

LA PSICOLOGÍA DE HOY

**PERSONAL SELF-REGULATION AS A VARIABLE STUDENT (PRESAGE)****Lucía Zapata**

Education &amp; Psychology I+D+i. University of Almería Spin-off (Spain)

**Jesús de la Fuente**

University of Almería (Spain)

**Dave Putwain**

Edge Hill University (UK)

**Paul Sander**

Cardiff Metropolitan University (UK)

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The self-regulation that people use in daily life has not traditionally been studied by educational psychologists. However, after Zimmerman showed the existence of common processes in different domains, experts have taken an interest in analyzing the self-regulating components common to different spheres (education, work, and health). This model considers personal self-regulation as a presage variable in the teaching-learning process. The *Self-Regulation Questionnaire* (SRQ) designed by Brown, Miller and Lawendowski has been used most often in the research on personal self-regulation. Several studies have examined this instrument's psychometric characteristics, leading to development of the Short Self-Regulation Questionnaire (SSRQ). This short version has been shown to be a plausible alternative to the long version, in a Spanish sample (Pichardo et al., in review). There is little research in the educational sphere that treats self-regulation as a presage variable; most cases have focused on the more restrictive variable of self-regulated learning. However, studies have shown the importance of including personal self-regulation, in its full sense, as a presage variable. We can infer that the interaction of personal self-regulation with other variables, whether personal (age, gender) or academic (learning approaches, coping strategies, academic self-regulation, regulatory teaching, resilience, etc.), constitutes an interesting, novel focus when analyzing the teaching-learning process at university. We have seen the value of this study, due to the importance of this variable and the dearth of research studies to date that treat educational variables and personal self-regulation.

**Palabras Clave:** Personal Self-regulation, Short Self-Regulation Questionnaire, Teaching-Learning process

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### 1. INTRODUCTION

As a psychological variable inherent to the competencies of an individual's personal development, self-regulation is presently the object of much interest in education and research. However, there is still a scarcity of studies that seek to establish relationships between personal self-regulation and other educational variables. The construct of *self-regulation* is found in educational contexts, but normally in reference to *self-regulated learning* (De la Fuente, Zapata, Martínez-Vicente, Cardelle-Elawar, Sander, Justicia, Pichardo & García-Berbén, 2012; Rosario, Lourenço, Paiva, Núñez, González-Piedra & Valle, 2012; Elvira-Valdés & Pujol, 2012), which is the name given to applying general self-regulation (or the self-regulation used by persons in their daily life) to the specific conditions of learning situations. Self-regulation has been used with different shades of meaning in different contexts. In the field of health or substance abuse, and in educational contexts that deal with regulating the teaching-learning process, the concept of "personal self-regulation" has been used (De la Fuente, Martínez-Vicente, Justicia, Pichardo, García-Berbén & Cardelle-Elawar, in review; De la Fuente, Peralta & Sánchez, 2009).

Schmeichel and Baumeister (2004) considered self-regulation to be a psychological process in general, initiated to obtain a desired outcome (regain one's outlook, lose weight, achieve financial gain, etc.) or to avoid an undesired outcome (failure in one's studies, an unwanted pregnancy, and so on). A self-regulating process can also be undertaken in a situation where change is needed to decrease the likelihood of certain consequences, such as when a person quits smoking (Miller & Brown, 1991).

After reviewing different manuals on self-regulation (Vohs & Baumeister, 2011; Hoyle, 2010), one can clearly observe their clinical or personality perspective on self-regulation. These manuals primarily refer to how self-regulation affects alcohol or food intake. One also finds concepts such as self-control, self-efficacy and temperament.

In this chapter, we will first make a brief review of what is understood by personal self-regulation, and the main models and authors that have influenced this topic. Second, we will describe the most recent research dealing with these variables, both in the field of health and in educational psychology. Finally, we briefly summarize the main points of this chapter.

### 2. PERSONAL SELF-REGULATION AS A STUDENT PRESAGE VARIABLE

*Personal self-regulation* refers to the capacity or ability to control our own thoughts, emotions and actions. Through self-regulation we are able to consciously control the amount that we eat, whether to act on an impulse, our task execution, obsessive thoughts, and even the extent that we allow ourselves to listen to our own emotions. We can therefore affirm that personal self-regulation is a vital process that allows people to behave adequately, carry out tasks properly, and abstain from activities that may be harmful to their own livelihood (Baumeister & Heatherton, 1996). Self-regulation is used in a number of processes including the regulation of emotions, thoughts and actions for physical or behavioral control or restraint (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Vohs et al., 2008).

Different theoretical models have outlined the characteristics of this psychological construct. From a sequential approach, Kanfer (1986) proposed a model within the so-called *open-loop* conception (Bandura, 1986), where self-regulation is conceived as a self-correcting procedure when faced with discrepancies, indications of imminent danger, or conflictive motivational states that activate the system of observation. The present study adopts this conception. Miller and Brown (1991) modify postulates of the Kanfer (1986) model, providing a better explanation for changes in addictions. Within Miller and Brown's theoretical model for addictive behaviors (Miller & Brown, 1991), it is assumed that self-regulation is developed through seven successive processes:

*Informational input* (self-observation) is the first process that occurs in self-regulation, where persons obtain information about their own behavior, especially about a potentially problematic behavior. In this process, persons increase their understanding of the nature and impact of the behavior to be changed.

In *Self-evaluation*, one looks for consistency between expected performance and actual performance, and this includes becoming aware of the negative consequences of a behavior. In other words, this process is produced when a person becomes aware that a behavior may be problematic. The observed behavior is compared to some personal criterion, which may be: 1) internal, where the actual behavior is compared to the ideal; or 2) external, comparing the behavior to social norms. If one discovers that the behavior does not meet a certain standard or norm, a negative feeling may result. When these reactions (whether cognitive, affective or behavioral) are sufficiently strong, they may lead us to the next process.

*Instigation to change* is triggered by perceptions of discrepancy and dissatisfaction in the above evaluation. According to this model, this impetus from discrepancies is essential for advancement to further stages of self-regulation (Brown, 1998).

*Searching for options* to reduce discrepancies that have been detected above.

*Formulating a plan*, where one sets down a schedule, activities to be pursued, places and any other aspects to be considered in the attainment of one's goals.

*Implementing the plan*, the stage where one executes all that was planned in the prior phase.

The final phase is addressed through a *comprehensive assessment*, addressing both the effectiveness of one's planning and the attainment of goals.

If there is a deficit in any of these self-regulation processes, one's behavior regulation will suffer. Within this theoretical framework, Brown (1998) defines self-regulation as a person's ability to "plan, monitor and direct his or her behavior in changing situations" (p.62). In essence, this model adopts the self-regulation postulates of Zimmerman (2002), by defining moments of planning, control and thoughtful evaluation of one's action. Hoyle (2010) also speaks of these discrepancies and of the actions that we carry out in order to obtain our objectives and what we desire. He calls these actions self-regulation, actions that are natural and often are automatic responses of a healthy person in order to cope with the day-to-day discrepancies that are found between one's expectations or desires and one's reality.

Self-regulation as described above has been related mainly to addictive behaviors: gambling, and alcohol and drug use (Brown & Newby-Clark, 2005; Neal & Carey, 2005). This self-regulation takes the qualifier "personal" in order to differentiate it from "academic", and has been studied in both adolescents (De la Fuente, Peralta & Sánchez, 2009; De la Fuente, Trianes, Peralta & Sánchez, 2007) and university students (De la Fuente, Berbén & Martínez, 2006).

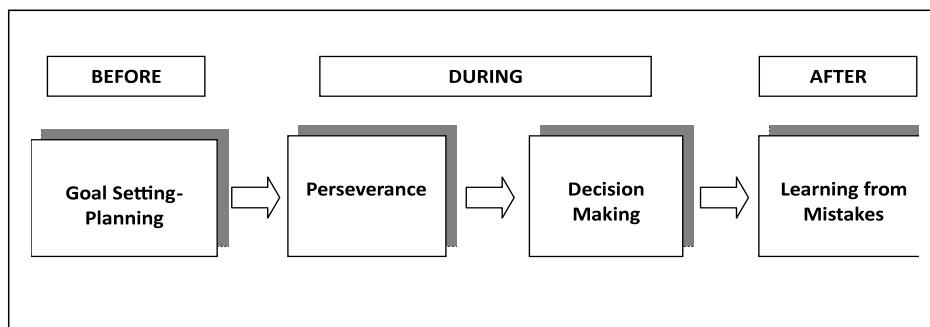
*Personal self-regulation* is a construct that has been used to a greater extent in the field of health (Brown, 1998; Muraven, Collins, Morsheimer, Shiffman, & Paty, 2005; Muraven, Collins & Nienhaus, 2002). However, after Zimmerman (1998) showed the existence of processes that are common to different domains, experts have begun to show interest in analyzing the self-regulating components that are common to different spheres of life, such as education and work.

Brown, Miller and Lawendowski (1999) constructed the Self-Regulation Questionnaire (SRQ) to measure self-regulation based on their theoretical model. Later, after performing further analyses, they developed an abbreviated version, the *Short Self-Regulation Questionnaire* (SSRQ), which was validated in a Spanish sample by Pichardo, Justicia, Berbén, De la Fuente & Martínez-Vicente (in review). The data show good fit to the structure of seventeen items grouped under four factors (goal setting-planning, perseverance, decision making and learning from mistakes). These factors are adopted in the present paper and are seen in Figure 2.1, which establishes the moments at which

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each phase takes place. This instrument has been used mainly in connection with substance abuse, and has been submitted to an examination of its psychometric characteristics on several occasions (Carey, Neal & Colling, 2004; Neal & Carey, 2005). Its use has also been extended beyond substance abuse to address aspects such as psychological well-being, disposition to happiness, (Okum, Levy, Karoly & Ruleman, 2009), depression symptoms (Kogan & Brody, 2010) and career adaptability (Creed, Fallon & Hood, 2009), and is in demand in other areas such as education (De la Fuente, Peralta, Sánchez, 2009).

Figure 1. Factors of personal self-regulation  
Source: Taken from Zapata (2013, p. 24)



In 2005, a monograph by *Applied Psychology: An International Review* (vol. 54, nº2) presented different studies that inquired into the similarities and differences of self-regulation as used in the different domains of psychology, such as education and health. This monograph represents an advance in the study of self-regulation in the main areas of applied psychology: work and organizations, health and education (Boekaerts, Maes & Karoly, 2005). Karoly, Boejaerts and Maes (2005) reviewed the papers published in this monograph and sought to establish the similarities and differences in self-regulation activities: academic, health-related and work-related. One of their conclusions (Karoly, Boekaerts & Maes, 2005, p. 301) states that there is a “meta-theoretical convergence” among the areas of psychology. They identified differences and similarities in aspects pertaining to conceptions, methodologies, assessment and intervention. Among the similarities, they found components that were common to all the areas, such as “goal selection, goalsetting, feedback sensitivity, discrepancy (error) monitoring, self-evaluative judgment, self-corrective instrumental action, and the emergence of self-efficacy beliefs,” (Karoly, Boekaerts & Maes, 2005, p.307).

### 3. PRIOR EVIDENCE ON PERSONAL SELF-REGULATION

Personal self-regulation, as a psychological variable that is closely tied to subjects' personal development competencies, has attracted interest in the sphere of educational psychology. Prior studies have shown that self-regulation has a significant role in health as well as in success, whether academic or work-related (Karoly, Boekaerts & Maes, 2005; Vancouver & Scherbaum, 2008). We can think of the process of self-regulation as having a personal, behavioral and contextual nature (Bandura, 1986; Torrano & González, 2004), adding goals as a key factor (Latham & Locke, 1991; 2007; Winne, 2004).

Taking personal regulation as a presage variable in the sphere of educational psychology, De la Fuente and Cardelle-Elawar (2011, p. 3) define it as a student variable “that determines the level of effort that students will sustain in the process of active learning for the completion of a given task”.

It is widely recognized as the means by which students transform their mental skills into problem solving survival skills (De la Fuente & Cardelle-Elawar, 2011).

As we have stated earlier, there are many studies from the sphere of healthcare that incorporate personal self-regulation as a study variable. Within this broad field, addictions have been most often related to this variable, since they represent a highly important topic to today's society. From these studies, we are able to affirm that personal self-regulation plays a very important role in substance abuse or abstinence (Brown, 1998; Muraven, Collins, Morsheimer, Shiffman, & Paty, 2005; Muraven, Collins & Nienhaus, 2002).

Muraven et al. (2002) discovered greater blood alcohol content (BAC) in persons with less self-regulation, and a lower BAC in people with higher self-regulation. Muraven et al. (2005) examined whether there was a relationship between alcohol consumption and distress over time in two samples of social drinkers. They found that less self-regulation in alcohol use implied a greater alcohol intake and greater feelings of distress. Tangney, Baumeister and Boon (2004) found that higher self-regulation scores correlated with less alcohol abuse, a higher grade point average, better psychological and emotional adjustment as well as optimal responses. Ferrari, Stevens and Jason (2009) revealed that self-regulation scores were positively related to the length of abstinence. As self-regulation increased, so did the length of abstinence. Another study on abstinence was carried out by Ghavarría, Stevens, Jason and Ferrari (2012). Their study examined the relations between changes in self-regulation and self-efficacy as predictors of abstaining from substances. They found that changes in self-regulation and in self-efficacy were significantly predictive of the probability of abstinence. Furthermore, changes in self-regulation and self-efficacy were largely independent.

Hustad, Carey, Carey and Maison (2009) performed a longitudinal study in order to establish the relations between self-regulation and weekly alcohol use, and alcohol-related consequences that persisted for more than 12 months. These authors found a statistically significant relationship between personal self-regulation and alcohol risk consequences, in other words, lower levels of personal self-regulation in university students act as a risk factor for experiencing consequences related to alcohol, and prolong those consequences over time.

Quinn and Fromme (2011) wanted to check whether self-regulation protected against heavy episodic alcohol consumption, alcohol-related problems and unprotected sex. They were able to demonstrate that high levels of personal self-regulation predict lower rates of heavy episodic alcohol use, fewer problems related to this substance, and fewer instances of unprotected sexual relations, even when taking into account gender and risk factors. This research demonstrates that personal self-regulation is an important protective factor in emerging adulthood. This study is one of the first that indicates that self-regulation can buffer risk factors for having unprotected sexual relations with a monogamous or non-monogamous partner. Already in this paper it is suggested that increasing self-regulation strategies might be useful for improving academic results (Duckworth, Grant, Loew, Oettingen & Gollwitzer, 2011).

There are few studies in the field of educational psychology that have incorporated the presage variable of personal self-regulation. However, we find a few studies that confirm its importance in the educational context, including studies from De la Fuente, Peralta and Sánchez (2009), where they seek to establish the relations between personal self-regulation and perception of maladaptive school behaviors in secondary students; and from De la Fuente and Cardelle-Elawar (2011), who establish the relationships between self-regulation and coping strategies in university students.

In the former study (De la Fuente, Peralta & Sánchez, 2009), a total of 888 students from compulsory secondary education participated. The questionnaire used to assess personal self-regulation was the *Self Regulation Questionnaire*, SRQ (Brown, Miller & Lawendowski, 1999), in its Spanish version, *CAR* (De la Fuente, 2003). The study showed that levels of total personal self-regulation

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modulate adolescents' perception of the school's social climate. Results from inferential analyses (ANOVAs) showed that the degree of personal self-regulation is interdependent with the perception of maladaptive or interpersonal problems at school. Specifically, low and high levels of total self-regulation, respectively, were accompanied by the perceived greater or lesser occurrence of maladjusted behaviors in the environment. We can thereby affirm that high self-regulation capacity is beneficial for personal and professional development, especially in preventing health-risk behaviors in adolescents, such as tobacco and alcohol use (De Ridder & de Wit, 2006).

A total of 77 students from the University of Almería participated in the second study (De la Fuente & Cardelle-Elawar, 2011). Results revealed a statistically significant relationship between the study variables of personal self-regulation and coping strategies. In order to assess personal self-regulation, the Spanish version of the Self-Regulation Questionnaire was used (Brown, Miller & Lawendowski, 1999), and the Coping with Stress Questionnaire (Chorot and Sandín, 1987, 1993; Sandín and Chorot, 2003) was used to measure coping strategies. The results indicate that different levels of personal self-regulation determine the types of coping strategies. During a stressful situation, students with high levels of personal self-regulation manifest problem-focused coping strategies, while students with low levels of personal self-regulation have a more emotion-focused coping style.

### 4. EVALUATION OF PERSONAL SELF-REGULATION

Personal self-regulation in this research was assessed using the *Short Self-Regulation Questionnaire SSRQ* (Miller & Brown, 1991) in its Spanish version, the CAR (De la Fuente, 2003a). It has already been validated in Spanish samples (Pichardo et al, in review), and possesses acceptable validity and reliability values, similar to the English version. The Short SRQ is composed of four factors (goal setting-planning, perseverance, decision making and learning from mistakes) and 15 items (all of them with saturations greater than 0.40). *Internal consistency* is acceptable for the total of questionnaire items ( $=0.86$ ) and for the factors: goal setting-planning ( $=0.79$ ), decision making ( $=0.72$ ) and learning from mistakes ( $=0.72$ ). However, the perseverance factor ( $=0.63$ ) showed low consistency (Pichardo et al, in review). *Correlations* have been studied between each item and the total for its factor, between the factors, and between each factor and the complete questionnaire, with good results for all, except for the decision making factor, which had a lower correlation with other factors (range: 0.41-0.58) (Table 8.1). The correlations between the original version and the complete version, and between the original and the short versions with a Spanish sample (complete SRQ with 32 items and short SRQ with 17 items) are better for the short version (short-original:  $r=0.85$  and short-complete:  $r=0.94$ ;  $p<0.01$ ) than for the complete version (complete-original:  $r=0.79$ ;  $p<0.01$ ).

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