

COMPETITIVENESS AS A MODERATOR IN THE RELATIONSHIP BETWEEN THE COMPETITIVE PSYCHOLOGICAL CLIMATE AND THE BASIC PSYCHOLOGICAL NEED SATISFACTION

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Abstract

The influence of the competitive psychological climate on the basic psychological need satisfaction remains an uncertainty. Using the integration of the cognitive evaluation theory, the self determination theory, the personal environment fit theory and the competition-hostility perspective, we examined the effect of the competitive psychological climate on three basic psychological need satisfactions, competence, autonomy, relatedness with the individual trait of competitiveness as the moderating factor. We tested 661 responses from lecturers using regression analyses. The results showed that the individual trait of competitiveness was a moderating variable of the effect of the competitive psychological climate on the feelings of competence, autonomy and relatedness. For individuals with high levels of competitiveness, the climate positively affected their feelings. For individuals with lower competitiveness levels, the climate negatively affected their feelings.

Keywords: Competitiveness, Competitive Psychological Climate, Basic Psychological Need Satisfaction

1. Introduction

Many researchers have focused on the competitive psychological climate and its consequences (Brown, Cron & Slocum, 1998; Fletcher, Major & Davis, 2008). The competitive psychological climate has an effect on many outcomes for individuals and organizations, such as in job satisfaction, organizational commitment, perceived job stress, task performance, job dedication, goal setting and performance (Brown, Cron & Slocum, 1998; Fletcher, Major & Davis, 2008). Furthermore, despite many findings about the competitive psychological climate, competitive climate scholars have devoted little attention to the influence of the climate on the basic psychological need satisfaction. Job satisfaction, organizational commitment, job stress and performance, job dedication and the other consequences, which were focused on in previous studies, are the end results of the climate, and study of the more direct results of the competitive psychological climate, such as the basic psychological need satisfaction are still neglected.

The Self-Determination Theory (SDT) posits that all humans have basic psychological needs that require satisfying (Ryan & Deci, 2002; Gagne & Deci, 2005; Deci & Ryan, 2008). Satisfaction of these needs promotes positive consequences such as, well-being, happiness, a positive outlook and vitality (Sheldon, Ryan & Reis, 1996; Kasser & Ryan, 1999; Reis et al., 2000; Gagne & Deci, 2005). Conversely, a lack of those satisfactions will lead to unhappiness, anxiety and psychological health problems (Sheldon, Ryan & Reis, 1996; Reis et al., 2000; Gagne & Deci, 2005). This is the reason why the basic psychological need satisfaction is the topic of this research.

These needs, which consist of competence, autonomy and relatedness are universal for all humans (Ryan & Deci, 2002, p. 7). Competence is the feeling of experiencing challenges and expressing one's whole capacities (Baard, 2002). Autonomy is the feeling that his/her behavior

is based on his/her own volition (Baard, 2002). Relatedness refers to the need to feel a sense of being a part of a community, and thus being able to have relationships with others (Ryan & Deci, 2002, p. 7).

The cognitive evaluation theory posits that competition among individuals increases competence (Deci et al., 1981; Vallerand, Gauvin & Halliwell, 1986). Competition provides informational feedback about an individual's competency, relative to others (Deci et al., 1981; Vallerand, Gauvin & Halliwell, 1986). Competition also provides challenges for the individual. Csikszentmihalyi (1990) posits that challenges can only be found in competitive situations. According to the SDT, informational feedback and challenges perceived by individuals produce the feeling of competence (Skinner & Edge, 2002, p. 300; Gagne & Deci, 2005). In a competition, an individual may get to be the best but, on the other hand, the individual may not gain informational feedback. However, when an individual does not get to be the best, he/she will be challenged to improve and become the best in the future. Challenging activities and the opportunity to get feedback, which an individual can perceive as increasing their feeling of competence and striving to be the best, so when the individual achieves their best, he/she will get a positive feeling.

Further, competition may increase the feeling of autonomy. The SDT posits that autonomous support from the environment increases the feeling of autonomy (Deci & Ryan, 1985, p. 31; Skinner & Edge, 2002, p. 300). Autonomous support may come from the environment that fulfills an individual's desires and expectations. Autonomy is increased by autonomous support, such as an environment that provides opportunities for individuals to express their true feeling and desires (Skinner & Edge, 2002). Competition provides a challenge and informational feedback that individuals desire and expect. So, autonomous support embedded in competition may increase the feeling of autonomy.

In contrast, competition may decrease the feeling of competence (Deci & Ryan, 1985; Vallerand, Gauvin & Halliwell, 1986). Fletcher, Major and Davis (2008) argued that individuals may feel uncertainty from the existing competition. An individual may give a high level of performance, but this can still be relatively lower compared to others. An individual may produce a high level of performance, but this may be assessed as a lower/poor performance. This could be because the performance was relatively lower than the others. This uncertainty decreases the feeling of competence. Skinner and Edge (2002) stated that the condition that consisted of the uncertainty, with no clear informational feedback, eliminated the feeling of competence.

Competition may also decrease the feeling of autonomy (Deci et al., 1981). Individuals may perceive a competition as a type of controlling behavior and a pressure, because there is uncertainty in a competition. This uncertainty is related to achieving the target and a good performance. Therefore, it causes stress for the individuals (Fletcher, Major & Davis, 2008). Besides, individuals feel threatened by others' behavior or performances. Peer performance decreases an individual's performance evaluation. This threat also creates pressure for the individual. So, controlling behavior, psychological pressure and the threat all lower the feeling of autonomy (Skinner & Edge, 2002).

The Cognitive Evaluation Theory (CET) only proposes the effects of competition, both the positive and negative effects, on autonomy and competence. However, the CET does not explain the factors that can produce those two contrary effects. So far, there has been no study focusing on explaining the factors that influence the contrary effects of competition in the work environment. Thus, this study proposed to examine the factors that influenced those two contrary effects.

The CET only predicts the effect of competition on two basic psychological need satisfactions, autonomy and competence, but not on relatedness. The relationship between competition and relatedness was explained by the integration of Kohn's statements (1992) and the SDT (Skinner & Edge, 2002). Kohn (1992) argued that competition created hostility among individuals since they tried to beat each other. Skinner and Edge (2002) proposed that hostility reduced relatedness. Thus, the integration of both statements implied that competition could reduce relatedness. Nevertheless, there is still no study that shows empirical evidence about the relationship between competition and relatedness. So, this relationship remains as a question: Does the negative relationship between competition and relatedness occur in any condition, individual and place? This study examines the relationship in order to provide empirical evidence among individuals in different traits.

Specifically, our study focused on the competitive psychological climate, meaning competition in an individual's perception level, not on competition as a reality. The competitive psychological climate is the individual's perception of the degree of competition in his/her work environment. It was based on previous studies (Brown, Cron&Slocum, 1998; Fletcher, Major&Davis, 2008). Brown, Cronand Slocum (1998) and Fletcher, Major and Davis(2008) adopted Deutsch's (1949) argument that investigating the effects of competition in individual perceptions of the individual's outcome is more closely related than that in the objective reality and at the organizational level. If the variances of individual perception influences the variance of individual outcomes, investigating the individual's perception is more relevant than the shared perception and objective measures at the organizational level. Thus, our study extends the CET and the integration of Kohn's (1992) and Skinner and Edge's (2002) statements by proposing a competitive psychological climate or an individual's perception of competition in his/her environment as our level of analysis.

We use lecturer work environment for our context of study. Lecturers in this study refers to people who work in universities, have responsibilities to give lecture about science, conduct researches and develop theories. They are the members of scientific community. "Scientific community is a collection of people and a set of norms, behaviors, and attitude that bind them together to sustain the scientific ethos. Scientific community includes both the natural science and social sciences" (Newman, 1999, p. 8). Lecturers have to have scientific norms, behaviors and attitude. The community is a professional community whose members share and have a commitment to scientific research. (Newman, 1999, p. 8)

Focusing lecturer context is essential because the context have characteristics which are more availability of autonomy support. Lecturers have a unique role. They different from other professions. They do scientific activities that need autonomy support from universities. Lecturers as scientific community members are tied by scientific norms which is universalism (Irrespective of who conduct research), communalism (scientific knowledge must be shared with others) and honesty (Newman, 1999, p. 8). The other norms that related to universalism is "scientific careers be open to talent" (Merton, 1973, p. 272; Cable & Murray, 1999). Those norms can not be worked without autonomy support from universities. Tigh rules, procedures and control can sink scientific talent, inhibit universalism, communalism.

Prevalent universities provide more autonomy support for lecturers rather than the other kind of professions and other kind of organization for the profesions, such, nurse, employee of bank, manufacturer. For example, lecturers arrange their job schedulling more flexible than other profession's job schedulling, such as employees of banks and manufacturing employees. Lecturers have standard outputs and outcomes for their job but the have more independent to choice the ways to reach the outputs and outcomes, such as the ways to give lecturing, choosing

research topics, when make a research. We expect that this autonomy support provides more variation of the feel of autonomy depend on their perception of competition rather than other professions.

2. Competitive Psychology Climate

The competitive psychological climate is the individual's perception of competition in his/her environment. What is competition? According to Kohn's definition (1992), competition is a situation where two or more individuals scramble to reach the same target.

There are some characteristics of competition as stated by Kohn (1992). First, there was the win-lose solution. The winner required the other to lose. Secondly, there was an exclusive mutualistic condition. One's success required the other's failure. Thirdly, there was the scarcity of the object that was being competed for. Fourthly, there was competition among individuals to reach the target.

We expect that there are variations of competitive psychological climate. Brown, Cron and Slocum (1998) argue that there are variations of individual perceptions of work climate because they depend on individuals' backgrounds and experiences or situations in the same organization.

3. The Moderator of Competitiveness on the Competitive Psychological Climate Effect

This study used the person-organization fit theory to explain the factor that resolved the questionable relationship between the competitive psychological climate and the three basic psychological need satisfactions. According to Fletcher, Majorand Davis(2008) and Brown, Cronand Slocum(1998), the person-organization fit theory can be used to explain the factor that moderated the effect of the competitive psychological climate on its consequences. We adopted their view for explaining the contrary effect of the competitive psychological climate on the feelings of competence, autonomy and relatedness.

Greguras and Diefendorff (2009) found that the person-organization fit positively affected competence, autonomy and relatedness. When individuals felt compatible with an organization, positive outcomes resulted, such as positive feelings, positive attitudes and behavior. However, when individuals felt incompatible with an organization, negative consequences such as negative attitudes and behavior existed. The compatibility between an individual and the organization or environment consists of both of their characteristics.

A high competitive psychological climate is compatible with highly competitive individuals and a less competitive psychological climate is compatible with less competitive individuals. Competitive individuals are individuals who enjoy the interpersonal competition, the desire to win and to be better than others (Spence & Helmreich, 1983). For highly competitive individuals, the competitive psychological climate produces positive feelings and positive attitudes. For less competitive individuals, the competitive psychological climate decreases any positive feelings and attitudes.

This study proposed that competitiveness is the moderating factor that explains the contrary effect of the competitive psychological climate on the basic psychological need satisfaction. The trait of competitiveness can change the positive effect of the climate to a negative effect.

For individuals with high levels of competitiveness, the competitive psychological climate may positively affect their feeling of competence. For these individuals, a competitive psychological climate provides positive informational feedback and a challenging situation. According to

Eccles (2007), individuals allocated a high value to a task when that task aligned with their self image or the opportunity to fulfill their self image. Competitive individuals have the desire to express their competence by showing that they are better than other people. A competitive psychological climate provides the competitive tasks that competitive individuals want. A competitive psychological climate enables individuals to gain information about their competency, relative to others. This information can be used as a challenge to be the best they can be. A competitive psychological climate fulfills a competitive individual's need to satisfy their curiosity as to whether or not they can be the best. According to the SDT, informational feedback of an individual's competence and challenging situation facilitates the feeling of competence (Gagne & Deci, 2005).

On the other hand, for individuals who are less competitive, a competitive psychological climate may decrease their feeling of competence. Being the best in their workplace is not the main consideration for these individuals. Less competitive individuals perceive uncertainty in a competitive situation. Such individuals may contribute to a high performance level, but they may not be assessed as being high performance. This is usually due to them not having a level of performance which is comparable to those with the highest levels (Fletcher, Major&Davis, 2008). Skinner and Edge (2002) stated that uncertainty and no informational feedback caused individuals to perceive a decreased feeling of competence. Thus,

Hypotheses 1. The effect of the competitive psychological climate on the feeling of competence depends on the individual's trait of competitiveness.

- Hypothesis 1a. For individuals with a high level of competitiveness, a competitive psychological climate positively affects the individual's feeling of competence.
- Hypothesis 1b. For individuals with a low level of competitiveness, a competitive psychological climate negatively affects the individual's feeling of competence.

Autonomy is an individual's universal need (Ryan & Deci, 2002). Autonomy is a feeling that their behavior matches their wants and needs (Ryan & Deci, 2002). All humans have genuine preferences, desires and wants (Skinner & Edge, 2002). Greguras and Diefendorff (2009) argued that the person-organization fit increased autonomy. The match between an individual and an organization provided the individual's preferences, desires and wants. Competitive individuals are individuals that like competition and always try to be the winner (Fletcher, Major&Davis, 2008). A competitive psychological climate provides challenges for those individuals. Competitive individuals prefer a highly competitive psychological climate to a less competitive psychological climate. We propose that the competitive psychological climate may increase the feeling of autonomy for individuals with high competitiveness levels.

Individuals with low competitiveness levels tend to dislike competition (Fletcher, Major&Davis, 2008). The mismatch between individual characteristics and organizational characteristics inhibits individual preferences and desires. Fletcher, Majorand Davis(2008) found that for less competitive individuals, a competitive psychological climate resulted in negative feelings, such as job satisfaction and stress. According to Skinner and Edge (2002), the lack of support for individuals' preferences and desires eliminated the feeling of autonomy. So, the mismatch may decrease the feeling of autonomy. For less competitive individuals, a competitive psychological climate may decrease the feeling of autonomy. Thus,

Hypotheses 2: The effect of a competitive psychological climate on the feeling of autonomy depends on the individual's level of competitiveness.

- Hypothesis 2a. For individuals with high levels of competitiveness, a competitive

- psychological climate positively affects the individual's feeling of autonomy.
- Hypothesis 2b. For individuals with lower levels of competitiveness, a competitive psychological climate negatively affects the individual's feeling of autonomy.

The attachment perspective has an assumption that humans are born with desires and tend to seek out and gain pleasure from their interaction with others (Bowly, 1969, 1973; Ainsworth, 1979; Papousek & Papousek, 1980; Skinner & Edge, 2002). The need for relatedness is innate in all humans. The social context around an individual may support or hinder this feeling of relatedness. When individuals find a warm, welcoming environment, they feel high levels of relatedness, but when individuals receive hostility from their environment, they feel disconnected (Skinner & Edge, 2002).

A competitive psychological climate induces hostility (Kohn, 1992). Kohn (1992) stated that competition tended to make individuals hinder other peoples' performance. This condition created hostility among the individuals. Skinner and Edge (2002) proposed that hostility decreased the feeling of relatedness. They implied that a competitive psychological climate may decrease the feeling of relatedness.

An individual's competitiveness may influence the effect of the competitive psychological climate on the relatedness. When an individual perceives that his/her characteristics match with an organizational characteristic, he/she increasingly feels the relatedness (Greguras & Diefendorff, 2009). Relatedness is a feeling of being a part of a community. When individuals perceive the match between them and their organizational environment, they feel a part of their organization and the feeling of relatedness rises. Individuals with high levels of competitiveness are matched with a competitive psychological climate (Fletcher, Major & Davis, 2008). They will feel that the competitive environment is their community. This feeling may eliminate the negative effect of the competitive psychological climate on the feeling of relatedness. Fletcher, Major and Davis (2008) argued that highly competitive individuals may not experience the negative feelings resulting from a competitive environment. The trait of competitiveness hinders the negative feelings generated by a competitive environment. Thus,

Hypotheses 3: The effect of a competitive psychological climate on the feeling of autonomy will depend on the individual's trait of competitiveness.

- Hypothesis 3a. For individuals with high levels of competitiveness, a competitive psychological climate does not affect the individual's feeling of relatedness.
- Hypothesis 3b. For individuals with lower levels of competitiveness, a competitive psychological climate negatively affects the individual's feeling of relatedness.

4. Method

Sample

The participants were 661 lecturers in state and private universities in Daerah Istimewa Yogyakarta. We gave questionnaires to 1000 lecturers, and used the 661 of them we received from the lecturers who had responded in full. There were 339 questionnaires which were not responded to, or only gave partial answers. The lecturers consisted of 42.8% females and 57.2% males. Of the lecturers, 5.3% held a bachelor's degree, 72% had a master's degree and 22.7% had a doctoral degree.

Measures

We assessed the factorial validity, discriminant validity, unidimensionality and the internal consistency for all the variables before we analyzed the relationship among the variables. We used this sample to ensure the validity and reliability. We used all the items that met the requirements of factorial validity, discriminant validity, unidimensionality and internal consistency.

Competitive psychological climate

The competitive psychological climate was measured by a scale that was adapted from the competitive work environment scale (Fletcher & Nusbaum, 2010). Fletcher and Nusbaums' scale is the general measurement used for work organization and we chose fourteen items that were the most relevant to a lecturer's environment and adapted the items in order to make them relevant to the environment. Three of the items were "In my workplace, lecturers have to compete to obtain research funds", "In my workplace, lecturers have to compete to teach any prestigious programs that have interesting rewards" and "In my workplace, every lecturer has to compete to get a prestigious position". We aggregated all the scores of the competitive psychological climate items responses. Response choices for the items ranged from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient of all these items was 0.89.

Competitiveness

We measured competitiveness by using a scale developed by Helmreich and Spence (1978). This scale had previously been used by Brown, Cronand Slocum (1998) and Fletcher, Major and Davis (2008) to assess employees' competitiveness in the workplace. There were four items to measure the employees' traits. One of the items was "I feel that winning is important in both work and games". Response choices for the items ranged from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient of all these items was 0.8. We categorized the groups into highly competitive and less competitive subsamples using the mean splitting method.

Competence

We measured competence with the scale developed by Van den Broeck et al. (2010). We used six items for the competence scale that met the requirements for validity and reliability. One of the items was "I really master tasks at my job". Response choices for the items ranged from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient of all these items was 0.76.

Autonomy

We measured autonomy by using the scale developed by Van den Broeck et al. (2010). We used four items for the autonomy scale that met the requirements for validity and reliability. One of the items was "I feel free to do my job the way I think it could best be done". Response choices for the items ranged from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient for all these items was 0.78.

Relatedness

We measured relatedness with the scale developed by Van den Broeck et al. (2010). We used five items for the relatedness scale that met the requirements for validity and reliability. One of the items was "At work, no one cares about me (reverse score)". Response choices for the items ranged from 1 (strongly disagree) to 5 (strongly agree). The alpha coefficient of all these items was 0.79.

5. Result

The descriptive statistics including the means, standard deviations, coefficient α and zero-order correlations among the study variables are shown in Table 1. There was significant correlation among the variables, correlation between the competitive psychological climate and competitiveness, correlation between competence and autonomy, competence and relatedness, as well as autonomy and relatedness.

Table 1: Mean, Standard Deviation, and Correlations among the Variables

	Mean	SD	1	2	3	4	5
1. Competitive Psychological Climate	3.067	0.676	(0.89)				
2. Competitiveness	3.458	0.778	0.568**	(0.8)			
3. Competence	4.069	0.512	0.050	0.218**	(0.76)		
4. Autonomy	3.974	0.552	0.068	0.190**	0.450**	(0.78)	
5. Relatedness	4.082	0.576	0.009	0.067	0.429**	0.435**	(0.79)

Note. n = 661

*Significant <0.05 ; **Significant<0.01

Tests of Hypotheses

We split the sample into two groups, individuals with high levels of competitiveness and individuals with lower levels of competitiveness. Table 2 and Table 3 show the results of our regression analysis for each subsample.

Table 2: Results of Regression Analysis for the Highly Competitive Individuals

Variable	High Level of Competitiveness					
	Competence		Autonomy		Relatedness	
	Estimate	SE	Estimate	SE	Estimate	SE
Competitive Psychological Climate	0.099*	0.043	0.197**	0.041	0.122*	0.048
R ²	0.01		0.039		0.015	
F	4.200		17.086		6.352	

Note: The high competitiveness subgroup sample size is 423

*Significant <0.05; **Significant<0.01

Table 2 shows that for the highly competitive individuals, a competitive psychological climate positively affected their feeling of competence ($\beta=0.09$, $p<.05$). The results also showed that a competitive psychological climate positively affected both the feelings of autonomy ($\beta=0.197$, $p<.01$) and relatedness ($\beta=0.122$, $p<.05$). The inverse effect of a competitive psychological climate occurred in the less competitive individuals. The results are shown in Table 3.

Table 3. Results of Regression Analysis for the Less Competitive Individuals

Variable	Low Level of Competitiveness					
	Competence		Autonomy		Relatedness	
	Estimate	SE	Estimate	SE	Estimate	SE
Competitive Psychological Climate	-0.147*	0.057	-0.186**	0.068	-0.176**	0.064

R ²	0.022	0.034	0.031
F	5.248	8.433	7.524

Note: The low competitiveness subgroup sample size is 238 *Significant <0.05; **Significant<0.01

For the less competitive individuals, a competitive psychological climate negatively affected their feeling of competence ($\beta = -0.147, p < .05$). The results also showed that a competitive psychological climate negatively affected both the feelings of autonomy ($\beta = -0.186, p < .01$) and relatedness ($\beta = -0.176, p < .01$).

Hypothesis 1 suggested that the effect of a competitive psychological climate on the feeling of competence depended on the individual's trait of competitiveness. This hypothesis was supported by the result. For individuals with a high level of competitiveness, a competitive psychological climate positively affected the individuals' feeling of competence. However, for individuals with lower levels of competitiveness, a competitive psychological climate negatively affected the individuals' feeling of competence.

Hypothesis 2 was also supported by the result. The effect of a competitive psychological climate on the feeling of autonomy depended on the individual's trait of competitiveness. For individuals with high levels of competitiveness, a competitive psychological climate positively affected the individuals' feeling of autonomy and for individuals with lower levels of competitiveness, a competitive psychological climate negatively affected these individuals' feeling of autonomy.

Hypothesis 3 suggested that the effect of a competitive psychological climate on the feeling of relatedness depended on the individual's trait of competitiveness. For individuals with low levels of competitiveness, a competitive psychological climate negatively affected the individuals' feeling of relatedness. However, for individuals with high levels of competitiveness, a competitive psychological climate did not affect the individuals' feeling of relatedness. The hypothesis was partially supported, because even for less competitive individuals, the result supported the hypothesis, but for highly competitive individuals, the result differed from the hypothesis that a competitive psychological climate had a significantly positive effect on relatedness.

6. Discussion

The aims of this study were to examine the effects of the competitive psychological climate on the feelings of competence, autonomy and relatedness between highly competitive individuals and less competitive individuals. We hypothesized that the trait of competitiveness moderated the effect of the climate on the three basic psychological need satisfactions. The trait of competitiveness can change the effect from a negative one to a positive effect. In general, these results supported the hypotheses.

Some previous studies were not able to explain the cause of the contradictory effect of a competitive psychological climate on the feelings of competence and autonomy that are pointed out by the CET, or to provide empirical evidence of the effect of the climate on the three basic psychological need satisfactions in the workplace. This study suggested that the individuals' trait of competitiveness could change the effect of a competitive psychological climate on the three basic psychological need satisfactions from a negative one to a positive one.

These results supported the CET and point out that competition can diminish the feeling of autonomy (Vallerand, Gauvin&Halliwell, 1986). When a competitive situation makes individuals feel they are being controlled, their feeling of autonomy is lost (Deci & Ryan, 1985; Vallerand, Gauvin&Halliwell, 1986). This study showed that for less competitive individuals, a competitive

psychological climate negatively affected the feeling of autonomy. This study provided a new finding, that the negative effect of competition on autonomy in the workplace occurred in less competitive individuals. These less competitive individuals did not fit into a competitive psychological climate, less competitive individuals do not prefer competitive situations. They were forced to adopt competitive behavior and to compete against each other. This forcing and controlling diminished the less competitive individuals' autonomy. This was consistent with the person-organizational theory, the unfit characteristics of a person and an organization results in negative consequences.

Moreover, we extended this theory by measuring a competitive situation as a competitive psychological climate or an individual's perception of a competitive situation. This use of the measurement was also conducted by Fletcher, Major and Davis (2008) and Brown, Cronan and Slocum (1998). Descriptive statistics show that there was a fair variation in the competitive psychological climate. It implied that there was a variation in individuals' perceptions of a competitive situation in their workplace. This study's results showed that the variation of those individuals' perceptions were correlated to the variations of the three basic psychological need satisfactions after splitting the sample between less and highly competitive individuals. This empirical evidence implies that measuring competition in the workplace, by the individuals' perceptions, more directly affects the basic psychological need satisfactions than competition as a reality at the organizational or group level.

Contrary to the results from less competitive individuals, the results from highly competitive individuals showed that a competitive psychological climate had a positive effect on the feeling of autonomy. This was consistent with the CET (Vallerand, Gauvin & Halliwell, 1986). Competitive situations may allow for self-determination (autonomy). When competitive situations fit with an individual's traits, the feelings of autonomy may increase. Competitive individuals are those individuals who like competition and want to show that they are the best. A competitive individual prefers a competitive situation to express his/her enjoyment. This person-organization fit increases the feeling of autonomy. A work environment that provides preferences and choices for individuals increases the feeling of autonomy (Skinner & Edge, 2002).

This study supported our hypothesis that the competitive psychological climate positively affected the feeling of competence for highly competitive individuals. It was consistent with the CET, competition can increase the feeling of competence (Deci & Ryan, 1985). Highly competitive individuals are people who desire to show that they are the best. Competition is a way to satisfy this desire. Competition provides the chance to get information about their competences, relative to others. Competition provides challenges to prove that they are the best. Informational feedback of the competence and challenging situations that individuals perceive can increase the feeling of competence (Skinner & Edge, 2002).

For less competitive individuals, our empirical evidence provided a contrary result. The competitive psychological climate negatively affected the feeling of competence. These individuals felt uncertainty when in a competitive situation. Their perceptions of competition built the perception that they would not get information about their real competence without being compared to others. Less competitive individuals are individuals who do not like competition and do not have any desire to be the best. They need informational feedback about their absolute competence, not their relative competence to others. Unclear information about their absolute competence makes these individuals feel incompetent. Individuals may work hard and contribute high levels of performance. However, they are assessed as not having a high level

of performance. This is because their performance is not high, relative to other peoples' performance. This decreases their feeling of competence. The CET posits that unclear performance informational feedback can eliminate the feeling of competence (Skinner & Edge, 2002).

In this study, the findings of the relationship between the competitive psychological climate and the feeling of relatedness have the same direction as the relationship between the climate and competence, as well as the climate and autonomy. The climate aspect positively affects the relatedness for highly competitive individuals and it negatively affects feelings for the less competitive individuals.

This result of the relationship between the climate and relatedness provided new empirical evidence that had not been found in previous studies. It was consistent with our expectations for less competitive individuals, a competitive psychological climate led to hostility among individuals. Kohn (1992) pointed out that competition increased hostility. Further, as with the SDT, hostility decreased relatedness.

It was a surprise to find that for highly competitive individuals, the result was different from our expectations. Our result provided empirical evidence that a competitive psychological climate positively affected the feeling of relatedness. It broke the integration of Kohn's statement (1992) and the SDT. Kohn (1992) and the SDT implied that competition could produce hostility that would lead to a reduction in the feeling of relatedness. Surprisingly, our data showed that a competitive psychological climate positively affected relatedness.

There are some possible explanations for this fact. One of the reasons is that competitive individuals are individuals who enjoy competition (Spence & Helmreich, 1983). When they perceive that they are in a competitive community, they feel that they are in their proper community. Their view is that competition is a game, and they enjoy that game. They have a chance to show that they are the best. They feel that they are in the best community, and that everyone there wants to show their best. It is their community.

It is different if they are in an uncompetitive environment. There is no challenge to them, and they feel different from others there. They perceive that they are not in the best community and cannot find ways to express that they are the best. They feel more alienated in this uncompetitive environment than they ever do in a competitive environment.

The other possible explanation is about the contextual factors. This study focused on the environment for lecturers in universities. In a lecturer's workplace, they carry out their job in a relatively independent manner, compared to other workplace environments. They focus on their specific specialization of study. When they face competition, they search for information. Collecting information needs communication and connections with each other. This increases the good relationships among lecturers and these relationships may increase the feeling of relatedness. However, for less competitive individuals, this increase is less than the increase in the lost relatedness, which is caused by the hostility present.

7. Theoretical Implication

This result points to an important theoretical contribution, because it provides empirical evidence of the integration of the CET, SDT, person-organization fit theory, and Kohn's (1992) competition-hostility view. According to the CET from Deci and Ryan (1985) and Deci et al. (1981), which only posited that competition brought out the controlling aspect and informational aspect. The controlling aspect resulted from the effort to get the win. The controlling aspect led to a decrease in the feeling of autonomy and the informational aspect led

to an increased feeling of competence. Further, Vallerand, Gauvin and Halliwell (1986) extended the explanation by pointing out that competition might both increase and decrease self-determination, as well as provide challenges and informational feedback that increased the feeling of competence, and uncertainty that decreased the feeling of competence. However, the CET only predicted results up to that point.

Further, the SDT only focused on competence, autonomy, and relatedness supported by the environmental factors (Skinner & Edge, 2002). An environment that provided a challenge, informational feedback, the opportunity to express individuals' desires, preferences, choices, and a welcoming condition would be likely to increase the feelings of competence, autonomy and relatedness. However, an environment that had the uncertainty of feedback, pressure, controlling aspects, and hostility would likely decrease the feelings of competence, autonomy and relatedness. Few studies have explored what characteristics of the environment and social contexts and what factors support or inhibit the feelings of competence, autonomy and relatedness as the basic psychological need satisfactions in detail. The SDT does not explain about competition at all. On the other hand, Kohn's (1992) competition-hostility view only stated the positive relationship between competition and relatedness.

Adopting the person-organization fit theory contributed to the role of competitiveness in explaining the relationship between the competitive psychological climate and basic psychological need satisfaction. Integration of the CET, SDT, person-organization fit theory, and Kohn's (1992) competition-hostility view contributed a clear explanation of the picture of the relationship between the competitive psychological climate, the three basic psychological need satisfactions and competitiveness as a whole.

Our study provided empirical evidence of that integration and showed results for highly competitive individuals, that the competitive psychological climate facilitated competence, autonomy and relatedness and supported such things as challenges, informational feedback, the opportunity to express individuals' choices, preference and desires, which all went to create an environment that made individuals feel comfortable. For less competitive individuals, the competitive psychological climate inhibited the feelings of competence, autonomy and relatedness by the pressure to win, uncertainty and alienness. This integration theory clearly contributed the facts that showed the relationship among those variables.

8. Practical Implications

Our findings suggest that a supervisor should consider each individual's trait of competitiveness when he/she wants to create a competitive psychological climate among their individual staff. When the majority of individuals have a low level of competitiveness, increasing the competitive psychological climate is not a very effective policy. Individuals will feel unrelatedness, be pressurized and incompetent. It would yield negative consequences, such as low staff motivation (Ryan & Deci, 2002; Gagne & Deci, 2005), anxiety, (Ilardi et al., 1993; Baard, Deci & Ryan, 2004) and low performance levels (Gagne & Deci, 2005). Increasing the competitive psychological climate is an appropriate policy when the majority of the individuals are highly competitive. It allows for high levels of motivation by satisfying their need for competence, autonomy and relatedness.

However, this study specifically focused on the context of lecturers, so this implication must be carefully considered if it is applied to another context. The supervisor must consider the implications of its use in another context because it is possible that other factors could eliminate the positive effects of the climate, such as high work demands, stringent procedures and rules, or other factors.

According to the usable sample of this study, the majority of the lecturers are highly competitive. This indicates that facilitating a competitive psychological climate is the proper policy. Facilitating a competitive psychological climate can be done by producing a competitive program, for example by developing challenging competitive research funding, or giving lecturing opportunities based on challenging competition.

Limitations and Future Research

We conducted this study using a survey method. So, this study has a weakness in its internal validity. We could not control all the factors that influenced the dependent variable and are not analyzed in this study. It is difficult to design experimental research into competition in the workplace and to control the factors that may influence the feelings of competence, autonomy and relatedness. These factors are competence, autonomy and relatedness supports (Skinner & Edge, 2002; Baard, Deci & Ryan, 2004), and task characteristics (Richer, Blanchard & Vallerand, 2002). Future studies should focus on a research method that uses ways to control the disturbing variables.

This study used lecturers for the sample. Focusing on a specific sample makes a limited generalization. We cannot generalize our results for other populations, such as bank workers, manufacturers, employees in public services, and employees in government institutions. For an example, work demands in a banking context and a hospital context could produce a different effect of the competitive psychological climate on the basic psychological need satisfactions. Increasing the competitive psychological climate may not be irrelevant for promoting basic psychological need satisfaction, even in competitive individuals. Heavy work demands may be the optimal challenge for competitive individuals. This limitation provides an opportunity to conduct studies into the other contexts.

This data resulted in a positive relationship between the competitive psychological climate and the feeling of relatedness among competitive individuals. However, we have not provided empirical evidence to explain this more deeply, such as which do competitive individuals prefer, a competitive community or an uncompetitive one? Which do competitive individual choose, competitive peers or uncompetitive peers and for what reasons? These facts would strengthen our positive finding and provide a real explanation for them. Future studies will hopefully explore these findings more deeply.

We analyzed the effect of the competitive psychological climate and found that there was variance in it. However, this study did not explain how a competitive psychological climate can be built, or what the factors that affected an individual's perception of competition were. This has important managerial implications. This study has not clearly provided managerial methods for how to increase or reduce the competitive psychological climate. Explaining how a competitive psychological climate is built and what factors, internal as well as external, affect this climate, and what may result from it, will provide clear managerial implications. These are all opportunities for future research.

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