WORK INSTABILITY. PRESENTATION OF AN EMPIRICAL MODEL

ABOUT ITS PSYCHOLOGICAL IMPACT[1]

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Abstract:

Research on the impact that work instability has on workers has the limitation of assess the relations among different variables separately, without examining the possible mediation relationships that can exists between them. The aim of this article is to test a conceptual model of the mediating relations between the uneasiness due to work instability and the psychological impact, in the framework of interactive stress theory, conducting a Path Analysis. 191 workers participated on the study, with a mean age of 31 years-old (*SD* = 11). Results showed that the proposed model didn't fit to the data. Alternative models were explored, consistent with the original conceptual model

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and the empiric evidence. A new causal model is proposed, where Uneasiness due to Work Instability as an independent variable, Personal Strain and Personal Resources as intervenient variables, and Anger, Hopelessness, and Satisfaction as dependent ones. The theoretical and empirical importance of the resulting model is discussed.

Key-Words: Work Instability - Psychological Impact - Conceptual Model - Path Analysis

Introduction

Work instability

Perception of work instability is an estimation related to the possible loss of the job. It has two sides, an objective side and a subjective side (Mauno, Kinnunen, Makikangas & Natti, 2005). The first has its basis on objective circumstances, such as temporary jobs or poor work conditions, and different studies found that it has a lot of disadvantages and risks for the welfare and the health of the employees (Saloniemi, Virtanen, & Vahtera, 2004; Silla, Gracia, & Peiro, 2005). The subjective side is related to how a person perceives his or her work situation, and it's defined as the threat to involuntarily lose the job and the feeling of a discrepancy between the level of safety the employees want to have and the level of safety provided by the employer (De Witte & Näswall, 2003; Kinnunen, Mauno, Natti, & Happonen, 1999; Sverke & Hellgren, 2002). According to Hellgren and Sverke (2003, Sverke & Hellgren 2002), this aspect of work instability has a bigger association with negative psychological consequences than the objective aspect.

Previous investigations have shown the close relationship between both sides (objective and subjective) and how the modification of the objective aspect is reflected on the subjective perception of work instability (Leibovich de Figueroa, 2006). Nowadays, the rapid transformations occurring in the context of work, unemployment rates and the growing amount of precarious jobs, lead to a large number of employees perceive their work situation as unstable (Schufer, 2006). This situation is considered one of the most stressful aspects of work, compared to other potential stressors (De Witte, 1999). In fact, employees who perceive their jobs as unstable, see this situation mainly as a threat and present greater anxiety levels than those who perceive work stability (Maglio, 2003). Taking this background into account, this study focuses on the perception of work instability or subjective work instability and its impact on different psychological characteristics.

Work instability and its psychological impact

Different studies have proven that subjective work instability is associated with a decrease of the employees' comfort levels and work satisfaction, complaints related to physical health and increase of stress (Ashford, Lee, & Bobko, 1989; Rosenblatt & Ruvio, 1996). Armstrong-Stassen y Fuchs (1993) found that the high levels of stress produced by perception of injustices and work uncertainty is associated with an increase of stress, a decrease of cognitive performance, a decrease of self-confidence and a decrease of the commitment to the employer. There is also an increase of psychosomatic complaints and physical stress (De Witte, 1999).

Previous investigations conducted in our social and cultural context showed that work instability has a negative impact on the employee that leads towards

individualization, weakening of social bonds and generating uneasiness on people (Leibovich de Figueroa & Schufer, 2006; Leibovich de Figueroa & Schufer, 2002).

The uneasiness due to perception of work instability was evaluated in our context by measuring the impact of daily events within the workplace scenario (previously identified as relevant to increase work uncertainty), the frequency in which these events occurred and the depth of the impact of these events according to the subjective valuation each employee performs (Leibovich de Figueroa, Injoque-Ricle & Schufer, 2008; Leibovich de Figueroa, Schufer & Schmidt, 2006). These type of measures allows to consider not only how big is the impact of daily events at the worplace, but also the frequency of its occurrence in order to get a complex measurement (an average of these two variables), that show, at the same time, intensity and duration of the psychosocial stressor (Schmidt, Leibovich, Gonzalez, & Marconi, 2003)

It is demonstrated that high levels of uneasiness caused by work instability predicts high levels of psychological stress in employees. Low social support was also a predictor, although not as strong, of increase psychological stress (Leibovich de Figueroa, et al., 2007; Leibovich de Figueroa, Wilson & Injoque-Ricle, 2009). It was also pointed that uneasiness caused by work instability is associated with negative emotions such as stress, anger and hopelessness (Gonzalez, et al., 2006). Personal stress was expressed mainly through emotional symptoms (such as irritability, lack of motivation and fatigue) and physical symptoms (contractures, sleeping disorders or headaches), but also with an impact on interpersonal issues and motivation inside the work context. Anger was experienced mainly as a subjective feeling because of the situation, but it was not observed a high level of expression of it, neither verbal nor physical. Finally, feelings of hopelessness were associated with uneasiness caused by work instability at a minor degree, mostly because of the perception of the future as an

uncertainty, giving it a negative trait, although with no clinically relevant considerations.

Personal resources of employees turned to be an excellent modulator of the impact of uneasiness caused by work instability (Gonzalez, et al., 2006). Which means that those who reported high levels of uneasiness caused by work instability but also reported to have a bigger amount of personal resources available (such as self care behaviors, recreational activities, rational coping of situations, social support or life satisfaction), perceived significantly less stress, anger and hopelessness. Another study reports that family, social and friend support were also a modulator of negative consequences associated with work instability, such as life being unsatisfactory (Lim, 1996).

One of the limitations of these studies is to evaluate separately the relations between these variables, without examining the possible mediator relationship between them (Baron & Kenny, 1986).

Taking into account this background, was proposed a conceptual model (See Figure 1) that attempts to integrate the previous partial results in the frame of the interactive stress theory (Lazarus & Folkman, 1984; Leibovich de Figueroa & Schmidt, 2004). Personal resources and personal stress are proposed as mediator factors.

The goal of the present study is to propose and examine an explanatory model for the relationship between uneasiness caused by work instability and the psychological impact on the employees, through a *Path Analysis*.

The proposed Conceptual Model, which will be tested, considers that uneasiness caused by work instability has a negative influence on Personal Resources and a positive influence on Personal Stress. Personal Resources have a positive influence on Satisfaction and a negative influence on Hopelessness and Anger, while Personal Stress

produces the opposite results. Also Personal Resources and Personal Stress are negatively correlated between them.

These are the basic operational definitions:

The problem of *Uneasiness caused by Work Instability* is defined by analyzing different aspects (Leibovich de Figueroa, 2006): uneasiness is the showing of the permanent and negative effects that rise because of adverse psychological and social conditions at the workplace, related to the subjective perception of the permanence of the job, work uneasiness is inversely related with work satisfaction.

Personal Resources refers to dominions that a person has and can use to soften the effects of stress. These Resources include rational and cognitive coping of the problems, recreational activities, self care and social support (Schmidt, et al., 2003)

Personal Stress refers to the perception of problems and conflict in different areas of an individual's life, where the signs of work stress are expressed (Schmidt, et al., 2003)

General Satisfaction is considered as a positive response of an individual to everyday psychosocial factors (family, community, housing, amongst others).

Hopelessness is considered as a system of cognitive schemes having the common element of negative expectations regarding the near or far future (Beck & Steer, 1993).

Finally, *Anger* is a psychobiological and emotional condition of feelings of variable intensities, going from a mild annoyance to intense fury and rage along with the activation of neuroendocrine processes and the arousal of the autonomic nervous system (Spielberger, 1991).

Method

Participants

The sample was formed by 191 subjects (106 women – 55.5 %) with an average age of 31 years ($SD = 11$) and a range of 46 years. All the subjects were administrative employees working steadily (and not with expiring contracts) for companies at Ciudad Autónoma de Buenos Aires, Argentina. On average, they've been working for the same company 4.79 years ($SD = 6.01$) and they worked an average of 7.64 hours per day ($SD = 1.86$). Of total sample, 37.70 % were the sole money source of the household. Regarding their educational level, 5.82 % didn't finish high school, 12.71 % had a high school diploma, 56.61 % didn't finish college and 25.40 % had a college degree.

Instruments

Inventory of Perceived Uneasiness in Unstable Work Setting (IMPIL; Leibovich de Figueroa, et al., 2006). It allows to measure the subjective perception of work instability. It has 101 items with 5 possible answers each (1 = *"it happens but it doesn't cause uneasiness";* 5 = *"it causes panic – fear"*). These items are divided in 8 subscales: interpersonal problems (e.g. *"my work situation influences my personal life"),* personal competence (e.g. *"I do impossible things to keep my job"),* health related concerns (e.g. *"I feel tired from my excessive working"*), environmental concerns (e.g. *"there are constant changes at my job"*), money related concerns (e.g. *"I don't know if my salary is enough"*), future related concerns (e.g. *"I can feel the instability will last"),* emotional problems (e.g. *"I feel that the doubts and insecurities about myself are rising"*) and cognitive problems (e.g. *"I try to forget about it"*). There is a general score of the impact of stressful events, which is used in this study. Regarding its psychometrics properties, both the subscales as well as the general instrument have a proper homogeneity between the items (Cronbach's Alpha between .60 and .92) with evidence in favor of discriminatory validity.

State-Trait Anger Expression Inventory (STAXI; Spielberger, 1991; adaptation of Leibovich & Schmidt, 2001). It allows to assess the experience and expression of anger in its two dimensions (state and trait) and its three directions (expression, suppression and control). For this study it was used the state of anger scale. State of anger is defined as an emotion that rises at a particular moment, characterized by subjective feelings varying in intensity from a mild discomfort or annoyance to intense fury or rage. It has 15 items (e.g. "*I feel like yelling at someone*"). Regarding its validity, factor analysis made by the author supports the state-trait differentiation. For the Argentine sample (Leibovich de Figueroa & Schmidt, 2001) (N = 349), the Cronbach's Alpha is high for this subscale (.91).

Personal Stress Questionnaire from the *Occupational Stress Inventory* (OSI, Osipow & Spokane, 1987; adaptation of Schmidt, et al., 2003). It allows to assess the general personal stress of the subject through subscales Vocational Stress (e.g. *"I made mistakes in my job"*), Psychological Stress (e.g. *"I need more time for myself"*) and Physical Stress (e.g. *"I feel tense").* It has 40 items with 5 possible answers each (1 = *Never*; 5 = *Always*). For this study it was used the total score of Personal Stress which is the sum of each subscale. The local adaptation of this test (N = 408) had a Cronbach's Alpha of .80 and evidences in favor of concurrent and discriminatory validity (Schmidt, et al., 2003).

Personal Resources Questionnaire from the *Occupational Stress Inventory* (OSI, Osipow & Spokane, 1987; adaptation of Schmidt, et al., 2003). It allows to assess the subject's personal resources through the Recreation subscale (e.g. "*When I need vacations, I take them*"), Self Care (e.g. *"I check myself regularly with the doctor*"), Social Support (e.g. *"There is at least one person at my disposal to whom I can talk about my problems")* and Rational Cognitive Coping (e.g. *"When I face a problem I*

analyze it carefully"). It has 40 items scored by a Likert scale with 5 possible answers each (1 = *"Never"; 5 = "Always")*. For this study it was used the total score of Personal Resources which is the sum of each subscale. The local adaptation of this test (N = 408) had a Cronbach's Alpha of .85 and evidences in favor of concurrent and discriminatory validity (Schmidt, et al., 2003).

Beck Hopelessness Scale (BHS; Beck & Steer, 1993). It measures feelings and thoughts of hopelessness. It has 20 items scored as True or False (e.g. *"I can't imagine my life in 10 years"*). Each one of these items indicates pessimistic thoughts about the future. The authors refer that the scale keeps high levels of internal consistency and evidence in favor of concurrent validity (Beck & Steer, 1993).

General Satisfaction Questionnaire (Schmidt & Gonzalez, 2004). It is based on the Quality of Life Scale by Olson and Barnes (1982). It allows to measure the degree of satisfaction a person has regarding different psychosocial factors. The local version (N = 187) had 21 items (based on the adults version of the original scale) (e.g. *"You are satisfied with the recreational possibilities of your neighborhood, park, mall, etc")* that explores satisfaction through different aspects of life (family, neighborhood, friends, health, etc) scored from 1 to 5 (1 = *"unsatisfied"*, 5 = *"extremely satisfied"*). The scale showed high internal consistency through Cronbach's Alpha (.78).

Procedure

The complete battery of instruments was self-administered and the subjects were volunteers. The instruments were delivered at their workplace and returned to the evaluators on the same day in a closed envelope with no identifications, to insure the anonymity of the participants.

Data analysis

A *Path Analysis* was made to determine a causal model of empirical relations between the variables with the software AMOS v. 5.0 (Arbuckle, 2003). The estimation method was maximum likelihood. Regarding the goodness of fit indices used to determine the goodness of the model, they were determined: *Square Chi* (Chi^2), *Comparative Fix Index* (CFI), *Tucker-Lewis Index* (TLI) and *Root Mean Square Error of Approximation* (RMSEA) (Bollen, 1990; Kline, 1998).

Chi^2 is a goodness of fit test based on the comparison between the covariance predicted by a model and the ones observed. Its value shouldn't be significant and there is a consensus that this significance be higher than 0.5 (Hu & Bentler, 1999). *CFI* compares the adjustment between the covariance matrix predicted by the model and the covariance matrix observed with the adjustment of the null model matrix and the covariance matrix observed. It measures the percentage of loss produced in the adjustment of changing the predicted model to the null model. This index, by consensus, has to be higher than .90 (Schumacker & Lomax, 1996). *TLI* is an index similar to *CFI*, but it sanctions the complexity of a model. It is one of the less affected by the size of the sample, because it doesn't include the degrees of freedom of any of the models in the calculus of the equation. It's interpreted the same as *CFI* (Hair, Anderson, Tatham, & Black, 1998). Finally, *RMSEA* is based on the comparison between the covariance of the predicted model and the ones observed, correcting the loss of parsimony. The *RMSEA* value is representative of the goodness of fit expected if the model was an estimation of the population and not just of the sample. Those values under .06 are considered a good fit to the population (Browne & Cudeck, 1993).

Summarizing, to make the goodness of fit acceptable, Chi^2 should not be significant, *CFI* and *TLI* should be higher than .90 and *RMSEA* lower than .06 (Bentler, 1990)

Results

Table 1 shows the descriptive statistics of the variables included in the study.

[Insert Table 1]

The proposed Conceptual Model was tested, where Uneasiness caused by Work Instability has a negative influence on Personal Resources and a positive influence on Personal Stress. These act as mediators between Uneasiness caused by Work Instability and Satisfaction, Hopelessness and Anger. Personal Resources have a positive influence on Satisfaction and a negative influence on Hopelessness and Anger, whereas Personal Stress works inversely. Personal Resources and Personal Stress are negatively correlated. These model didn't have good fit indices (x^2 = 12.97; *p* = .043; *CFI* = .99; *TLI* = .99; *RMSEA* = .08) (Figure 1).

[Insert Figure 1]

In light of these results, several correlations between variables were made to see which is the relation between them (Table 2). A new model was proposed from the data observed in the correlations matrix. An empirical criterion was used to select the variables to include in the model (correlations higher than .30) and a theoretical criterion to propose the mediation relations between them. In this new model (Model 2), Personal Resources don't participate in the relation between uneasiness caused by Work Instability and the rest of the variables. Uneasiness caused by Work Instability acts directly on Personal Stress, Anger and Satisfaction, and Personal Stress acts as a mediator between Uneasiness caused by Work Instability, Satisfaction and

Hopelessness. This model had good fit indices ($x^2 = 1.32$; $p = .86$; *CFI* = 1.00; *TLI* = 1.00; *RMSEA* = .00) (Figure 2).

[Insert Table 2]

[Insert Figure 2]

Although it was found a model that adjusts to data, and because the theory suggests that Personal Resources act as mediators between a psychosocial stressor such as Uneasiness caused by Work Instability and other psychological variables such as Satisfaction, Hopelessness and Anger, other models were tested in which Personal Resources act effectively as mediators. Therefore, three models that adjust to data were proposed. The first says that Personal Resources is a mediator between Uneasiness caused by Work Instability and Satisfaction (Model 3). The second says that Personal Resources acts as mediator between Uneasiness caused by Work Instability and Personal Stress and Anger (Model 4). The last model says that Personal Resources acts as mediator between Personal Stress and Satisfaction and Hopelessness (Model 5). Of these three models, only Model 3 had good fit indices ($\chi^2 = 10.05$; $p = .19$; CFI = .99; TLI = .99; RMSEA = .05) (Figure 3). Table 3 presents the goodness of fit indices of the five tested models.

[Insert Figure 3]

[Insert Table 3]

Although Model 2 and Model 3 had good fit indices, Model 2 is significantly different from Model 3 ($\Delta\chi^2 = 8.73$; p = .03) and is also the Model with better fit indices (Table 3).

Conclusions and discussion

The goal of this study was to propose and examine empirically a conceptual model about the relations between Uneasiness caused by Work Instability and different psychological characteristics, commonly mentioned in the literature as relevant, that account for the possible psychological impact of this psychosocial stressor.

The empirical evidence on previous studies and the relations deducted from the interactive stress theory (Lazarus & Folkman, 1984; Leibovich de Figueroa & Schmidt, 2004) led us to propose a conceptual model based on them. However, this conceptual model didn't show a proper adjustment to data. From the relations observed between the variables of the sample, other alternative models were proposed, two of them showing good fit indices. For both models, results indicate that Uneasiness caused by Work Instability has a direct and positive effect on the amount of stress and anger the subject perceives. This result is coherent with previous findings, documenting how the perceived Work Instability is consistently associated with greater levels of stress (Armstrong-Stassen & Fuchs, 1993; De Witte, 1999; Leibovich de Figueroa, 2006; Leibovich de Figueroa, et al., 2007; Leibovich de Figueroa, et al., 2009).

Also for both models, personal stress mediates between Uneasiness caused by Work Instability and Satisfaction and Hopelessness referred by the employees. The

perception of Work Instability has an indirect and negative effect on the person's general satisfaction and an indirect but positive effect on Hopelessness for the future.

The differences between the two models depend on the inclusion of Personal Resources as mediators of the relation between Uneasiness caused by Work Instability and Psychological Impact. Model 2 shows that Personal Resources are not a relevant mediator, and there is a direct and negative relation between Uneasiness caused by Work Instability and Satisfaction; whereas on Model 3 Personal Resources mediate in this relation. This means that the greater the Uneasiness caused by Work Instability, the smaller the degree of Satisfaction perceived by the employees because their Personal Resources diminish, such as self-care, recreational activities or perceived social support.

Although this last model allows to include all the variables proposed on the conceptual model, it is less parsimonious and the adjustment is significantly inferior compared to the previous model.

The empirical model resulting from the Path Analysis shows that personal stress is at the center of the model, because of its mediating role with Satisfaction and Hopelessness. Personal Stress is a variable that will have to be considered in programs developed to reduce the effects of uneasiness caused by work instability. On the other hand, although uneasiness is also associated with anger, it hasn't a mediating role with other responses. To summarize, any intervention focused on the state of anger has the potential to change only the emotional state, whereas an intervention focused on changing the personal stress could modify anger, but also hopelessness, satisfaction and personal resources.

Table 1. *Descriptive statisticals*

	Mean	SD	Min	Max
Uneasiness caused by Work Instability	2.47	.77	0.00	4.12
Personal Stress	89.54	21.47	0.00	161.00
Personal Resources	116.19	23.92	0.00	163.00
Satisfaction	4.22	.18	3.18	4.54
Hopelessness	1.15	.61	0.00	2.77
Anger	25.01	8.99	0.00	55.00

Note. N = 191

Table 2. *Correlation between variables*

	1	2	3	4	5	6
1. Uneasiness caused by Work Instability		.588**	.478**	-.390**	.280**	-.092
2. Personal Stress			.574**	-.518**	.346**	-.153*
3. Anger				-.292**	.229**	-.062
4. Satisfaction					-.242**	.259**
5. Hopelessness						-.271**
6. Personal Resources						

Note. $N = 191$
* $p < .05$; ** $p < .01$

Table 3. *Goodness of Fit of the proposed models*

	χ^2	*df*	*p*	CFI	TLI	RMSEA
Model 1	12.97	6	.043*	.99	.99	.08
Model 2	1.32	4	.86	1.00	1.00	.00
Model 3	10.05	7	.19	.99	.99	.05
Model 4	62.03	9	.00**	.99	.98	.176
Modelo 5	107.39	9	.00**	.97	.94	.24

Note. N = 191
* *p* < .05; ** *p* < .01
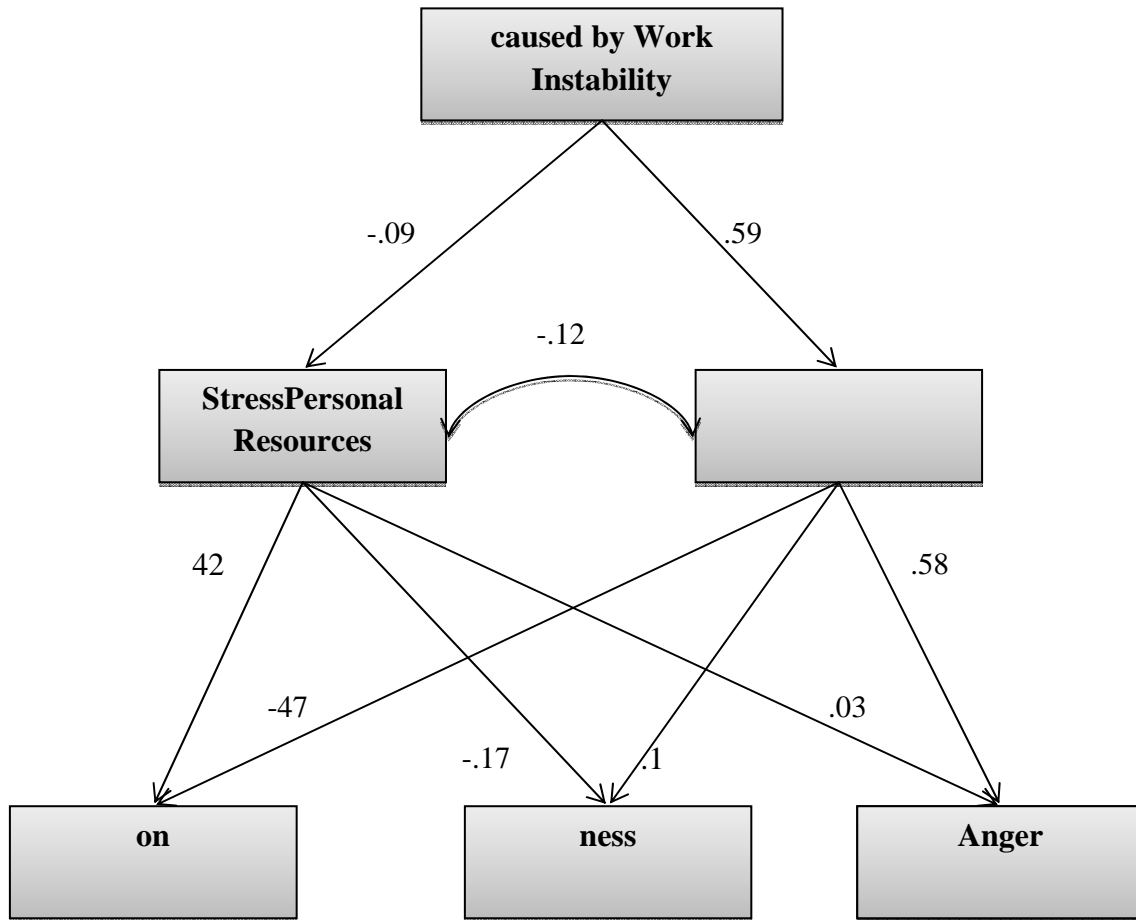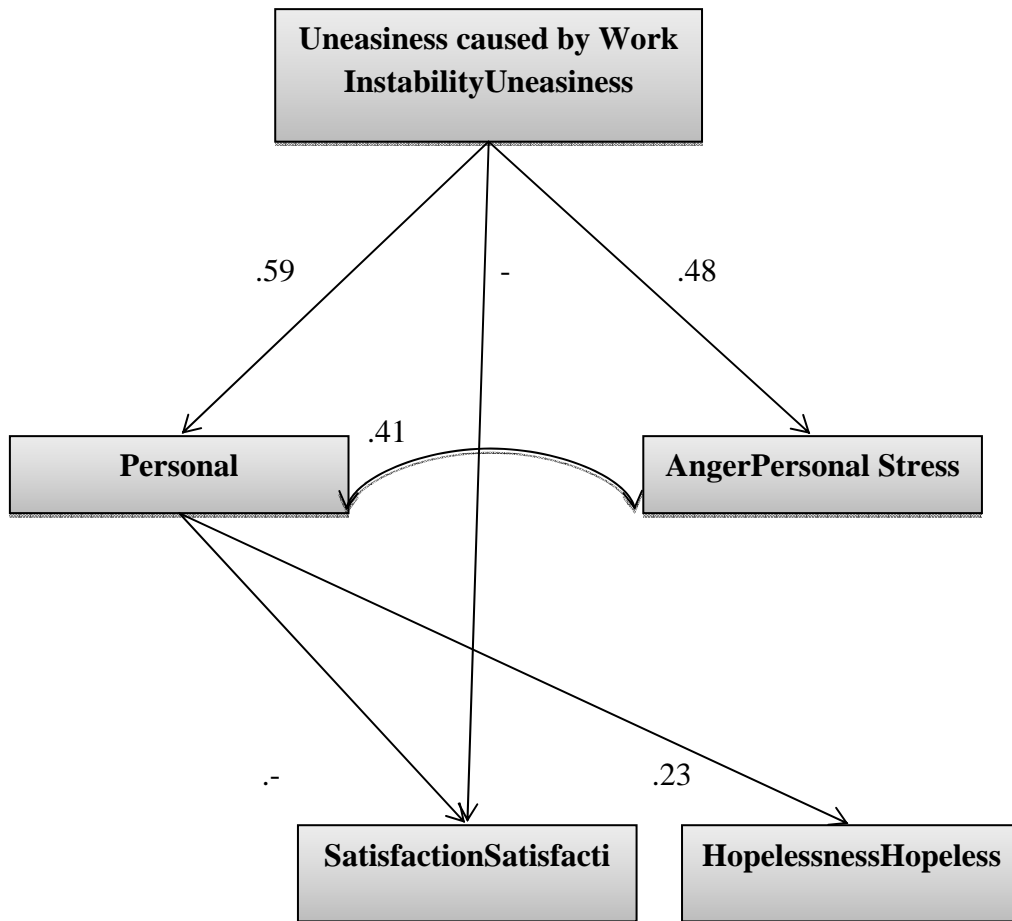
Figure 1. Conceptual Model

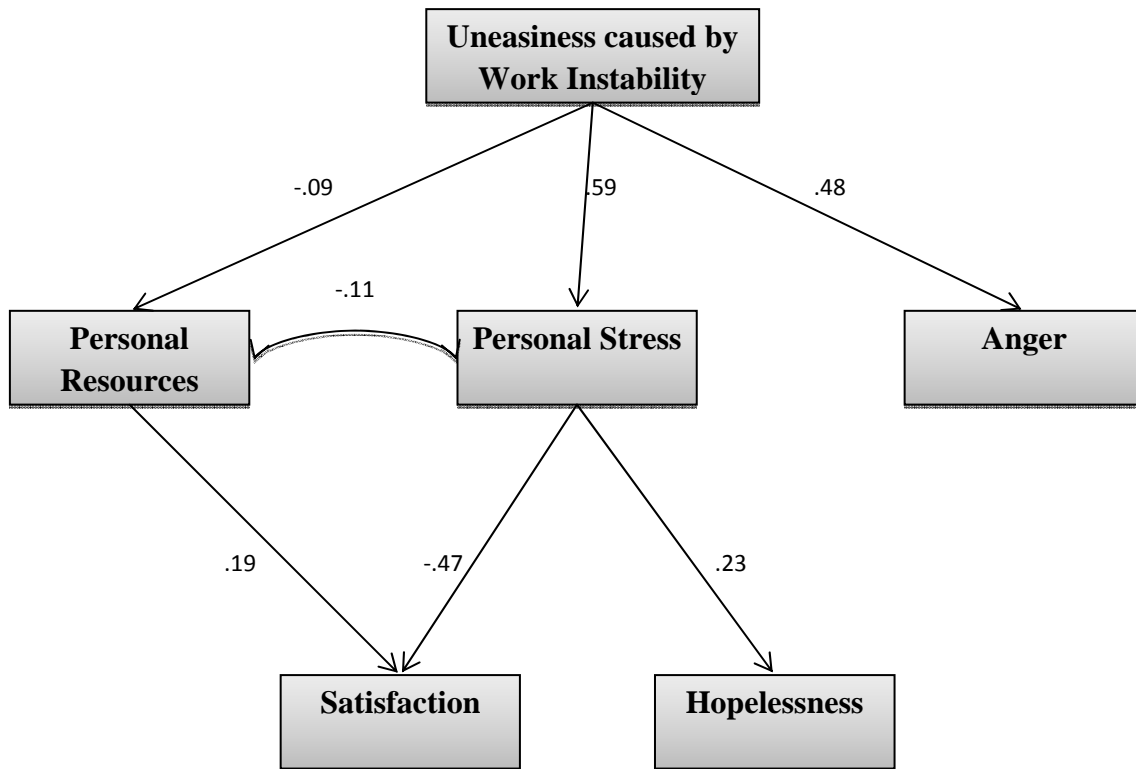*Figure 2.* Model 2, without Personal Resources as mediator

Figure 3. Model 3, with Personal Resources as mediator between Uneasiness caused by Work Instability and Satisfaction