

# Working in group living homes for older people with dementia: the effects on job satisfaction and burnout and the role of job characteristics

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## ABSTRACT

**Background:** Group living homes are a fast-growing form of nursing home care for older people with dementia. This study seeks to determine the differences in job characteristics of nursing staff in group living homes and their influence on well-being.

**Methods:** We examined the Job Demand Control Support (JDCS) model in relation to 183 professional caregivers in group living homes and 197 professional caregivers in traditional nursing homes. Multilevel linear regression analysis was used to study the mediator effect of the three job characteristics of the JDCS-model (demands, control and social support) on job satisfaction and three components of burnout (emotional exhaustion, depersonalization and decreased personal accomplishment).

**Results:** Demands were lower in group living homes, while control and social support from co-workers were higher in this setting. Likewise, job satisfaction was higher and burnout was lower in group living homes. Analysis of the mediator effects showed that job satisfaction was fully mediated by all three psychosocial job characteristics, as was emotional exhaustion. Depersonalization was also fully mediated, but only by control and social support. Decreased personal accomplishment was partially mediated, again only by job characteristics, control and support.

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**Conclusion:** This study indicates that working in a group living home instead of a traditional nursing home has a beneficial effect on the well-being of nursing staff, largely because of a positive difference in psychosocial job characteristics.

**Key words:** nurses, staff, nursing home care, JDCS-model

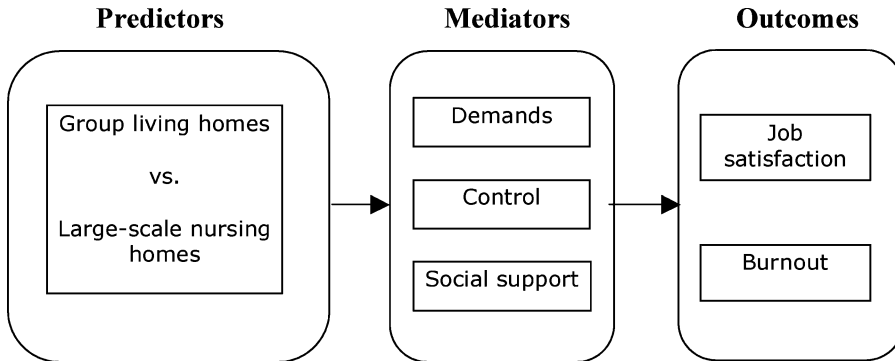
## Introduction

The Netherlands already has 20,0000 people with dementia in a population of 16 million (1.3%), and this number will more than double in the next three decades (Gezondheidsraad, 2002). The majority of people with dementia are cared for at home, but nursing home placement usually follows as the disease progresses and the family caregiver becomes exhausted. Traditionally, nursing homes in the Netherlands were based on a hospital model. However, in recent years there has been an increasing awareness that living in a large institution cannot meet the individual needs of people with dementia (Hammer, 1999). Following the example of other countries such as Sweden (Malmberg and Zarit, 1993) and Japan (Onishi *et al.*, 2006), an ever-increasing number of group living homes are being built across the Netherlands.

In group living homes a small group of older people with dementia live together in a home-like environment. In order to keep daily life for the residents as normal as possible, the required personal care is integrated into daily routines. This means that nursing staff in group living homes perform care tasks as well as domestic tasks, such as cooking and cleaning. In traditional nursing homes, nursing staff generally do not perform domestic services. Furthermore, the concept of group living care means that residents lead a normal family life and can therefore be managed by just one or two nurses each day. This is a major difference to traditional nursing homes, where more staff are usually present.

These and other differences in the job characteristics of nursing staff in group living homes may have an impact on their well-being. Until now, very few studies have been undertaken on the well-being of nursing staff in group living homes. An exception is the study by Alfredson and Annerstedt (1994), which showed that nursing staff in group living homes experienced heightened motivation, job satisfaction and quality of work after having received training in group living care. It is important to establish whether and if so *why* working in group living increases the well-being of staff, because personnel shortages in dementia care are growing almost as fast as the number of people with dementia. If group living homes prove to be an attractive working environment, it could motivate more people to work in nursing home care.

A widely used model of occupational stress, the Job-Demand-Control Model, states that two structural psychosocial job characteristics – demands and control – influence job appraisal and well-being (Karasek, 1979). This model was later expanded with a third psychosocial characteristic – social support – which



**Figure 1.** Study model

can be subdivided into social support from a supervisor and social support from co-workers. This resulted in the Job-Demand-Control-Support Model (Johnson and Hall, 1988). The interactions between the three characteristics of the JDCS model are embodied in the tension hypothesis and activation hypothesis (De Lange, 2005). The tension hypothesis states that a high level of demands, a low level of control and a low level of social support will lead to negative outcomes (Karasek, 1979), such as reduced job satisfaction and burnout (van der Doef and Maes, 1999a). An opposite effect can be seen in the activation hypothesis, which states that a high level of control can still lead to positive outcomes such as an increased intrinsic job motivation, even with high demands and low social support (Karasek and Thorell, 1990).

Working in a group living home instead of a traditional nursing home can produce differing levels of the three psychosocial job characteristics of the JDCS-model. For example, working alone or with just one colleague could well increase control, but could also increase demands. Level of social support may be low in group living homes, simply because there are not many colleagues to support each other. According to the activation and tension hypotheses, these differences in work conditions will lead to different levels of well-being, such as job satisfaction and burnout. This study is therefore based on the model shown in Figure 1. We investigated job satisfaction and burnout in group living homes and traditional nursing homes as well as the three job characteristics of the JDCS-model (demands, control and social support). We then examined whether these three characteristics explained the relationship between type of home and job satisfaction and burnout in nursing staff. It was hypothesized that in group living homes, a higher level of job satisfaction and a lower level of burnout in group living would be found, because of a higher level of control among nursing staff. Although one may expect that demands in group living homes would be higher as well while the level of social support would be lower than in traditional nursing homes, the higher level of control in group living homes would nevertheless still increase well-being.

## Methods

### Sample

#### LOCATIONS

In the Netherlands, nursing homes are publicly funded institutions in which people with psychogeriatric conditions such as dementia receive separate care from those with somatic complaints. For this study, only psychogeriatric group living homes and psychogeriatric nursing homes or nursing homes with psychogeriatric units were selected.

Furthermore, group living homes and traditional nursing homes had to meet a number of criteria to participate in the study. The eligibility criteria for group living homes were formulated on the basis of a concept map (Trochim, 1989), which defined the concept of group living care (te Boekhorst *et al.*, 2007). Group living homes were included if they (a) had a maximum of six residents, (b) had a maximum of six units, (c) were situated more than 200 meters from the nursing home to which they belonged, (d) prepared their own meals and (e) were built more than two years prior to the start of the study.

Twenty group living homes met these criteria, of which 19 homes with 56 units with an average of six residents (range 4–6) per unit agreed to participate. These 19 group living homes had 336 residents and employed 305 nurses.

The eligibility criteria for traditional nursing homes were established so as to ensure that group living homes were compared to the best traditional nursing home care that the Netherlands already had to offer. This meant that traditional nursing homes had to be built according to the Dutch 1997 Building Regulation for Nursing Homes, as these facilities offer, among other structural improvements, only single bedrooms. Furthermore, to ensure the contrast between group living home care and traditional nursing home care, the latter needed to be large-scale facilities as well. Therefore, only traditional nursing homes with more than 20 residents per unit were included in the study.

Fourteen nursing homes met the two eligibility criteria, of which seven nursing homes with 17 units and an average of 28 residents (range 20–30) per unit participated. These seven nursing homes had 476 residents and employed 437 nurses.

Both group living homes and nursing homes were located in similar geographical areas. There were participating facilities in urban areas such as Amsterdam and Rotterdam in the west of the Netherlands, as well as rural areas in the north and east. Because group living home care is practically non-existent in the south of the Netherlands, traditional nursing homes from this region were excluded from the study.

#### PARTICIPANTS

Nursing staff were eligible for the study if they performed all care tasks (washing, dressing, bathroom visits, transfers, eating and drinking). A total of 183 nurses in group living and 197 nurses in nursing homes participated, resulting in a response of 60% and 45% respectively.

## Measures

The mediators from the JDCS model (demands, control and social support) and one of the outcome variables (job satisfaction) were measured with the Leiden Quality of Work Questionnaire (van der Doef and Maes, 1999b). This questionnaire is based on the JDCS model and the Michigan model (Caplan *et al.*, 1975) and measures 11 job characteristics on a four-point scale. Four of these subscales were used in this study: the Work and Time Pressure subscale (Cronbach's  $\alpha = 0.78$ ) measured demands, with a higher score suggesting lower demands. The Decision Authority subscale ( $\alpha = 0.72$ ) measured control, in which a higher score indicated a higher level of control. The Social Support Supervisor subscale ( $\alpha = 0.90$ ) and the Social Support Co-workers subscale ( $\alpha = 0.82$ ) measured social support, with higher scores again indicating higher levels of social support. A higher score on the four point Job Satisfaction subscale ( $\alpha = 0.86$ ) indicated a higher level of job satisfaction.

The outcome variable burnout was measured with the Dutch version of the Maslach Burnout Inventory (Maslach and Jackson, 1986), the Utrecht Burnout Scale – C (Schaufeli and van Dierendonck, 2000). This scale measures three components of burnout: emotional exhaustion (Cronbach's  $\alpha = 0.87$ ), depersonalisation ( $\alpha = 0.50$ ) and decreased personal accomplishment ( $\alpha = 0.76$ ). Higher scores on a six-point scale suggest higher burnout.

## Procedure

The outcomes and mediators were assessed using a self-report questionnaire. Managers in the participating group living homes and nursing home wards handed out the questionnaires to nursing staff who met the single criterion described above. Because anonymity is of the utmost importance in this kind of research, the nursing staff returned the questionnaires directly to the researchers. To further ensure anonymity the questionnaires could not be traced back to individual units in the group living homes or to individual wards in the traditional nursing homes.

The study was approved by the Medical Ethics Committee of the National Institute of Mental Health and Addiction.

## Analysis

Multilevel linear regression analysis was used to study the mediator effect of the three job characteristics of the JDCS-model – demands, control and social support – on job satisfaction and burnout with the widely used method described by Baron and Kenny (1986). A mediation model seeks to identify the mechanism which underlies an observed relationship between a predictor and an outcome variable through the inclusion of a third variable, the mediator. It is hypothesized that the predictor variables give rise to the mediator variable, which then causes the outcome variable. In order to assess mediation in this study, multilevel linear regression analysis was performed to study the relationship between the predictor variable institution type, group living homes vs. nursing homes, and the three model mediators (demands, control and social support). Next,

**Table 1.** Characteristics of the participants

	NURSING HOMES (N = 197)	GROUP LIVING HOMES (N = 183)	
<b>Sex</b> (female)	186 (94.4%)	169 (92.3%)	$\chi^2 = 0.66$
<b>Age</b> (mean, 95%-CI)	37 (35–40)	43 (41–45)	F (1, 22) = 10.79**
<b>Marital Status</b>			$\chi^2 = 5.39$
Married	114 (57.9)	107 (58.8%)	
Living together	40 (20.3%)	24 (13.2%)	
Single	43 (21.8%)	51 (28.0%)	
<b>Education level<sup>1</sup></b>			$\chi^2 = 16.22^*$
Level 1	0	0	
Level 2	6 (3.5%)	18 (11.4%)	
Level 3	150 (86.7%)	125 (79.1%)	
Level 4	12 (6.9%)	1 (0.6%)	
Level 5	5 (2.9%)	14 (8.9%)	
<b>Employment in institution type</b>			$\chi^2 = 0.63$
< 5 years	136 (69.0%)	128 (69.9%)	
5–10 years	38 (19.3%)	38 (20.8%)	
> 10 years	23 (11.7%)	17 (9.3%)	
<b>Contract hours per week</b>			$\chi^2 = 13.94$
< 22 hours	66 (33.5%)	57 (31.2%)	
22–29 hours	37 (18.8%)	64 (35.0%)	
> 29 hours	94 (47.7%)	62 (33.8%)	

\*  $p < 0.05$ ; \*\* $p < 0.01$ .

<sup>1</sup> Dutch education levels: level 2 is equivalent to nursing assistant (NA), level 3 to certified nursing assistant (CNA), and level 4 to registered nurse (RN).

multilevel linear regression analysis was undertaken to assess the relationship between the predictor variable institution type and the outcome variables of job satisfaction and burnout. In the final step, the relationship between institution type and job satisfaction and burnout was studied while the three mediators were added to those regression models. Mediation was present if (a) there was a relationship between institution type and each of the three mediators, (b) there was a relationship between institution type and the two outcome variables, and (c) the latter relationship weakened or disappeared when the mediators were added.

Model assumptions for regression were verified. Because the outcome variable of emotional exhaustion, a component of burnout, was not normally distributed, it was subsequently log-transformed before addition to the regression model.

The demographic variables in Table 1 were used to check for confounding in linear regression models (a) and (b). Confounding was considered present when addition of the potential confounder led to a change of 10 percent or more in the coefficient of the predictor variable (institution type). Confounders for models (a) and (b) were also added to the relevant linear regression models (c).

## **Results**

### **Characteristics of participants**

Table 1 shows that nursing staff in group living homes were older and had differing education levels. There were no differences in sex (almost all participants were female), marital status, number of years employed in institution type and number of contract hours per week.

### **Mediators**

As shown in Table 2, linear regression analysis identified significantly different levels of the mediators between the two institution types. Demands were significantly lower in group living homes, while control and social support from co-workers were significantly higher. The mediator social support from the supervisor did not reach significance. Therefore three of the four mediators met the first criterion of mediation stated by Baron and Kenny (1968) mentioned above and were analyzed further.

### **Outcome variables**

Table 3 indicates that nursing staff in group living experienced significantly more job satisfaction than their colleagues in nursing homes. The three components of burnout differed significantly between the two institution types as well. Emotional exhaustion, depersonalization and decreased personal accomplishment were all lower in group living, indicating that there was less burnout in this setting.

### **Mediator effect**

When comparing the coefficients in Tables 3 and 4, one can see that the previously highly significant relationship between institution type and job satisfaction dropped below significance after the mediators were added. This indicates a full mediation. The higher level of job satisfaction in group living could therefore be fully ascribed to the significantly lower level of demands, the significantly higher level of control and the significantly higher level of social support from co-workers in group living homes. Tables 3 and 4 also show an increase in the amount of explained variance for job satisfaction after the mediators were added, from 10% to 35%.

Addition of the mediators led to different effects for each component of burnout. Emotional exhaustion lost significance, indicating a full mediation of the significantly lower level of demands and the significantly higher level of control and social support from co-workers in group living homes. The amount of explained variance for emotional exhaustion increased as well, from 9% to 31%. The relationship between institution type and depersonalization also dropped below significance after adding the mediators, again indicating a full mediation. However, only two mediators – control and social support from co-workers – contributed to this mediation effect while the demands mediator was not significant. The relationship between institution type and decreased personal accomplishment weakened but still remained significant after the mediators were

**Table 2.** The effects of institution type on psychosocial job characteristics

	DEMANDS <sup>1</sup>		CONTROL <sup>2</sup>		SOCIAL SUPPORT CO-WORKERS <sup>3</sup>		SOCIAL SUPPORT SUPERVISOR <sup>4</sup>	
	M (CI)	B (CI)	M (CI)	B (CI)	M (CI)	B (CI)	M (CI)	B (CI)
<b>Nursing homes</b> (n = 197)	2.5 (2.4–2.6)		2.9 (2.8–2.9)		3.0 (3.0–3.2)		3.1 (2.9–3.2)	
<b>Group living homes</b> (n = 183)	3.0 (3.0–3.1)		3.1 (3.1–3.2)		3.2 (3.0–3.1)		3.1 (3.0–3.2)	
<b>Nursing homes vs. group living homes</b>		0.55*** (0.40–0.70)		0.29*** (0.20–0.38)		0.16 <sup>a</sup> ** (0.05–0.27)		0.08 (–0.09–0.26)

\*\* p < 0.01; \*\*\* p < 0.001.

<sup>a</sup> adjusted for education level.

<sup>1</sup> Work and Time Pressure subscale, Leiden Quality of Work Questionnaire, range 1–4.

<sup>2</sup> Decision Authority subscale, Leiden Quality of Work Questionnaire, range 1–4.

<sup>3</sup> Social Support Co-workers subscale, Leiden Quality of Work Questionnaire, range 1–4.

<sup>4</sup> Social Support Supervisor subscale, Leiden Quality of Work Questionnaire, range 1–4.



**Table 3.** The effects of institution type on job satisfaction and the three components of burnout

	BURNOUT											
	JOB SATISFACTION <sup>1</sup>			EMOTIONAL EXHAUSTION <sup>2</sup>			DEPERSONALIZATION <sup>2</sup>			DECREASED PERSONAL ACCOMPLISHMENT <sup>2</sup>		
	M (CI)	B (CI)	R <sup>2</sup>	M (CI)	B (CI)	R <sup>2</sup>	M (CI)	B (CI)	R <sup>2</sup>	M (CI)	B (CI)	R <sup>2</sup>
<b>Nursing homes</b> (n = 197)	3.0 (2.9–3.1)			1.7 (1.4–2.0)			0.8 (0.6–1.0)			1.6 (1.5–1.8)		
<b>Group living homes</b> (n = 183)	3.3 (3.2–3.4)			1.1 (0.9–1.2)			0.5 (0.4–0.6)			1.2 (1.1–1.3)		
<b>Nursing homes vs. group living homes</b>		0.29 <sup>b***</sup> (0.18–0.46)	0.10		–0.23 <sup>c**</sup> (–0.34–0.11)	0.09		–0.29 <sup>**</sup> (–0.47–0.10)	0.06		–0.38 <sup>***</sup> (–0.56–0.19)	0.06

\*\* p < 0.01; \*\*\*p < 0.001.

<sup>b</sup> adjusted for age.

<sup>c</sup> ln transformed.

<sup>1</sup> Job Satisfaction subscale, Leiden Quality of Work Questionnaire, range 1–4.

<sup>2</sup> Utrecht Burnout Scale – C (Dutch version of the Maslach Burnout Inventory), range 1–6.

**Table 4.** Regression models for the mediator effect of the three psychosocial job characteristics on institution type and the three components of burnout

	BURNOUT							
	JOB SATISFACTION <sup>a,b,1</sup>		EMOTIONAL EXHAUSTION <sup>a,c,2</sup>		DEPERSONALIZATION <sup>a,2</sup>		DECREASED PERSONAL ACCOMPLISHMENT <sup>a,2</sup>	
	B (CI)	R <sup>2</sup>	B (CI)	R <sup>2</sup>	B (CI)	R <sup>2</sup>	B (CI)	R <sup>2</sup>
<b>Nursing homes vs. group living homes Demands<sup>3</sup></b>	0.07 (-0.07-0.21)	0.35	-0.00 (-0.10-0.09)	0.31	-0.16 (-0.39-0.07)	0.12	-0.18* (-0.36-0.01)	0.15
<b>Control<sup>4</sup></b>	0.33*** (0.18-0.47)		-0.32*** (-0.40-0.23)		-0.10 (-0.31-0.12)		-0.04 (-0.25-0.17)	
<b>Social support co-workers<sup>5</sup></b>	0.36*** (0.19-0.054)		-0.13** (-0.22-0.04)		-0.19* (-0.35-0.02)		-0.43*** (-0.64-0.21)	
			-0.11* (-0.20-0.03)		-0.21** (-0.36-0.07)		-0.25* (-0.49-0.02)	

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

<sup>a</sup> adjusted for education level.

<sup>b</sup> adjusted for age.

<sup>c</sup> ln transformed.

<sup>1</sup> Job Satisfaction subscale, Leiden Quality of Work Questionnaire, range 1-4.

<sup>2</sup> Utrecht Burnout Scale - C (Dutch version of the Maslach Burnout Inventory), range 1-6.

<sup>3</sup> Work and Time Pressure subscale, Leiden Quality of Work Questionnaire, range 1-4.

<sup>4</sup> Decision Authority subscale, Leiden Quality of Work Questionnaire, range 1-4.

<sup>5</sup> Social Support Co-workers subscale, Leiden Quality of Work Questionnaire, range 1-4.

added, indicating a partial mediation. Table 4 shows again that while control and social support from co-workers contributed to this mediation effect, the demands did not. The amount of explained variances for these last two dimensions of burnout increased in these partial mediation models (from 6% to 12%, and from 6% to 15% respectively), but less than in the full mediation models for job satisfaction and emotional exhaustion.

## Discussion

In order to assess the well-being of nursing staff in group living homes for older people with dementia, this study examined the Job-Demand-Control-Support model (Karasek, 1979; Johnson and Hall, 1988) in both group living homes and traditional nursing homes. The results indicate that nursing staff in group living homes have a higher job satisfaction and lower burnout than their colleagues in traditional nursing homes, because they have more control, fewer demands and more social support from their co-workers.

Although the results largely confirm our expectations, the higher level of social support from co-workers in group living homes was surprising. One explanation for this finding may be that social support from co-workers is not so much determined by the sheer quantity of social interactions, but by its quality. High levels of control mean sharing responsibility for the residents with just a few colleagues. Consequently, it seems likely that interactions with these colleagues will revolve around the residents and thus increase social support. Recent research supports this suggestion. Sundin *et al.* (2006) showed that the organizational characteristic of job control has the largest impact on perceived social support. Another explanation may be that working in this relatively innovative form of dementia care increases team spirit, thereby increasing the amount of social support experienced.

The second unexpected result concerning the job characteristics of the JDCS model is the lower level of demands in group living homes. One explanation for this finding may be that group living homes are not organizations with strict rules and regulations. They focus on the wishes and needs of the individual resident rather than on the tasks that need to be performed. Furthermore, it follows the routines of normal daily life. As a consequence, the staff may perceive fewer demands.

Another possible explanation for the lower level of demands in group living homes also forms a major limitation of this study. The majority of group living homes in this study have selection criteria for residents. These criteria are diverse, but they often state that a resident cannot be admitted if he or she has severe behavioral problems or needs major assistance in the activities of daily life. Traditional nursing homes never refuse a resident. This may very well lead to a difference in resident population between the two settings, with residents in group living homes generally being in a better physical and cognitive condition. As a consequence, levels of demands in group living homes could be lower. We have not adjusted for the differences in functioning between residents in group living homes and traditional nursing homes, thereby ignoring a possibly powerful

confounder. However, the job characteristic of demands contributes least to the mediation effect, which would lessen the influence of this potential confounder. Nonetheless, not adjusting for this difference in the resident population is a major limitation of this study, especially because we cannot estimate its direct effects on the variables of job satisfaction and burnout.

Another limitation of this study is that we did not measure psychological characteristics of the nursing staff, such as coping style or mastery. It seems likely that these kinds of variables are confounders as well, especially because anecdotal as well as scientific evidence indicates that a specific personality style is needed to work in group living homes (Häggström and Norberg, 1996). Our finding that nursing staff of group living homes were older and somewhat better educated could support this view. On the other hand, a study by Waldenstrom *et al.* (2003) showed that psychological characteristics do not significantly influence the appraisal of the characteristics of the JDCA model. Furthermore, another study showed that individual factors do not have a significant effect on job satisfaction and burnout among psychiatric nurses, a population similar to the participants in this study (Thomsen *et al.*, 1999). This would minimize the effect of these possible confounders on the outcome variables as well. Nevertheless, not all variance in job satisfaction and burnout could be explained by the control, demands and social support mediators. Other variables must therefore also contribute to the higher level of job satisfaction and the lower level of burnout in group living homes. Future research should examine whether these variables are other characteristics of group living homes or indeed personal characteristics of the caregivers.

In conclusion, the results of this study suggest that group living homes provide a more attractive psychosocial working environment, resulting in a higher level of well-being of the nursing staff in comparison to traditional nursing homes. However, our data also suggest that a higher level of control in traditional nursing homes could significantly improve well-being of staff in these facilities as well. Although the organization of a traditional nursing home described earlier might make this more difficult to achieve, it would nevertheless be very important to do so and study its effectiveness. If the results are positive, both group living homes and traditional nursing homes would offer an attractive working environment, which could motivate more people to start a career in dementia care.

### **Conflict of interest**

None.

### **Description of authors' roles**

S. te Boekhorst, B. Willemse, M. Depla and A. Pot designed the study and formulated the research questions. B. Willemse carried out the data collection, supervised by S. te Boekhorst and M. Depla. S. te Boekhorst analysed the data and wrote the paper, with the assistance of B. Willemse, M. Depla, J. Eefsting and A. Pot.

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