

Development of the Self-Regulatory Scale in Work-Related Interactions

Desenvolvimento da Escala de Reguladores do Self em Interações Sociais no Trabalho (WR-SRPS)

Aline Maria Tonetto da Rosa, Manoela Ziebell de Oliveira, Wagner de Lara Machado*
& William Barbosa Gomes

Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brasil

Abstrac

Social interactions at work require constant monitoring of skills and self attributes to help individuals adapt to contextual demands. Four self-regulatory processes (SRPs) are responsible for such adjustment: self-enhancement (SE), self-verification (SV), self-assessment (SA) and self-improvement (SI). This study introduces a measure of the SRPs in typical social interactions with peers and supervisors at work – the Work- Related Self-regulatory Process Scale (WR-SRPS). An exploratory (268 professionals, 59.5% women) and another confirmatory study (205 participants, 56.6% women) were conducted. Results show that the scale evaluates SE, SA and SI satisfactorily. Additionally, they indicate the need of different versions of the WR-SRPS to evaluate the relationship with peers and supervisors. Despite the limitations, results demonstrate that it is a promising measure to assess SRPs at work.

Keywords: Self-regulatory processes, work relationships, scale.

Resumo

Interações sociais no trabalho requerem monitoramento constante de habilidades e atributos do *self* para auxiliar na adaptação dos indivíduos às exigências contextuais. Quatro processos reguladores do *self* (SRPs) são responsáveis por tal ajuste: positividade (SE), confirmação (SV), avaliação (SA) e aprimoramento (SI). O estudo introduz uma medida desses SRPs na interação com colegas e supervisores: Escala de reguladores do *self* em interações sociais no trabalho (WR-SRPS). Foram realizados um estudo exploratório (268 profissionais, 59.5% mulheres) e um confirmatório (205 profissionais, 56,6% mulheres). Os resultados mostram que a escala avalia SE, SA e SI satisfatoriamente e indicam a necessidade de diferentes versões da WR-SRPs para avaliar relações com colegas e supervisores. Apesar dessas limitações, a medida é promissora para avaliar SRPs no trabalho.

Palavras-chave: Reguladores do *self*, relações de trabalho, escala.

Establishing and keeping quality social interactions requires that individuals constantly evaluate their own skills and attributes in order to adapt to contextual demands. The internal processes responsible for these adjustments are named self-regulatory processes (SRPs). SRPs influence how information derived from the environment (feedback) is selected, evaluated, and used to make inferences and to plan for the future (Sedikides & Strube, 1997). According to Cooley (1902) and Mead (1967), these processes occur primarily through observation of one's behavior and of how others respond to it.

Monitoring and adjusting behaviors to contextual demands is particularly important in organizational set-

tings, as a way to enhance feedback interventions. Yet, the existence of only a few studies that investigate these processes in the workplace is noteworthy. Especially when we consider that numerous researchers and practitioners believe that feedback is capable of directing, motivating, and rewarding employee behavior (Anseel, Lievens, & Schollaert, 2009). However, there are evidences that feedback does not produce unequivocal positive effects on performance. In fact, a substantial number of studies have shown that it might have null or even negative effects on performance (Alvero, Bucklin, & Austin, 2001). Probably these differences are related, in great part, to the way feedback is processed by individuals and how they react to it.

As a consequence of such divergent results, researchers have been pointing to the importance of proposing new strategies to create an organizational environment that is supportive of employee development in feedback processes (e.g., Levy & Williams, 2004). However, creating new

* Mailing Address: Universidade Federal do Rio Grande do Sul, Instituto de Psicologia, Rua Ramiro Barcelos, 2600, Sala 120, Porto Alegre, RS, Brasil 90035-003.
E-mail: wag_psico@yahoo.com.br

strategies to provide and receive feedback, only, does not solve this issue. It is important first to understand in what ways internal processes influence how individuals receive and respond to feedback. Taking that into consideration, the aim of the present study is to contribute to this debate by developing and validating a new scale to assess and provide insights into the functioning of four self-regulatory processes: self-enhancement, self-verification, self-assessment, and self-improvement.

Self-enhancement is the tendency to perceive and to present the self to other people in the most positive way (Swann, 1990). It represents the effort that an individual does to feel good about him or herself (Reis, 2007). This effort might be motivated by two main reasons: the will to increase the positivity of the self and be perceived as someone who is worthwhile, and the attempt to compensate for negative self-views. Self-enhancement is present, for example, in situations in which a professional receives an evaluation that is better than that of his or her coworker for an attribute or skill that is socially valued.

Self-verification is the tendency of the individual to verify, validate and sustain the self-view, regardless if positive or negative (Greenwald, 1983; Swann, 1990). It represents the effort to find consistency between self-evaluations and feedback from others (Reis, 2007). This process is present, for example, in situations in which a professional who holds a positive self-view seeks positive feedback about a job well done. It also happens when professionals who hold negative self-views make statements contradicting their role in their success, or remain in jobs in which there were no raises (Judge & Hurst, 2007).

Based on their definitions, it is possible to note that self-enhancement and self-verification may either coincide or conflict (Swann, 1990), depending on the context. In cases in which individuals have a positive self-view, both self-enhancement and self-verification lead them to seek for positive information about the self. The same does not happen when individuals have a negative self-view. In such cases, self-enhancement leads individuals to seek for positive feedback, while self-verification leads them to seek negative feedback. Self-enhancement tends to prevail when the person is dealing with emotional issues, while self-verification tends to prevail when the person is dealing with cognitive issues (Swann, Griffin, Predmore, & Gaines, 1987).

The two remaining self-regulatory processes are more easily discriminated. Self-assessment is the tendency to seek objective, accurate, and diagnostic information about oneself in order to minimize uncertainty (Trope, 1990). This means that one professional who wants to have more information about his or her leading skills, for example, will seek information that reflects such skills regardless of its positive or negative implications for the self and regardless whether the information affirms or challenges his or her existing self-conceptions as leaders (Anseel, Lievens, & Levy, 2007).

Finally, self-improvement is a tendency of self to act in order to improve and adapt one's attributes, skills and well-being (Taylor & Gollwitzer, 1995). While this self-regulatory process pursues genuine improvement, the other three processes act, ultimately, to increase the positivity of the self. Thus, empirical examination of this fourth self-regulator is usually accomplished by evaluating strategies that the individual uses to improve skills and attributes.

Despite the existence of a previous debate between adherents of the various self-regulatory perspectives about what the main self-regulatory processes are (for a review, see Shrauger, 1975), this fourfold model proposed by Sedikides and Strube (1997) has been considered the most representative of the SRPs (Anseel et al., 2007; Reis, 2007). The most recent challenge faced by researchers has been to understand how the various SRPs work in concert (Sedikides & Strube, 1997).

Regarding this subject, literature about SRPs has reached a consensus about three main points. The first is that each of the four processes is responsible for a different adaptive function at different stages of human development (Swann, 1990). The second is that the processes should be pragmatic. In other words, it is more important that processes help individuals to understand how they see themselves and their environment than help them to identify rational and normative aspects involved in the process of self-regulation. Finally, the third assumption is that the four processes interact and therefore act complementarily in the process of self-regulation, being one of the biggest challenges to understand the dynamics that rule these interactions (Swann, 1990).

After a careful literature review, we identified only one scale that was developed as an attempt to assess three of the four key self-regulatory processes, named Feedback Seeking Motive Scale (Stark & Sommer, 2000). Even though this measure shows good reliability indexes when measuring self-enhancement ($\alpha = .94$), self-verification ($\alpha = .87$) and self-assessment ($\alpha = .89$), it was not considered appropriate to assess situations of interaction with peers and supervisors at the workplace. There are four reasons for that: (a) the scale does not evaluate self-improvement; (b) it fails to specify the kind of relationship that exists between partners who are interacting; (c) it does not specify the context where the interaction occurs; (d) there is a high covariance among the factors (self-enhancement and self-assessment, $r = .76, p < .001$; self-verification and self-assessment, $.64, p < .001$; and self-verification and self-enhancement, $.83, p < .001$).

As previously mentioned, the main goal of the present article is to develop and test a measure to assess self-enhancement, self-verification, self-assessment and self-improvement in the work context. We believe that this measure will be an important contribution to the field both theoretically and empirically. Theoretically it will deliver more information about the interaction between

the four main self-regulatory processes pointed by the literature, and how they stand out from one another. Empirically, this article should provide insights about how professionals engage in subsequent reflection on the feedback they receive from coworkers and supervisors. By doing this it might help to increase the chances of achieving the changes and improvements intended when feedback is provided.

Method

Prior to the development of the items that composed the scale, researchers conducted a survey with human resources professionals aiming to identify behaviors that are valued by contemporary organizations. Twelve professionals working in Human Resources departments of companies located in the state of Rio Grande do Sul completed the informed consent form and responded the following question using a survey online: what are, in your opinion, the most valuable competences in the world of work today? Only the seven behaviors that were mentioned by more than 51% of the HR professionals were used as the target behaviors in each item of the new scale.

After that, a group of eight professionals and graduate students took part on a focus group that aimed to test semantic appropriateness and comprehensibility of the scale. All the adjustments pointed as necessary were conducted, and finally the exploratory study was conducted. The participants were selected using purposive convenience sampling. They were recruited by the research team in universities, malls, and other public areas. The inclusion criteria were that: participants had completed high school, were employed by one organization at the moment of data collection and had at least one coworker of same hierarchical level, and one supervisor.

Exploratory Study

Participants

The sample was composed of 268 participants from different cities of the state of Rio Grande do Sul. The sample aged between 18 and 57 years ($M = 27.8$, $SD = 6.9$) and was composed mainly by women (59.5%). Participants held several different positions in the services (40.8%), public service (20.6%), commerce (16%) and industry (15.6%) fields.

Instruments

Sociodemographic Questionnaire. Aimed to characterize the sample in terms of sex, age, educational background, job function and company's segment.

Work-Related Self-Regulatory Processes Scale (WR-SRPS). Was developed to assess the four main self-regulatory processes in social interactions between coworkers and supervisors in the work context. The instrument was composed of 20 items that should be answered using a seven point frequency scale (1 = never, and 7 = always)

to indicate how often the situation described in each item occurred. The respondents were required to provide two answers for each item: one answer based on the interaction with the supervisor and other answer based on the interaction with a coworker of same hierarchical level.

Procedures

This project was approved by Ethics committee under the number: 25000.089325/2006-58. Participants were selected by convenience in public areas of the city of Porto Alegre, in the south of Brazil. All those who agreed to participate in the study read and signed the informed consent prior to answering the survey in paper.

Data Analysis

Firstly, descriptive statistical analyses were used to characterize the sample. Secondly, exploratory factor analyses were conducted with the software Statistical Package for Social Sciences (SPSS, v. 13) using Principal Axis extraction and Direct Oblimin rotation to identify the instrument dimensions and the psychometric performance of its items. The criteria used to select items and to interpret the factors were based in both statistical and theoretical recommendations. To determine what factors would be retained, firstly authors observed KMO and Barlett indices. Secondly, researchers observed Kaiser criterion (eigenvalues ≥ 1), Cattell criterion (scree-plot graph), as well as the semantic content of items, according to the definition of each self-regulatory process. Items with factor loadings $\geq .32$ and, in case of cross-loadings, of higher magnitude, were kept in the respective factors. These criteria were repeatedly used until a satisfying solution was encountered.

Results

Results from exploratory factor analyses will be presented in two sections: the first containing responses about the interaction with the supervisor and the second, the responses about the interaction with a coworker of same hierarchical level.

Work Related Self-Regulatory Processes Scale (WR-SRPS) - Supervisors

In order to explore factor distribution, a principal axis factor analysis with direct Oblimin rotation was conducted. The initial solution generated three factors with eigenvalue ≥ 1 , Kaiser-Meyer-Olkin (KMO) of .92 and significant result for the Bartlett's test. Item communalities varied between .54 and .84. The variance explained by the scale was 66.9% and its reliability index (Cronbach's alpha) was of .92.

The initial three factorial solution was not considered theoretically appropriate once it did not discriminate adequately the different self-regulatory processes. Therefore, in order to find a solution that was both theoretically and statistically satisfying, were excluded: two self-enhance-

ment items, two self-verification items, one self-assessment item, and one self-improvement item. The new solution, encountered using the eigenvalue ≥ 1 criteria discriminated two factors, instead of the four expected factors. However, taking into consideration the interpretation of the scree plot test (Cattell, 1966), as well as the theoretical assumption that, in certain situations, it is not possible to discriminate self-enhancement from self-verification processes (Swann, 1990), three factors were extracted.

The new factorial solution was composed by 14 items, distributed in the factors: self-enhancement, self-assessment and self-improvement. KMO index for this version was .90 and the result for Bartlett test was significant. Item communalities varied between .52 and .82. The variance explained by the scale was 69.7% and its reliability index (Cronbach Alpha) was .92. Factorial distribution, item loadings, explained variance, and reliability indexes of each subscale are presented in Table 1.

Table 1
Items and Factor Loadings of the Exploratory Version of the WR-SRPS - Supervisors

Items	Factors		
	SE	SI	SA
<i>O feedback verbal e/ou não verbal que você recebe de seu/sua SUPERVISOR(a) faz você SENTIR que:</i>			
1. Você é um(a) profissional organizado(a) no trabalho.	.78		
2. Você é um(a) profissional responsável no trabalho.	.81		
5. Você é um(a) profissional que tem bom relacionamento interpessoal no trabalho.	.69		
<i>Quando você interage com seu/sua SUPERVISOR(a), você SENTE que o que ele/ela DEMONSTRA em relação a você COINCIDE com:</i>			
6. O quanto você se percebe como um(a) profissional organizado no trabalho.	.72		
7. O quanto você se percebe como um(a) profissional responsável no trabalho.	.79		
9. O quanto você se percebe como um(a) profissional que age com flexibilidade no trabalho.	.67		
<i>O feedback verbal ou não verbal que você recebe de seu/sua SUPERVISOR(a) lhe ajuda a ENCONTRAR maneiras de MELHORAR:</i>			
16. Sua organização no trabalho.		.84	
17. Seu grau de responsabilidade no trabalho.		.90	
18. Sua autonomia no desenvolvimento das atividades de trabalho.		.79	
20. Seu relacionamento com colegas e chefias.		.85	
<i>O feedback verbal e/ou não verbal que você recebe de seu/sua SUPERVISOR(a) lhe ajuda a ter uma VISÃO MAIS CLARA de:</i>			
11. O quão organizado (a) você é no seu trabalho.			.68
12. O quão responsável você é no seu trabalho.			.46
13. O quão autônomo você é na realização de suas atividades de trabalho.			.79
14. O quanto você tem iniciativa no trabalho.			.66
Explained Variance	49.3	13.7	6.6
Eigenvalue	6.9	1.9	.9

Note. Factor loadings smaller than .32 were omitted.

Work Related Self-Regulatory Processes Scale (WR-SRPS) - Coworkers

In order to explore factor distribution, a principal axis factor analysis with direct Oblimin rotation was conducted. The initial solution generated four factors with eigenvalues ≥ 1 , KMO of .90, and significant result for the Bartlett test. Item communalities varied between .48 and .82. The variance explained by the scale was 67.5% and its reliability index (Cronbach alpha) was .93.

The initial four factor solution was not considered theoretically appropriate once it did not discriminate adequately the different self-regulatory processes. In order to find a solution that was both theoretically and statistically satisfying, some items were eliminated. The criteria used to select items and to interpret the factors were based in both statistical and theoretical recommendations. Similarly to what was done on the exploratory study, items considered semantically necessary to assure representativeness of the construct were not eliminated. All criteria were repeatedly

used until a satisfying solution was encountered. As a result, we excluded three self-enhancement items, one self-verification item, one self-assessment item, and one self-improvement item.

The new solution, encountered using the eigenvalue ≥ 1 criteria, discriminated two factors, instead of the four expected factors. However, taking into consideration the interpretation of the scree plot test (Cattell, 1966) as well as the theoretical assumption that, in certain situations, it is not possible to discriminate self enhancement from self verification processes (Swann, 1990), three factors were extracted.

The new factorial solution was composed by 14 items, distributed in the factors: self-enhancement, self-assessment and self-improvement. As it can be seen in Table 1, items 2 and 5 (self-enhancement), and 13 (self-verification) were kept only in the WR-SRPS Supervisors. The opposite occurred with items 3 (self-enhancement), 8 (self-enhancement) and 15 (self-assessment), that were

Table 2
Items and Factor Loadings of the Exploratory Version of the WR-SRPS - Coworker

Items	Factors		
	SE	SI	SA
<i>O feedback verbal e/ou não verbal que você recebe de seu/sua COLEGA faz você SENTIR:</i>			
1. <i>Que você é um(a) profissional organizado(a) no trabalho.</i>	.45		-.40
3. <i>Que você desenvolve suas atividades de trabalho com autonomia.</i>	.49		-.33
6. <i>O quanto você se percebe como um(a) profissional organizado no trabalho.</i>	.84		
7. <i>O quanto você se percebe como um(a) profissional responsável no trabalho.</i>	.81		
8. <i>O quanto você percebe realizar suas atividades de trabalho com autonomia.</i>	.91		
9. <i>O quanto você se percebe como um(a) profissional que age com flexibilidade no trabalho.</i>	.63		
<i>O feedback verbal ou não verbal que você recebe de seu/sua COLEGA lhe ajuda a ENCONTRAR maneiras de MELHORAR:</i>			
16. <i>Sua organização no trabalho.</i>		-.86	
17. <i>Seu grau de responsabilidade no trabalho.</i>		-.88	
18. <i>Sua autonomia no desenvolvimento das atividades de trabalho.</i>		-.86	
20. <i>Seu relacionamento com colegas e chefias.</i>		-.78	
<i>O feedback verbal e/ou não verbal que você recebe de seu/sua COLEGA lhe ajuda a ter uma VISÃO MAIS CLARA de:</i>			
11. <i>O quão organizado (a) você é no seu trabalho.</i>			-.70
12. <i>O quão responsável você é no seu trabalho.</i>			-.78
14. <i>O quanto você tem iniciativa no trabalho.</i>			-.70
15. <i>O quão bom é seu relacionamento com colegas e chefias.</i>			-.76
Explained Variance	44.0	15.6	6.4
Eigenvalue	6.1	2.2	.9

Note. Factor loadings smaller than .32 were omitted.

kept only in the WR-SRPS Coworkers, as it can be seen in Table 2. KMO index for the WR-SRPS Coworker was .89 and the result for the Bartlett test was significant. Item communalities varied from .43 and .83. The variance explained by the scale was 66.0% and its reliability index (Cronbach Alpha) was .90. Factorial distribution, item loadings, explained variance, and reliability indexes of each subscale are presented in Table 2.

Exploratory Study Discussion

Statistical analyses evidenced that the best solution for both WR-SRPS supervisors and WR-SRPS coworkers was composed of three factors. Differently from what was expected, self-enhancement and self-verification items formed a single factor. Theoretically, this fact can be explained by the similarity between these processes in situations in which self perception is positive. In such situations, discriminating the processes depends, in part, on the use of instruments capable of assessing affective contents of self-enhancement and cognitive contents of self-verification (Shrauger, 1975; Swann, 1990). Therefore, the grouping of self-enhancement and self-verification items evidenced that the WR-SRPS could not discriminate both processes or did not contemplate behaviors that, in the participants' perspectives, opposed key aspects of their self-views. For this reason, both processes were grouped into one single factor that was named self-enhancement.

The conservation or elimination of items from the WR-SRPS Supervisors and the WR-SRPS Coworkers was determined by semantic, statistical and contextual criteria.

The items 5 of the WR-SRPS Supervisors, 15 of the WR-SRPS Coworkers and 20 of both scales were altered, in order to specify which was the behavior under evaluation. The item 5, for example, changed from "The (verbal or not verbal) feedback you receive from your COWORKER or SUPERVISOR make you feel that you are a professional who establishes good interpersonal relationships at work", to "The (verbal and not verbal) feedback you receive from your COWORKER or SUPERVISOR makes you feel that you are a professional who establishes good relationships with your coworkers and supervisors".

Behaviors presented on items 2, 3, 5, 8, 10, 13 and 15 were not adequate to evaluate self-regulatory processes in at least one of the relationships under evaluation. The initial version of item 2 did not allow assessing self-enhancement related to responsibility at work, in interactions with coworkers. A possible explanation is that some behaviors do not explicitly express responsibility. Items 3 and 8, in turn, did not allow participants to experience, in the interaction with the supervisor, self-enhancement processes related to autonomy at work. This may be related to supervisors' tendency to assign new responsibilities to professionals when they realize that their subordinates are able to develop activities independently. However, the same behavior assessed adequately processes of self-assessment and self-improvement, which makes sense, since supervisors

are responsible for enabling the development of autonomy among their subordinates. On the other hand, when it comes to the interaction with coworkers of same hierarchical level, only self-assessment related to autonomy (item 13), was not appropriate. A possible explanation is that, in the work context, when a professional suggests that a peer does not show autonomy, he or she is pointing out that this peer does not have what is needed to perform his or her attributions with quality.

Item 5 could not assess self-enhancement related to social interaction at work in the relationship with coworkers. A possible explanation is that supervisors, and not coworkers, are expected to give this kind of feedback. In other words, when those feedbacks are provided by peers, they are not always taken into consideration. Item 10, in turn, could not confirm the positive perception of the self, regarding the ability to interact with both colleagues and the supervisor. This may have occurred, among other reasons, because interpersonal behavior is highly valued in the labor market and therefore desired by professionals. For this reason, the perception individuals hold about their ability to establish good interpersonal relationship does not always coincide with the way others perceive it. Finally, item 15, which used interpersonal behavior to assess self-assessment in the relationship with the supervisor, also proved inadequate for this purpose. A possible explanation is that many managers still face difficulties to support and stimulate their employees to exhibit the behavioral outcomes they seek. Due to this difficulty, their feedback is not always clear and, therefore, allows professionals to interpret it the way that suits them best.

The authors believe that all the item changes reported, in some extent, evidence of the differences between the relationships with coworkers of same hierarchical level and with the supervisor. For this reason, a statistically satisfactory solution that served both WR-SRPS Supervisors and WR-SRPS Coworkers was not found. Thus, the authors chose to prioritize different solutions that considered both the uniqueness of each relationship and the essence of the three processes assessed by the scales.

Confirmatory Study

Participants

This study included 205 participants from eight Brazilian states, mainly Rio Grande do Sul. Selection criteria were the same used on the exploratory study. The sample aged between 18 and 65 years ($M = 34.1$, $SD = 8.85$) and was composed mainly by women (56.6%). Participants held several different positions in the services (31.3%) and industry (27.8%) fields.

Instruments

The instruments used in the confirmatory study were the sociodemographic questionnaire used in the exploratory study and the final solutions of WR-SRPS SUPERVISOR and WR-SRPS COWORKER.

Procedures

Sociodemographic questionnaire and the final versions of WR-SRPS SUPERVISOR and WR-SRPS COWORKER, presented in the exploratory study, were made available online. Participants were recruited by convenience using social networking websites and the page of the research group where this study was developed. Electronic invitations containing a brief description of the objectives and prerequisites to participate in the research were sent to several professionals. All those who agreed to participate, did it through a virtual term of informed consent. After clicking the button “I agree to participate in the study”, the participants were instructed to avoid to respond the survey at work and to allow approximately 20 minutes to conclude it.

Data Analysis

Prior to beginning the analyzes, researchers excluded participants who did not meet the inclusion criteria or who had already answered the survey in paper. The inclusion criteria were the same as in the exploratory study: that participants, had completed high school, were employed by one organization, and had at least one coworker of same hierarchical level, and one supervisor. The adjustment of the models proposed in the exploratory study of WR- SRPS Supervisor and WR-SRPS Coworker versions were examined using the software Structural Equations (EQS, v.6.1) to run confirmatory factor analysis. Sample size was considered adequate to the confirmatory analysis according to Hair, Tatham, Anderson, and Black (1998).

Considering the criterion of Robust Standard Errors Maximum Likelihood Estimation, with polychoric correlation matrix (Bentler, 2004), the analysis conducted considered the following indicators: (a) Comparative Fit Index which compares the estimated model with an independence or null model (CFI ≥ .90 indicates adjustment), (b) Non-normed Fit Index, similar to CFI but parsimoniously corrected the value for models’ degrees of freedom (NNFI ≥ .90 indicates adjustment), and (c) Root Mean Square Error of Approximation (RMSEA ≤ .06, or .08 with 90% confidence interval) which indicates the average residual of the empirical matrix in relation to estimated population matrix. Reliability for the subscales was estimated using composite reliability index, witch is considerate adequate when ≥ .60 (Hair et al., 1998).

Results

Table 3 presents the fit indexes obtained for each version of the scale, WR-SRPS Supervisor and WR-SRPS Coworker. The values indicate that the factorial structure derived from the exploratory study, composed of three oblique factors, is adequate to represent data from the confirmatory study sample once it has few residual values between observed and estimated matrices (RMSEA) and represents a parsimonious divergent structure in relation to the null model (CFI, NNFI). The items’ factor loadings and factors’ descriptive measures are presented in Table 4. Both factor loadings and measures of internal consistency indicated by composite reliability showed adequacy to assess social interactions with the supervisor (WR-SRPS Supervisor) and between coworkers of same hierarchical level (WR- SRPS Coworker).

Table 3
Maximum Likelihood Fit Indexes for WR-SRPS Supervisors and WR-SRPS Coworkers

WR-SRPS	Adjusted indexes			
	$\chi^2(df)$	CFI	NNFI	RMSEA (90% C.I.)
Supervisors	135.40(74)	.99	.99	.064 (.046-.080)
Coworkers	155.67(74)	.99	.98	.073 (.057-.089)

Note. χ^2 =chi-squared, df =degrees of freedom, CFI = Comparative fit index, NNFI = Non-normed fit index, RMSEA = Root mean square error of approximation.

Final Considerations

This study aimed to present the Work related self regulatory processes scale (WR-SRPS). This measure was developed to evaluate self-enhancement, self-verification, self-assessment and self-improvement in typical situations of interaction with peers and supervisors in the work context. Considering their theoretical nuances, the scale developed to evaluate the relationship with coworkers, as well as the scale destined to evaluate the relationship with the supervisor were considered capable of evaluating three

of these four processes. However, they did not discriminate self-enhancement from self-verification.

Despite having undergone a pilot study to assess their suitability for the organizational context and their semantic relevance, it is possible that participants did not consider the behaviors covered by the instrument relevant. This fact could have contributed to the lack of discrimination between self-enhancement and self-verification (Swann, 1990). Another factor that might have contributed for this result is that, differently from expected, the scale might not have evoked an exclusively

Table 4
Factor Loadings and Factor Descriptive Measures

Items	Factors and Factor loadings WR-SRPS (supervisor/ coworker)		
	Self-enhancement	Self-improvement	Self-assessment
1/1	.71/.66		
2/3	.82/.67		
5/6	.75/.73		
6/7	.75/.74		
7/8	.77/.75		
9/9	.71/.68		
16/16		.85/.80	
17/17		.86/.88	
18/18		.86/.87	
20/20		.84/.81	
11/11			.84/.81
12/12			.87/.85
13/14			.84/.85
14/15			.87/.71
<i>M</i>	33.26/33.46	21.31/20.88	21.78/22.19
<i>SD</i>	6.72/5.56	6.16/5.94	5.55/4.77
Correlations*			
Self-enhancement	.89/.85	.67	.83
Self-improvement	.54	.91/.90	.75
Self-assessment	.81	.75	.91/.88

Note. * Lower diagonal presents the correlations between factors of the WR-SRPS Supervisors and upper diagonal presents the correlations between the factors of the WR-SRPS Coworkers. The central diagonal indicates composite reliability indexes for each scale respectively.

affective evaluation of self-enhancement items and an exclusively cognitive evaluation of self-verification items (Shrauger, 1975; Swann, 1990). However, the correlations between the subscales of WR-SRPS Supervisors, as well as of WR-SRPS Coworkers (Table 4), suggest that the processes under investigation interact, without overlapping. The same possibly did not happen with the instrument developed by Stark and Sommer (2000). The only instrument developed to assess self-regulatory processes found in our literature review presents even stronger correlations between self-enhancement, self-verification and self-assessment compared to both WR-SRPS scales. Therefore, the scales developed in the present study can be considered a theoretical contribution to the field, as well

as an advance in the development of measures to assess self-regulatory processes.

Another goal of the present article was to develop an instrument that allowed comparing the influence of self-enhancement, self-verification, self-assessment and self-improvement processes over the relationship between coworkers of same hierarchical level and over the relationship with direct supervisors. In order to do so, the same behaviors were used to evaluate each of the four self-regulatory processes under investigation. It is possible that this intentional repetition of the contents of the items has hindered the necessary distinction between the statements. As a consequence, the expected discrimination between self-enhancement and self-verification processes was not

observed, what didn't happen to the other processes which are more easily discriminated.

Despite that, according to all the analyses presented and according to theoretical premises, both forms of the scale can be considered adequate to assess the dynamic and interrelational nature of the self-regulatory processes. Thus being, the use of these instruments in the organizational context could help improve traditional feedback interventions. According to the literature those often fail because employees take too little time and effort themselves to actively engage in subsequent reflection about the feedback they receive from coworkers and supervisors (Anseel et al., 2007).

Therefore, if HR professionals are aware of the self-regulatory process operate and use this knowledge, in spite of the unrelenting pace and the orientation towards action of the current work environment, they can assist employees to reflect about feedback. This sort of coached reflection (i.e., reflection instigated by some type of formal, deliberate organizational intervention) after feedback could allow employees to step back from action, thus improving behaviors. It could also provide them with formal tools, as well as structured and personalized activities to help them think through feedback to identify what they have learned from it. By assuring that professionals understand better the feedback received (especially when it involves critiques and requires improvement), HR professionals will offer the support that is needed to promote more positive outcomes, as the increase of prosocial organizational behaviors.

Even though this study has presented such relevant and promising results, some of its limitations must be stressed. The first is that not all behaviors evaluated were adequate to assess the three process discriminated by both scales. It is important to point that the sample did not comprise similar proportions of participants from each organization's segment, or functions, or Brazilian regions, making it impossible to explore eventual differences among such groups.

It is possible to conclude, that the two studies that compose the present article present promising measures to assess self-enhancement, self-assessment and self-improvement processes in social interactions at work. Hopefully, such results will serve as inspiration for further researches aiming to improve WR-SRPS Supervisors and WR-SRPS Coworkers. We also expect that our results incentive future research to explore the relationship between the processes evaluated by these scales and other variables considered relevant to the understanding of social interactions in the work context.

References

Alvero, A. M., Bucklin, B. R., & Austin, J. (2001). An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985-1998). *Journal of Organizational Behavior Management*, 21, 3-29.

Anseel, F., Lievens, F., & Levy, P. E. (2007). A self-motives perspective on feedback-seeking behavior: Linking organizational behavior and social psychology research. *International Journal of Management Reviews*, 9, 211-236.

Anseel, F., Lievens, F., & Schollaert, E. (2009). Reflection as a strategy to enhance task performance after feedback. *Organizational Behavior and Human Decision Processes*, 110, 23-35.

Bentler, P. M. (2004). *EQS 6 Structural equations program manual*. Encino, CA: Multivariate Software.

Cattell, R. (1966). The Scree Test for the number of factors. *Multivariate Behavioral Research*, 1(2), 245-276.

Coolley, C. H. (1902). *Human nature and the social order*. New York: Scribner's Sons.

Greenwald, A. G. (1983). Self-verification: Bringing social reality into harmony with the self. In *Social psychology perspectives on the self* (Vol. 2, pp. 33-66). Hillsdale, NJ: Erlbaum.

Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (1998). *Multivariate data analysis* (5th ed.). New York: Prentice Hall.

Judge, T. A., & Hurst, C. (2007). Capitalizing on one's advantages: Role of core self-evaluations. *Journal of Applied Psychology*, 92(5), 1212-1227. doi:10.1037/0021-9010.92.5.1212

Levy, P. E., & Williams, J. R. (2004). The social context of performance appraisal: A review and framework for the future. *Journal of Management*, 30, 881-905.

Mead, G. H. (1967). *Mind, self, and society: From the standpoint of a social behaviorist*. Chicago, IL: University of Chicago Press.

Reis, H. T. (2007). Steps toward the ripening of relationship science. *Personal Relationships*, 14, 1-23.

Sedikides, C., & Strube, M. (1997). Self-evaluation: To thine own self be good, to thine own self be sure, to thine own self be true, and to thine own self be better. *Advances in Experimental Social Psychology*, 29, 209-269. Retrieved from <http://linkinghub.elsevier.com/retrieve/pii/S0065260108600180>.

Shrauger, J. S. (1975). Responses to evaluation as a function of initial self-perceptions. *Psychological Bulletin*, 82, 581-596. doi:10.1037/h0076791

Stark, G., & Sommer, S. M. (2000, August). *Pursuing the good, the known or the unknown: Antecedents of feedback seeking motives*. Paper presented at the Academy of Management National Meeting, Toronto, Canada.

Swann, W. B., Jr. (1990). To be adored or to be known? The interplay of self-enhancement and self-verification. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 408-448). New York: Guilford Press.

Swann, W. B., Jr., Griffin, J. J., Jr., Predmore, S. C., & Gaines, B. (1987). The cognitive-affective crossfire: When self-consistency confronts self-enhancement. *Journal of Personality and Social Psychology*, 52(5), 881-889.

Taylor, S. E., & Gollwitzer, P. M. (1995). The effects of mindset on positive illusions. *Journal of Personality and Social Psychology*, 69(2), 213-226.

Trope, Y. (1990). Self-assessment and self-enhancement in achievement motivation. In *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 1, pp. 350-378). New York: Guilford Press.