

# WHO'S MOST LIKELY TO GET STRESSED AND LEAVE THE COMPANY? EFFECTS OF REGULATORY MODE ON WORK STRESS AND TURNOVER INTENTIONS

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Regulatory mode theory (Kruglanski et al., 2000) posits the existence of two independent regulatory mode orientations: locomotion and assessment. Locomotion reflects the tendency to move from one state to another, whereas assessment reflects the tendency to evaluate means and goals in an attempt to choose the best possible option. Past research has sought to identify the relationship between regulatory mode and well-being, however it has not been fully disclosed. To our knowledge, the present work is the first attempt to investigate the relationship between locomotion, assessment, and two important organizational outcomes: work stress and turnover intentions. We recruited employees from 24 Italian organizations, and obtained their individual scores on: the Regulatory Mode Scale (Kruglanski et al., 2000); ratings of work stress, and turnover intentions. Two separate moderated multiple regression analyses were run to test the main effects and the interactions of regulatory mode on the two outcome measures. In line with our predictions, the results revealed that assessment was positively associated with both work stress and turnover intentions, while locomotion was negatively associated with those variables. Using a mediated moderation analysis, we also found that the combination of high assessment and low locomotion was the best predictor of turnover intentions, and this relationship was mediated by work stress. We discuss implications, limitations, and future directions for these findings.

Key words: Regulatory mode; Locomotion; Assessment; Work stress; Turnover intentions.

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The main goal of the present work is to investigate the interactive effect of regulatory mode (Kruglanski et al., 2000) on factors related to well-being in organizations, such as stress and turnover intentions. Work-related stress — defined as "the subjective feeling that work demands exceed the individual's belief in his or her capacity to cope" (Cropanzano, Howes,



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Grandey, & Toth, 1997, p. 164) — can have a variety of negative effects on both employees and organizations. For instance, such stress is associated with increased employee health problems (Ganster & Schaubroeck, 1991), reduced productivity (Joure, Leon, Simpson, Holley, & Frye, 1989), more workplace accidents (Kirkcaldy, Trimpop, & Cooper, 1997), and more lost work time (Cartwright & Cooper, 1997). As work stress increases, an individual is more likely to form a turnover intention — in other words, decide to leave the organization he or she is working for (Fisher & Gitelson, 1983; Griffeth, Hom, & Gaertner, 2000). Much like work stress, turnover intentions also have many negative consequences, such as decreased team performance (Ton & Huckman, 2008), lower company profits (Cascio, 1982, 1986; Heavey, Holwerda, & Hausknecht, 2013), loss of job knowledge (Trevor, Gerhart, & Boudreau, 1997), and lower likelihood of company survival (Phillips, 2002). Clearly, work stress and turnover intentions can have a strong impact on both employees' and organizations' well-being; as such, it is important to identify variables that can predict these factors.

Past research has shown that individual differences can play a major role in individuals' likelihood of experiencing organizational outcomes such as stress and turnover intentions (Fogarty et al., 1999; Girardi, Falco, Dal Corso, Kravina, & De Carlo, 2011; Swider & Zimmerman, 2010). Two individual difference factors that are particularly relevant to these outcomes are locomotion and assessment regulatory mode (Kruglanski et al., 2000). These are described in more detail below.

According to regulatory mode theory, locomotion regulatory mode is the aspect of self-regulation concerned with motion and progress from state to state. Assessment regulatory mode, on the other hand, is the facet of self-regulation that allows one to make comparisons between different entities (e.g., means or goals; Kruglanski et al., 2000). In line with these notions, locomotion is associated with swift action and the desire to maintain uninterrupted motion, while assessment is related to the preference for methodical and thoughtful analysis of every available option. The two regulatory modes can be measured as chronic individual differences (Kruglanski et al., 2000) or induced as state variables (Avnet & Higgins, 2003). They are orthogonal, so an individual can be low or high on both dimensions, or low on one and high on the other.

Assessment is relevant to organizational outcomes such as stress because it is generally associated with more negative affect and depression. This association between assessment and negative affective outcomes is likely due to assessors' tendency to continuously engage in critical evaluations of their own and others' behavior, which is not conducive to psychological well-being (Hong, Tan, & Chan, 2004; Kruglanski et al., 2000). Another essential aspect of assessment, the propensity to focus on the discrepancies between one's current self and one's ideal self, has also been shown to lead to significant increases in negative affect (Higgins, 1987). In contrast, locomotion is relevant to organizational outcomes such as stress because it is generally associated with positive affect, optimism, and increased self-esteem. This link between locomotion and positive affective outcomes can be explained by locomotors' focus on forward motion and progress, which causes them to avoid dwelling on negative aspects of their current or past states (Kruglanski, Pierro, & Higgins, 2016; Kruglanski et al., 2000).

Based on the logic above, assessment should be linked to lower organizational well-being because of assessors' tendency to dwell on discrepancies, which exacerbates negative affect. Locomotion, meanwhile, should be linked to higher organizational well-being because high locomotors devote little time to dwelling on their own or others' shortcomings (Kruglanski et al., 2016, 2000). Prior research has found some support for these notions. Pierro, Giacomantonio, Pica,



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Kruglanski, and Higgins (2013, Study 2) observed that locomotion predicted job satisfaction and was related to lower work stress and turnover intentions; that study, however, did not test the relationship between assessment and the aforementioned variables. Bélanger et al. (2016) revealed that locomotion predicted withdrawal behaviors at work. More specifically, locomotion was negatively related to absenteeism, lateness, and early departures from work. De Carlo et al. (2014) found that assessment was positively associated with psychological strain and burnout, while locomotion was negatively associated with both. Moreover, workaholism was found to mediate the relationship between both assessment and locomotion and the dependent variables. At the same time, high locomotors experienced more work engagement and consequently less psychological strain and burnout, while high assessors showed less work engagement, which resulted in more burnout and psychological strain.

Considering passion, Bélanger et al. (2014) evidenced that the negative association between locomotion and work stress and burnout, was mediated by harmonious<sup>1</sup> passion. In contrast, assessment had a positive direct and indirect (via obsessive passion) effect on work stress. There were no significant direct effects on turnover intentions, but the indirect effect (although not significant) followed the same trend as work stress. Thus, multiple studies have corroborated the idea that locomotion leads to more positive organizational outcomes, and assessment leads to more negative organizational outcomes.

Nonetheless, the interaction between assessment and locomotion in predicting stress and turnover intentions has not been fully explored. One study did investigate the possible interactive effects of the regulatory mode on subjective well-being (Hong et al., 2004). In a student sample, Hong et al. noticed that individuals low on locomotion but high on assessment experienced more depressive moods, while individuals high on locomotion but low in assessment exhibited higher life satisfaction. Interestingly, they found that locomotion-assessment complementarity (i.e., the combination of high locomotion and high assessment) did not increase life satisfaction, though it increases performance in a variety of domains (Hamstra, Orehek, & Holleman, 2014; Pierro, Kruglanski, & Higgins, 2006; Pierro, Pica, Mauro, Kruglanski, & Higgins, 2012). Importantly, however, the above authors did not investigate the interactive effects of locomotion and assessment on stress and turnover intentions in the organization. The goal of the present research was to fill this gap.

#### HYPOTHESES

Based upon the previous reasoning, we hypothesized that:

H1. Assessment should be positively associated with both work stress and turnover intentions, while locomotion should be negatively associated with them.

More importantly, we were interested in testing the interactive effects of assessment and locomotion on these two organizational outcomes. Specifically, we hypothesized that:

H2. Employees high on assessment and low on locomotion should experience the highest work stress and the greatest turnover intentions. We also expected that high locomotion would serve as a buffer against the effects of assessment: the presence of locomotion should attenuate the negative effects of assessment.

Lastly, we were interested in testing a mediated moderation model. In other words, we expected that:



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H3. When locomotion is low, assessment is associated with greater turnover intentions through the mediation of work stress.

#### **METHOD**

### **Participants**

One thousand eight hundred and eighty-six employees (894 females) from 24 public and private Italian organizations participated in this research on a voluntary basis. Employees' mean age was 41.65 (SD = 10.92) and their mean job tenure was 14.17 years (SD = 10.63). Among participants 25.3% had a university degree, 50.1% a high-school degree, 21.7% a middle-school diploma, and 2.9% an elementary-school diploma. The study complied with the Declaration of Helsinki and was approved by the local ethics committee.

#### Procedure and Materials

Participants were given information about the experimental procedures and provided written consent. At the workplace, participants filled out the Regulatory Mode Scale (Kruglanski et al., 2000), which was followed by a measure of stress at work (Cohen, Kamarck, & Mermelstein, 1983), and a measure of turnover intentions (Mobley, 1977). The paper-and-pencil questionnaire administered to participants included an introductory letter in which the purpose of the study was explained and anonymity was guaranteed.

Regulatory mode orientations. Participants completed the Italian version of the Regulatory Mode Scale (Kruglanski et al., 2000), which is composed of two separate 12-item self-report measures designed to tap individual differences in locomotion and assessment. Specifically, respondents rated the extent to which they agree with self-descriptive statements reflecting *locomotion* (e.g., "By the time I accomplish a task, I already have the next one in mind") or assessment (e.g., "I spend a great deal of time taking inventory of my positive and negative characteristics"). Ratings are made on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Previous studies with Italian samples (Kruglanski et al., 2000) demonstrated that the locomotion and assessment scales have satisfactory reliability ( $\alpha = .82$  for the locomotion scale and .78 for the assessment scale). In the present sample, the alpha for the locomotion and assessment scales was .80 and .69, respectively.

Stress. Six items from the Perceived Stress Scale (Cohen et al., 1983) were adapted to measure participants' stress at work (e.g., "In the last month, I often felt nervous and stressed at work"; "In the last month, I often felt unable to control important things at work"; see also Bélanger et al., 2014). The six items were translated into Italian and then translated back into English. Participants responded on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). A score of perceived stress was computed by averaging across responses to each item ( $\alpha = .89$ ).

Turnover intentions. These were assessed via three items adapted from a turnover intention measure developed by Mobley (1977; e.g., "I have often seriously considered finding a job



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elsewhere"). The items of the scale were translated into Italian and then translated back into English. Participants' responses were recorded on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). A composite turnover intentions score was computed by averaging across responses to each item ( $\alpha = .91$ ).

# Data Analysis

Descriptive statistics and correlations between variables are presented in Table 1. Predictions regarding the main effects and the interaction of locomotion and assessment on the two outcome measures (i.e., stress and turnover intentions) were tested by means of two separate moderated multiple regression analyses. In these moderated multiple regression analyses, we entered the main effects of locomotion and assessment orientations and the interaction between them. Following the recommendation by Aiken and West (1991), predictor variables were centered, and the interaction term was based on these centered scores. Gender (dummy coded as male = 0 and female = 1), age, job tenure, and education were entered as control variables. A summary of the results of these analyses is reported in Table 2.

In addition to our hypothesis concerning the effects of regulatory mode on stress and turnover intentions, we also tested the mediating role of stress in the relationship between regulatory modes and turnover, using Model 8 (a mediated moderation model) proposed by Preacher and Hayes (2008). A summary of estimated direct and indirect effects of mode on turnover intentions through stress is reported in Table 3 and Figure 2.

#### RESULTS

As can be seen (Table 1) in this sample, the correlation between assessment and locomotion scales was nonsignificant. This is consistent with prior research, which has generally found low or no correlation between the two regulatory modes (e.g., Kruglanski et al., 2000). Moreover, as expected, stress and turnover intentions were strongly and positively correlated, and both exhibited a significant and positive correlation with assessment and a significant and negative correlation with locomotion.

TABLE 1 Descriptive statistics and correlations between variables (N = 1886)

	M(SD)	1	2	3	4
1. Locomotion	4.60 (0.67)	(.80)			
2. Assessment	3.25 (0.70)	03	(.69)		
3. Stress	3.05 (1.22)	24***	.24***	(.89)	
4. Turnover intentions	2.61 (1.52)	28***	.21***	.38***	(.91)

Note. Standard deviations and Cronbach's alphas are reported in parentheses.

\*\*\* *p* < .001.

As can be seen in Table 2, the results of the moderated multiple regression analyses showed: a) a significant and positive main effect of assessment on stress (b = .47, SE = .04, p < .001) and turnover intentions (b = .42, SE = .05, p < .001), indicating that stress and turnover intentions were higher for employees high in assessment; b) a significant and negative main effect of locomotion on stress (b = -.44, SE = .04, p < .001) and turnover intentions (b = -.60, SE = .05, p < .001), suggesting that stress and turnover intentions were lower for employees high in locomotion. Of greater interest is that the hypothesized interaction between locomotion and assessment was significant and negative for both criterion variables (stress: b = -.23, SE = .06, p = .001; turnover intentions: b = -.25, SE = .07, p = .004).

 $\label{eq:Table 2} {\sf Table 2}$  Summary of results of moderated multiple regression analyses, unstandardized coefficients

			Crit	teria				
D., 1:	Stress			Turno	Turnover intentions			
Predictors	b	SE	<i>p</i> =	b	SE	<i>p</i> =		
Control variables								
Gender	.23	.05	.000	14	.07	.034		
Age	.00	.00	.796	00	.01	.346		
Education	.00	.03	.972	.30	.04	.000		
Job tenure	00	.00	.817	01	.01	.046		
Main predictors								
Locomotion	44	.04	.000	60	.05	.000		
Assessment	.47	.04	.000	.42	.05	.000		
Locomotion × Assessment	23	.06	.001	25	.07	.004		
$R^2$	.132		.000	.161		.000		
$\Delta R^2$	.007		.000	.006		.000		

Note. SE = standard error;  $R^2$  = the overall explained variance for the model including all predictors;  $\Delta R^2$  = the increase in explained variance due to the addition of the interaction terms.

To further illustrate the nature of these interaction effects, we performed simple slopes analyses for low (1 SD below the mean) and high (1 SD above the mean) levels of locomotion, following the recommendations of Aiken and West (1991). These analyses revealed that the relationship between assessment and both stress and turnover was stronger for participants relatively low in locomotion (stress: b = .62, SE = .06, p < .001; turnover intentions: b = .59, SE = .08, p < .001) than for participants relatively high in locomotion (stress: b = .32, SE = .05, p < .001; turnover: b = .25, SE = .06, p < .001). Overall, these results suggest that the relations between assessment and the criterion variables were weakened for high (vs. low) locomotors. These findings are illustrated in Figure 1, a and b.

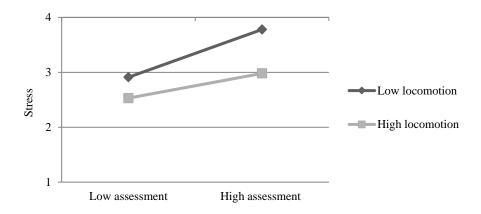


Figure 1a. Stress as a function of the interaction between locomotion and assessment.

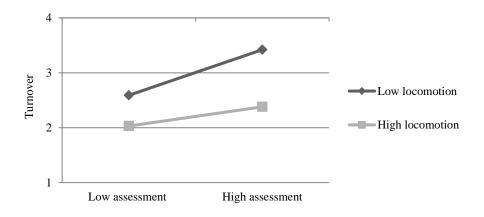


Figure 1b. Turnover intentions as a function of the interaction between locomotion and assessment.

FIGURE 1 Simple slopes for the interaction between locomotion and assessment.

Finally, as expected, for the mediated moderation analysis we found (see Table 3 and Figure 2) that the direct conditional effect of assessment on turnover was positive and significant at low (-1SD), mean (M), and high (+1SD) levels of locomotion; however, the strength of the effect increased as locomotion levels decreased (b = .36, SE = .08, p < .001 at -1SD; b = .24, SE = .05, p < .001 at M; b = .13, SE = .06, p < .05 at +1SD). More importantly, consistently with our mediated moderation hypothesis, stress mediated the effect of assessment on turnover intentions at low (-1SD), mean (M), and high (+1SD) levels of locomotion. As for conditional direct effects, the strength of conditional indirect effect increased with a decreasing in locomotion levels (b = .23, SE = .03 at -1SD; b = .18 SE = .02 at M; b = .12 SE = .02 at +1SD). Moreover, as predicted, the negative relation between the highest order interaction (i.e., the interaction between locomotion and assessment) and turnover intentions was mediated by stress (b = -.08, SE = .02). Bootstrapped CIs corroborated the reliability of the indirect effects.

TABLE 3
Conditional effects (unstandardized estimates) of assessment on turnover intentions at specific values of the moderator (locomotion)

Indirect effects via stress				Direct effects					
Locomotion	b	SE	BootLLCI	BootULCI	b	SE	<i>p</i> =	LLCI	ULCI
-1 <i>SD</i>	.23	.03	.17	.30	.36	.08	.000	.21	.50
Mean	.18	.02	.14	.22	.24	.05	.000	.15	.34
+1 <i>SD</i>	.12	.02	.07	.17	.13	.06	.018	.02	.24
			Indirect effe	cts of the highe	st order int	eraction			
b			SE		BootLLCI			BootULCI	
.08			.02		13			04	

*Note. SE* = standard error; BootLLCI = Bootstrap lower level confidence interval; BootULCI = Bootstrap upper level confidence interval; LLCI = Lower level confidence interval; ULCI = Upper level confidence interval.

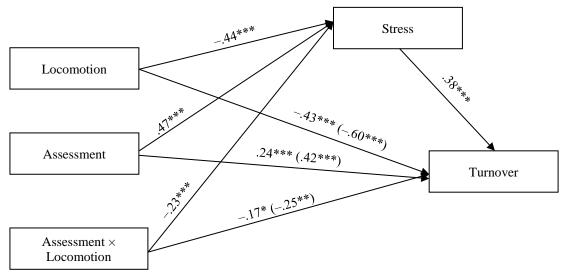


FIGURE 2

Mediated moderation model of the relationship between assessment and turnover intentions, unstandardized coefficients.

The regression coefficients of the predictors when the mediator was not included in the model are reported in brackets. \*p < .05. \*\*p < .01. \*\*\*p < .001.

#### DISCUSSION

In the present study, we investigated the role of locomotion and assessment regulatory modes in predicting the organizational phenomena of work-related stress and turnover intentions. We found that the two regulatory modes had opposite effects on these outcomes: assessment pos-



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itively predicted both variables, while locomotion negatively predicted them. We also observed a mediated moderation pattern: the relationship between assessment and turnover intentions was mediated by stress, this mediation being moderated by locomotion. More specifically, the direct conditional effect of assessment on turnover intentions was positive for every locomotion level; however, the lower the locomotion level, the stronger the effect. We also found that stress mediated the effect of assessment on turnover intentions at any locomotion level, and the conditional indirect effect increased when locomotion levels decreased. It therefore appears that locomotion was serving as a sort of buffer for the negative effects of assessment: when locomotion was high, the negative effects of assessment (on both stress and turnover intentions) were weaker. Finally, we found that stress negatively mediated the highest order interaction between the combination of regulatory modes and turnover intentions. These results support the idea that the combination of high assessment and low locomotion is the best predictor of increased work stress, and that this combination is subsequently related to higher turnover intentions.

A wide variety of past research has shown that being high on both assessment and locomotion (i.e., locomotion-assessment complementarity) generally leads to the best performance-related outcomes (Hamstra et al., 2014; Pierro et al., 2006, 2012). Furthermore, it has been found that for simple (vs. complex), familiar (vs. unfamiliar), or for tasks requiring low interdependence (vs. high interdependence) individuals high on locomotion, but low on assessment, perform better (Chernikova et al., 2016; Chernikova, Lo Destro, Pierro, Higgins, & Kruglanski, 2017; Lo Destro, Chernikova, Pierro, Kruglanski, & Higgins, 2016, 2017). Nonetheless, in the present work, we found yet another pattern for affective states. Indeed, the highest stress levels, as well as the highest turnover intentions, were observed in employees high on assessment and low on locomotion. This was likely due to high assessors' focus on discrepancies, combined with low locomotors' lack of progress toward addressing those discrepancies. On the other hand, all other combinations of regulatory modes led to better outcomes. In fact, in the presence of high locomotion, stress and turnover intentions were weakened regardless of assessment level, suggesting that locomotion can have a protective "buffer" effect against some negative outcomes.

With the necessary caution, we can assume that employees who show this self-regulation pattern (i.e., the combination of low locomotion and high assessment) are at higher risk of encountering difficulties in coping with organizational stressors and consequently developing turnover intentions. In line with this notion, employers should carefully take into account potential employees' regulatory mode during the recruitment process, since it seems employees high on locomotion and low on assessment show a lower predisposition to experience work stress. Furthermore, employees who experience a higher well-being level are less likely to leave the company, and as a consequence the costs related to recruiting and training new workers are reduced and resources are optimized. In a prevention perspective, managers should adapt task requests to employees' capabilities and should clarify employees' roles and responsibilities. The organization, moreover, should take care of employees' well-being, especially of those employees who they know to be at the highest risk of experiencing stress during the course of their daily work (low locomotors and high assessors), furnishing adequate training about the causes of stress and the way to keep it away. Finally, employers may also wish to tailor well-being interventions (e.g., mindfulness training; Mackenzie, Poulin, & Seidman-Carlson, 2006).

Several limitations of the present research should be noted. One limitation is that we used a self-report measure of stress. In future research, it would be useful to have some physiological



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assessments of stress (e.g., salivary cortisol levels; Pruessner, Hellhammer, Pruessner, & Lupien, 2003; Schulz, Kirschbaum, Prüßner, & Hellhammer, 1998). Another limitation is that we used a self-report measure of turnover intentions, which may not be highly correlated with actual turnover. Though a large amount of studies have shown that behavioral intentions are a strong predictor of behavior (e.g., Ajzen, 1985, 1991; Schifter & Ajzen, 1985), future research should nonetheless attempt to replicate our findings with an actual measure of turnover. A third limitation is that these data are derived from the same source, and thus could potentially be susceptible to common method/source bias. It must be noted, however, that, although common method/source biases can inflate the relationship between variables, they normally lead to the underestimation of interaction effects (Evans, 1985; McClelland & Judd, 1993). Yet another limitation is that we did not take organizational performance into account in the present research. One possibility is that employees who are more stressed perform worse (Lang, Thomas, Bliese, & Adler, 2007; Taris, 2006), but it is also plausible that a moderate amount of stress could actually enhance performance. Future studies would do well to examine the relationship between regulatory mode, organizational well-being, performance, and turnover intentions.

Other directions for future research involve testing whether team composition matters. For instance, does within-group regulatory mode complementarity have a positive effect on employee well-being? Or do employees feel better when they work in a team of individuals who are similar to them, thus experiencing a fit effect? These questions can be fruitfully explored in further studies on this topic.

#### **NOTES**

- 1. In the dualistic model of passion (Vallerand et al., 2003) passion is defined as a strong inclination toward an activity that individuals find important and in which they invest energy and time. The authors distinguished two types of passion: (1) harmonious, which derives from an autonomous internalization of the activity into one's identity; (2) obsessive, stemming from a controlled internalization of the activity into one's identity.
- 2. We acknowledge that the structure of the data is nested (i.e., individual stress and turnover intentions ratings are nested within organizations) and that this may raise the concern of non-independent data. Thus, we calculated the intraclass correlation coefficient (ICC). Results yielded a coefficient of .089 for stress and .173 for turnover, suggesting that only a small proportion of the variance in stress and turnover ratings was between organizations. Furthermore, we applied a multilevel modeling approach to the data, using restricted maximum likelihood (REML) estimation. In the two analyses (one for each criterion variable), we entered all our level-one control variables and the main predictor variables as fixed; only the intercepts (entered at the organization level) were a random effect. Consistent with our results, the analysis showed a significant and positive effect of assessment, a significant and negative effect of locomotion, and a significant and negative two-way interaction between assessment and locomotion on both stress and turnover intentions, confirming that our conclusions are not compromised by the potential dependency of observations. (Data of multilevel analysis are available upon request from the corresponding author.)

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