified as dispositions to describe themselves and they were also described by 513 their best acquaintances with the same adjectives. In separate analyses of both self and peer ratings, the Croatian emic lexical factors from both data sets were interpreted to be similar to the Big-Five factors: Agreeableness, Extraversion, Conscientiousness, Intellect and Emotional Stability (Mlačić & Ostendorf, 2005). The inspection of factor content of the Croatian emic factors and their relation to imported Big-Five measures revealed high correspondences for all five Croatian factors.
The first and largest factor in self-ratings was labeled Agreeableness and was defined by adjectives such as: good-hearted, regardful, charitable, humane, warm and generous versus greedy, perfidious, selfish, ruthless, vindictive, and arrogant (Mlačić & Ostendorf, 2005). The second factor in self-ratings was labeled Extraversion and defined by terms such as communicative, extraverted, loquacious, sociable, energetic and dynamic versus reserved, unsociable, untalkative, introverted, shy and passive (Mlačić & Ostendorf, 2005). The third factor in self-ratings was labeled Conscientiousness and defined by adjectives such as organized, industrious, thorough, hard-working, responsible and systematic versus disorganized, irresponsible, lazy, unsystematic, disorderly and unconscientious (Mlačić & Ostendorf, 2005). The fourth factor in self-ratings was labeled Intellect and included adjectives such as talented, bright, intellectual, creative, intelligent and ingenious versus uncreative, ungifted, unintelligent, unintellectual and unimaginative (Mlačić & Ostendorf, 2005). Finally, the fifth factor in self-ratings was labeled Emotional Stability and was defined by adjectives such as unemotional, tranquil, unirritable, stable, cool-blooded and even-tempered versus oversensitive, irritable, quick-tempered, explosive, impulsive and rash (Mlačić & Ostendorf, 2005).

This study showed a clear relation between all the five Croatian emic factors and the five respective American Big-Five factors. The average correlation of the Croatian factors with the corresponding factors from the imported measures was around 0.70, however with some rotation in the plane defined by Agreeableness and Emotional Stability (Mlačić & Ostendorf, 2005).

Nevertheless, the Croatian personality taxonomy provided substantial support to the generalizability of the Big-Five structure.

3. Adjective markers (or how to measure your personality dimensions economically)

The typical number of variables that served as the basis for the personality taxonomies was around 400-500 personality descriptive terms (mostly adjectives). Although the number of adjectives per personality dimension is important because it indicates the relative importance of the dimensions, the long list of adjectives becomes a drawback for future research simply because it is too long. There-
fore, it is desirable to develop a smaller set of variables or factor markers that would consistently yield a desired structure. Goldberg (1992) developed a set of unipolar and bipolar factor Big-Five markers that were proven robust across diverse samples of self and peer-descriptions that was extensively used in subsequent research (Garcia et al., 1994; Mlačić, 2002; Saucier, 1994; to name but a few). Perugini and Di Blas (2002) developed a set of Big-Five markers in Italian language, Kashiwagi (2002) developed a set of Japanese Big-Five markers.

4. Application: Goldberg’s Big-Five markers in Croatia

In a series of research in Croatia, we used the translation of Goldberg’s (1992) Big-Five bipolar markers as an “imported” measure of the Big-Five. In the first study (Mlačić & Knezović, 1997) we verified the five-factor structure of the opaque version of Goldberg’s Big-Five markers and related it to Eysenck’s model empirically. In the second study (Mlačić & Knezović, 2000) we compared the opaque version of Goldberg’s (1992) Big-Five markers with the transparent one and found the robust five-factor structure for both versions. Finally, in the third study (Mlačić, 2002) we investigated the factor structure of Goldberg’s (1992) transparent Big-Five markers in self and peer-ratings. The analyses of self and peer-ratings showed robust five-factor structures for both types of ratings and high reliabilities (Mlačić, 2002).

Therefore, Goldberg’s (1992) Big-Five bipolar markers could be effectively used for self- and peer-ratings in Croatia.

5. New application: the development of the Croatian markers for the Big-Five model

Although Goldberg’s (1992) Big-Five markers were proven useful in Croatia, they represent the “imported” or the “etic” Big-Five measure (Berry, 1969). Therefore, we wanted to develop a set of Croatian “emic” Big-Five markers, based on the results of the before mentioned Croatian personality taxonomy (Mlačić & Ostendorf, 2005). We (Mlačić & Šakić, in press) developed a set of 120 unipolar and 60 bipolar factor markers to cover the five Croatian “emic” factors (Mlačić & Ostendorf, 2005) and the classification system of Peabody & De Raad (2002). A sample of students used these scales to describe themselves, and they were also described by their best acquaintances on the same instruments. All
four data sets (self-ratings and peer-ratings with bipolar and unipolar markers) showed clear five-factor structures (Mlačić & Šakić, in press). These factors were clearly and strongly related on a one-to-one basis with the respective factors from the American Big-Five model, measured with the Croatian translation of IPIP Big-Five markers (Mlačić & Goldberg, 2007).

The relations of factor structures of the Croatian Big-Five markers between self and peer ratings confirmed the equivalency of Big-Five correspondent dimensions in both rating procedures. (Mlačić & Šakić, in press).

6. The common item format for cross-national comparisons of individual differences (IPIP)

Goldberg (1999) started the development of a scientific collaboratory for advanced measures of personality traits and other individual differences and named it International Personality Item Pool (IPIP). During the last decade, the IPIP web-site (http://ipip.ori.org/) has become a source of a large set of measures, all in the public domain, available to scientists worldwide. The IPIP web-site is also a source of a large set of items (over 2,000), each consisting of a short verbal phrase (e.g., Act as I please, Blend into the crowd, Can keep a secret, Dislike changes). One rationale for the use of this common item format is that it should be easily translated into the diverse languages (Hendriks et al., 1998).

Some of the most frequently used IPIP measures have been those targeted at constructs that already were in the public domain, especially Goldberg’s (1992) Big-Five markers.

7. Application: the IPIP Big-Five factor markers in Croatia

Translations of the IPIP version of the Big-Five markers are now available in many languages (Goldberg, 2007). However, there were no scientific publications on the characteristics of these translations. In the study of Mlačić & Goldberg (2007), we reported findings from the first translation in Croatian. A large sample of university students (N = 519) used the translated Croatian version of the 100-item IPIP Big-Five inventory to describe themselves, and they were also described by 515 of their acquaintances that used the same instrument.

Self- and peer-ratings were factor analyzed separately and the 100-item and 50-item versions of these IPIP measures showed clear five-factor orthogonal
structures that were nearly identical to the American structure (Mlačić & Goldberg, 2007). There was a clear relation between all the five Croatian IPIP factors and the five respective factors derived from a Croatian translation of Goldberg’s bipolar rating scales (Mlačić & Goldberg, 2007).

8. New application: the IPIP Big-Five factor markers with adolescents subjects

Following the previous study (Mlačić & Goldberg, 2007) that provided substantial support for the generalizability of the five-factor IPIP-structure in Croatia, we developed a version of the IPIP Big-Five markers for use with adolescents (Mlačić et al., 2007). We also related that measure with self-esteem, using adolescents as target subjects. A large sample of adolescents (N = 706) used the revised Croatian version of the 50-item IPIP Big-Five inventory to describe themselves, and they were also described by 592 of their parents on the same instrument (Mlačić et al., 2007). The adolescents and their parents also used the translated version of Rosenberg’s Self-Esteem Scale (Rosenberg, 1965) to describe the target subjects. Self- and parental ratings were factor analyzed separately and the IPIP measures showed clear five-factor orthogonal structures that were nearly identical to the Croatian adult structure and American community sample structure (Mlačić et al., 2007). Self- and parental ratings on IPIP Big-Five markers were strongly related on a one-to-one basis for all five corresponding factors. Five personality factors were moderately, yet consistently, related to self-esteem. The relation between the dimension of Emotional Stability and self-esteem was the strongest while the relation of Agreeableness and self-esteem was the weakest (Mlačić et al., 2007).

9. Conclusions: where to go next in this field of research?

National taxonomies of personality descriptive words

This direction of research would profit from the development of personality taxonomies in more languages. Lexical studies developed so far mostly represent languages with origin in Northern Europe (Germanic, Romanic & Slavic). Only recently (Saucier, 2006) a lexical study exploring the language families of sub-Saharan Africa is developing. It would be also important that the future studies go beyond narrow trait selections and beyond “adjectives only”.
10. Adjective markers

For the purpose of comparison of various national taxonomies as well as any other future research, since adjective markers have some practical advantages (being easier and faster for applied purposes), this direction would profit from the development of factor markers that represent already developed (or future) personality taxonomies.

11. Common ITEM format (IPIP)

Since the format of short behavior-descriptive phrases is more contextualized and should be much easier than single trait-descriptive adjectives to translate into the diverse languages of the modern world, this direction would profit from the publication of scientific reports on the characteristics of IPIP translations. Also, one important fact regarding the IPIP measures is that they are in the public domain, available to scientists worldwide. Finally, future cross-cultural studies should compare the characteristics of these measures in highly educated samples (i.e., university students) with more representative samples from the total population under study (i.e., adolescents, subjects from less urbanized areas etc) (Mlačić et al., 2007).

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