How Nurse Agreeableness and Negative Mood of Nursing Supervisors Impact on Helping Colleagues

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Abstract

Background: Nursing collaboration is important in enhanced health care quality. Previous studies have identified agreeableness and supervisor negative mood as two predictors for subordinate collaboration. However, in nursing contexts, exactly how these factors influence nursing intention to help colleagues remains unknown, as well as how their interactive influences.

Objectives: Thus this study investigates whether nurse agreeableness and supervisor negative mood impacts nursing intention to help colleagues independently and interactively.

Methods: This study adopts a cross-sectional design and questionnaires for collecting data. One sample set comprised one supervisor and three nurses. This study issued 53 sets and collected complete responses from 46 sets, yielding an effective response ratio of 86.8%.

Results: Analytical results indicated that nursing intention to help colleagues is positively related to nurse agreeableness (path coefficient = .54, $t = 6.61$, $p < .01$), but negatively related to supervisor negative mood (path coefficient = -.13, $t = -1.67$, $p < .05$). Moreover, analytical results indicated that for highly agreeable nurses, the relationship between supervisor negative mood and nursing intention to help colleagues is significantly stronger than that for lowly agreeable nurses, demonstrating that nurse agreeableness amplifies the negative impact of supervisor negative mood on nursing intention to help colleagues.
Conclusion: Findings of this study suggest the pivotal role of managing supervisor negative mood for increasing nursing intention to help colleagues.

Keywords: Agreeableness, hospital nurses, intention to help colleagues, interactive effects, and negative mood.
Introduction

Most care delivered today is delivered by teams of people (Kohn et al., 2000), identifying the need to improve teamwork in global healthcare delivery. Thus teamwork was regarded as the means for providing efficient, safe, and patient-centred care (Dreachslin et al., 2000). In nursing, support from nursing team members helps retain nurses (van der Heijden et al., 2010), overcome difficulties at workplace (Antonucci & Akiyama, 1987), and improve nursing job satisfaction (Cortese et al., 2010). However, nurses have heavy workloads and long work durations, increasing their burnout (Lee & Ashforth, 1996; Schaufeli & Bakker, 2004) and further reduce nursing capabilities in maintaining quality care (Teng et al., 2010) that likely reduces their intention to help colleagues, indicating the importance of maintaining nursing intention to help colleagues.

Previous studies have identified predictors for intention to help colleagues, including altruism and empathy (Bierhoff et al., 1991; Litvack et al., 1997), which are components of agreeableness (McCrae & Costa, 1987), indicating the relevance of agreeableness in helping colleagues. Highly agreeable individuals are friendly, kind, tolerate, considerate, and empathetic (McCrae & Costa, 1985; McCrae & John, 1992). These characteristics for highly agreeable individuals are likely to motivate them to help colleagues. Moreover, supervisor mood influences subordinate/employee mood, thoughts, and interactions among subordinates/employees in the human resources management domain (Goleman et al., 2001), and thus likely also influence intention to help colleagues. Moreover, negative mood hampers individual decision making and behavioral performance. However, the previous studies have not exactly investigated how these two factors (i.e. nurse agreeableness and negative mood of supervisors) and
their interaction impact nursing intention to help colleagues, indicating a research gap. Research closing this gap may provide novel means for international nursing managers to improve nursing intention to help colleagues, further ensuring health care quality.

Thus the purpose of this study investigates if nurse agreeableness and negative mood of supervisors impact nursing intention to help colleagues independently and/or interactively. Compared with the literature, this study is unique in three aspects.

First, Quoidbach and Hansenne (2009) identified emotional intelligence as a predictor for team cohesion. Emotional intelligence indicates individual capability to sense the feelings of others and to adjust their own emotions (Mayer & Salovey, 1997). The present study is in line with Quoidback and Hansenne (2009) in investigating how emotional aspects impact nursing teamwork. However, this study is novel in investigating how supervisor mood and nurse agreeableness interact to impact nursing teamwork.

Moreover, Cortese et al. (2010) found that peer support impacts nursing job satisfaction, while van der Heijden et al. (2010) found that job satisfaction further helps retain nurses, indicating the importance of peer support among nurses. Since peer support among nurses positively contributes to maintaining nursing workforce, this study further investigates the antecedents of nursing intention to help colleagues, a practical form of peer support at workplace. Advanced knowledge on how to improve peer support can help increase the application of findings of Cortese et al. (2010).

Eventually, in the personality literature, King et al. (2005) investigated how personality interacts with social contexts to impact helping behavior. The present study follows King et al. (2005) in investigating how personality and contextual
factors interact to impact helping behavior. The present study introduces supervisor negative mood as a novel contextual factor to interact with agreeableness in nursing, which is a critical health care context.

**Literature Review**

In the following, we first review the literature on helping behavior among peers to clarify critical antecedents for nursing intention to help colleagues. Moreover, the literature on negative mood of supervisors and individual agreeableness are then reviewed to build a knowledge base for developing subsequent hypotheses.

**Helping Behavior among Peers**

Helping behavior among peers indicates the process by which peers give a hand to peers those who are in need. Helping behavior among peers can be induced by role model (Sarason *et al.*, 1991) who demonstrated when and how to help colleagues. Helping peers among organizations is positive in multiple aspects. Helping peers provides a cost-efficient training means, facilitates knowledge distribution within the organization, builds collegiality among colleagues, and improve the knowledge of both the helper and the receiver (*Pressley *et al.*, 1992), demonstrating the relevance of helping behavior among peers.

In nursing, peer-to-peer support (or social support from colleagues) improves job satisfaction (*Cortese *et al.*, 2010). On the contrary, if nurses did not support each other, or even bully each other, nurses would encounter psychological and social pressures, which may cause career and work interruption (*Hutchinson *et al.*, 2010), indicating that helping peers is also a critical issue in nursing workplace.

Previous studies have identified antecedents for helping behavior among peers,
including job satisfaction, perceived fairness, leader supportiveness, organizational commitment (Organ & Ryan, 1995), physical proximity, group membership, prior relationships, demographic similarity (Constant et al., 1996), and perceive in-group membership (Flippen et al., 1996). However, the literature have not examined whether supervisor negative mood hinders helping behavior among peers, necessitating the review on negative mood of supervisors.

**Negative Mood of Supervisors**

Mood is an affective state which can extensively influence perception and behavior. Compared with emotion, mood is relatively weak but lasts longer, ranging from several hours to several days. Generally, mood is not triggered by specific causes or events (Bueno, et al., 2003). Since mood has extensive influences, this study chooses to investigate mood influences.

Negative moods include being hostile, neurotic, and sorrow (Watson, et al., 1988), which may reduce compliance behavior and cooperation (Avramova & Stapel, 2008), and further induce interpersonal conflict (Kessler & Schilling, 1989). The aforementioned influences of negative mood indicate the influence of negative mood at workplace.

At workplace, perceptions and decisions of supervisors are important to careers of subordinates, revealing that the negative mood of supervisors is likely influential. In a recent psychological theory, negative mood of supervisors reduces subordinate intention to cooperate, deteriorating the working atmosphere, and evokes negative mood among subordinates (Sy, Côté, & Saavedra, 2005). Thus negative mood of supervisors possibly impacts subordinate behavior at workplace.
Agreeableness

Agreeableness is individual tendency to be kind, friendly, compliant, courteous, adaptive, good-tempered, and cooperative (McCrae & Costa, 1987; Teng et al., 2007b). Highly agreeable individuals are welcomed in interpersonal activities (Graziano & Tobin, 2002) because they emphasize maintaining positive interpersonal relationships (Jensen-Campbell et al., 2002).

Agreeableness has been investigated in multiple disciplines, such as sociology, psychology, marketing, and management fields. Agreeableness was known correlated with perceived procedural and distributional justice (Field et al., 2006), less engagement in interpersonal conflict (Graziano et al., 1996; Jensen-Campbell & Graziano, 2001), and less likely to be blamed or insulted (Jensen-Campbell et al., 2002). The abundant findings regarding agreeableness indicate that agreeableness should be considered as a critical personality trait in professions involving personal interactions, such as nursing.

Applying the personality theory to nursing, highly agreeable nurses are thus likely to be empathetic with their colleagues who are overly busy with their job. Highly agreeable nurses are also likely to comply with requests of helping or assisting colleagues. Thus nurse agreeableness should be considered when discussing intention to help colleagues.

Hypotheses Development

Individuals with high levels of agreeableness are likeable, kind, empathetic, friendly, cooperative, tolerant, and soft-hearted (McCrae & Costa, 1985; McCrae & John, 1992; Teng et al., 2007a). Thus highly agreeable nurses are highly empathetic and kind to their colleagues. The empathy-altruism hypothesis of Batson, Duncan,
Ackerman et al. (1981) posits that individuals who are empathetic with someone are likely to be altruistic and tend to help others improve their situations. The findings of Litvack et al. (1997) also supports the empathy-altruism hypothesis by indicating that highly empathetic individuals are likely to be affectionate and likely to take the perspectives of others, improving their intention to help others. Applying the empathy-altruism hypothesis of Batson et al. (1981), highly agreeable nurses are likely to help others. In global nursing practices, nurses work as teams and thus helping colleagues is beneficial to patients and the teams. Thus highly agreeable nurses are likely to help their nurse colleagues, creating the positive relationship between nurse agreeableness and nursing intention to help colleagues.

Moreover, the empathy-altruism hypothesis of Batson et al. (1981) can also be applied to nursing in another perspective. Highly agreeable nurses are likely to be empathetic with patients under the care of their nurse colleagues. When their nurse colleagues are busy in other critical tasks, highly agreeable nurses are likely to help these patients solve their problems, an equivalent form of helping colleagues, also creating the positive link between nurse agreeableness and nursing intention to help others. This hypothesis is consistent with the finding of King et al. (2005) that agreeableness is positively related to helping behavior. However, this hypothesis is new in discussing the link among nurses who are important health care professionals in stressful situations.

H1: Nurse agreeableness is positively related to nurse intention to help colleagues.

At workplace, the mood of supervisors impact subordinates’ perceptions, mood, thinking, and behavior (Goleman et al., 2001; Sy et al., 2005). Moreover, negative
mood of supervisors is a stimulus which signals that supervisors are probably dissatisfied with the current work progresses (Sy et al., 2005), and thus the mood of supervisors is likely the workplace stimuli in determining subordinate behavior.

In worldwide nursing practices, nursing supervisors are in charge of the unit performance. Moreover, nursing supervisors need to schedule the nurse work shifts, assign, train, and evaluate nurses, and provide direct care to patients (Berggren, 2002). The heavy burdens possibly create strong time pressure for nursing supervisors to complete their duties. Since time pressure likely evoke negative mood (Ben-Zur & Breznitz, 1981), nursing supervisors who encounter strong time pressure are likely to have negative mood during their work.

Negative moods include worry, depression, and anxiety (Watson et al., 1988), which serve as negative sensory states. The S-O-R Model (Stimulus-Organism-Response Model) (Mehrabian & Russell, 1974) posits that individuals experiencing environmental stimuli are likely to have their sensory state altered, which evokes behavioral responses. Applying the S-O-R Model to nursing practices, negative mood of supervisors serve as the environmental stimuli which requires nurses to have behavioral responses. Since subordinates are likely to interpret negative mood of supervisors as signals of dissatisfaction with the current work progresses (Sy et al., 2005), nurses are likely to concentrate on their own work to minimize the possibility of being criticized with their own work progresses. Such a concentration reduces the intention to help colleagues, creating the negative link between negative mood of supervisors and nursing intention to help others.

Moreover, the Appraisal Coping Model (Lazarus, 1991) can also be used to explain the hypothesis, since this model explains how individuals deal with pressures. Appraisal Coping Model (Lazarus, 1991) posits that individuals sensing pressures will
firstly evaluate their own states and the situations, and then decide how to respond to the pressures. Applying this model to nursing contexts, negative mood of supervisors is a pressure, which induces nurses to think why supervisors are in negative mood. When nurses believe that negative mood of supervisors originates from dissatisfaction with their jobs, they are likely to withdraw from helping peers in order to keep one’s own job satisfactory, yielding the negative association between negative moods of supervisors and nursing intention to help colleagues.

**H2: Negative mood of supervisors is negatively related to nurse intention to help colleagues.**

Highly agreeable individuals are likely empathetic and able to feel what others feel (Batson *et al.*, 1981), indicating their capabilities of sensing negative mood of their supervisors. Applying such argument to nursing contexts, highly agreeable nurses are likely highly empathetic, and capable of sensing negative mood of supervisors. Thus their behavioral responses are likely to be sensitive to negative mood of supervisors, increasing their tendency to cope with such a pressure (i.e. negative mood of supervisors). Such a high sensitivity strengthens the relationship between negative mood of supervisors and nursing intention to help colleagues. That is, highly agreeable nurses are sensitive to supervisor negative mood, and thus responsive to the mood with reduction of intention to help colleagues.

On the contrary, lowly agreeable nurses are less likely empathetic, and less capable of sensing negative mood of supervisors. Such a low sensitivity deters their response to negative mood of supervisors, weakening the link between negative mood of supervisors and nursing intention to help colleagues.

**H3: Nurse agreeableness strengthens the negative relationship between negative**
mood of supervisors and nurse intention to help colleagues.

Figure 1 illustrates the research framework.

Method

Sample

This study adopted a cross-sectional design and questionnaires for collecting the participant responses. Samples comprised the nurses and their supervisors in one medical center in Northern Taiwan. The ethical aspect of this study has been approved by the institutional review board (96-0614B) and the nursing department of the medical center. Informed consents of participants were obtained. This study surveyed the nursing supervisors and nurses in 53 ward units. One nursing supervisor and three nurses comprised one set. This approach ensured the equal influence of each nursing supervisor and included more than one nurses for a single nursing supervisor. The inclusion criteria are: (1) working full time and (2) not nursing practitioners or nursing students. This study utilized the random sampling technique for drawing the nurse sample, increasing the sample representativeness. Totally, 53 sets of questionnaires were distributed and 46 complete sets were collected, yielding the effective response ratio of 86.8%.

Table 1 lists the demographics of nurse participants. Among the nurse sample, 96.4% aged between 20 and 40. In the literature, the average hospital nurse in Taiwan had an age of 28.56 years (in Lu et al., 2002) or 98.3% of them ranged from 20 to 40
years old (Teng et al., 2007), supporting that our nurse sample is representative in age. Eventually, 97.8% of them had attended colleges or universities.

Among the nursing supervisor sample, 95.7% aged between 30 and 50, and all of them had attended colleges or universities. All participants were female, consistent with the report of National Union of Nurses’ Associations, Taiwan (2010) which reported that male nurses comprised less than 1% among all Taiwanese nurses. Moreover, the hospital nurses involved in Lu et al. (2002) and Teng et al. (2007c) were all female, supporting our sample representativeness in gender. To preserve representativeness, the analysis was conducted basing on questionnaires with incomplete demographic data. Thus, the total number of responses to demographic questions was not always equal to the sample size.

Table 2 lists the demographics of supervisor participants. Among the nursing supervisor sample, all of them were female, 60.9% aged between 30 and 39 years old, and 87.0% had attended college or university.

Data Collection Processes

Research assistants approached the sampled nurses and the nursing supervisor, issued them the study questionnaire. The names of the sampled nurses showed on the
questionnaire to be filled by the nursing supervisor, for nursing supervisor to evaluate her relationship with individual sampled nurse. All participants received an envelope for enclosing their completed questionnaires and returning them to research assistants by reservations, for increasing the confidentiality and thus reducing the participant intention to distort their answers.

**Instruments**

The questionnaire for supervisors contains measures for negative mood and demographics (gender, age, educational level). Three items measuring negative emotions of nursing supervisors came from the Mood Short Form of Peterson and Sauber (1983). The questionnaire for nurses contains the measures for agreeableness, intention to help colleagues, and demographics (gender, age, educational level). Four items measuring nurse agreeableness came from Saucier (1994). We proposed four measures of nurse intention to help colleagues basing on the items of willingness to collaborate of Dougherty and Larson (2010). Thus measures of nurse intention to help colleagues require careful examination on reliability and validity. All items involve a response option ranging from 1 (very disagreeable) to 7 (very agreeable).

This study utilized SPSS 12 and LISREL 8 software for data analyses. SPSS 12 was utilized for summarizing demographics and correlations among study constructs. LISREL 8 was used for conducting confirmatory factor analysis and structural equation modeling. Confirmatory factor analysis (CFA) can directly assessing reliability and validity, and has been applied to nursing studies (Teng et al., 2009a; Teng et al., 2009b), supporting the adequacy of using CFA in this study.

**Psychometric Properties**
Table 3 summarizes the results of the confirmatory factor analysis. Items measuring each study construct had a Cronbach’s α value above .90, satisfying the criterion of Nunnally and Bernstein (1994). The lower bounds of 95% confidence intervals for Cronbach’s α value were above .87, suggesting the confident reliability (Iacobucci & Duhacheck, 2003). Moreover, measures for each construct had a composite reliability above .93 and an average variance extracted above .76, meeting the criteria of Bagozzi and Yi (1988), supporting the sufficient reliability of the study measures.

Insert Table 3 about Here

The study measures had indicator loadings above .72, indicating the adequate convergent validity according to the criterion of Anderson and Gerbing (1988). Moreover, the maximum squared correlation between constructs was .23, below the minimum average variance extracted (.76), satisfying the discriminant validity criterion of Fornell and Larcker (1981). The study model acceptably fits the data ($\chi^2 = 121.57$, df = 51, CFI = .95, GFI = .87, NNFI = .90, IFI = .92, PGFI = .57, RMSEA = .10, SRMR = .044). Most of the fit indices fulfill the requirements by Bagozzi and Yi (1988) and Iacobucci (2010).

Analyses

This study utilized structural equation modeling (SEM) method for analyses, because SEM can deal with measurement errors as well as structural relationships in a model, indicating its superiority to regressions (Iacobucci, 2010). We used intention to
help colleagues as the dependent variable, and used supervisor negative mood and nurse agreeableness as the independent variables. Additionally, nurse agreeableness was used as the moderator which may strengthen the relationship between supervisor negative mood and nursing intention to help colleagues. The moderating effect was tested using multiple-group analysis, which was demonstrated as a useful approach for analyzing the moderating effects in structural relationships among study constructs (Homburg & Giering, 2001).

**Results**

This study used a structural model for testing the hypotheses. Path coefficient from nurse agreeableness to nurse intention to help colleagues equals .54 ($t = 6.61, p < .01$), supporting H1. Such a finding supports that nurse agreeableness positively contributes to nursing intention to help colleagues. The underlying mechanism may be the empathy-altruism hypothesis of Batson et al. (1981), which posits that individual empathy leads to helping behavior. Path coefficient from negative mood of nursing supervisors to nurse intention to help colleagues equals -.13 ($t = -1.67, p < .05$), supporting H2. Such phenomenon is consistent with that of Sy et al. (2005), which demonstrated that negative mood of supervisors drove subordinates to focus on their own duties rather than caring or helping colleagues. The structural model fits with the data acceptably ($\chi^2 = 121.57$, df = 51, CFI = .95, GFI = .87, NNFI = .93, IFI = .95, PGFI = .57, RMSEA = .10, SRMR = .047). CFI and IFI exceeded .90, satisfying the criterion of Bollen (1989). The $\chi^2$/df value was below 3, satisfying the criterion of Iacobucci (2010). Moreover, SRMR was below .09, fulfilling the standard of Hu and Bentler (1999).

Then we turn to test the moderating effect of nurse agreeableness on the relation
between negative mood of nursing supervisor and nurse intention to help colleagues. For testing such a moderating effect, multiple-group analysis method was utilized, which requires us to separate the sample into low-agreeableness group and high-agreeableness group, basing on the median of the average responses to nurse agreeableness measures (median = 5.00). Nurse participants who had an average response to agreeableness measures equal or less than 5.00 were categorized into the low-agreeableness group (n = 66). Other nurse participants were categorized into the high-agreeableness group (n = 72).

For lowly agreeable nurses, the path coefficient from negative mood to intention to help colleagues equaled -.04 (t = -1.62, p > .05). However, for highly agreeable nurses, the path coefficient from negative mood to intention to help colleagues equaled -.29 (t = -2.36, p < .05), preliminarily supporting H3. To statistically test the moderating effect (or H3), we used a baseline model and a comparison model and performed a chi-square difference test. The comparison model restrains that the path coefficients from negative mood to nurse intention to help colleagues for low- and high-agreeableness groups must be the same. However, the baseline model does not. The baseline model has a $\chi^2$ value of 405.42 with a degree of freedom of 118. The comparison model has a $\chi^2$ value of 416.14 with a degree of freedom of 119. We applied the $\chi^2$ difference test (Bentler & Bonett, 1980) and found that the comparison model has a significantly larger $\chi^2$ value than the baseline model ($416.14 - 405.42 = 10.72 > \chi^2(df = 1) = 3.84$). That is, the baseline model fit the data significantly better than the comparison model. Restated, the path coefficients from negative mood to nurse intention to help colleagues for low- and high-agreeableness groups were significantly different, supporting the moderating effect (or H3). That is, highly agreeable nurses easily perceive the negative mood of their supervisors, increasing
their responses to negative mood of their supervisors.

**Discussion**

**Main Findings**

This study found that nurse agreeableness improves nursing intention to help colleagues. However, nurse agreeableness also amplifies the negative impact of supervisor negative mood on nursing intention to help colleagues.

**Theoretical Implications**

This study identified the negative relationship between supervisor negative mood and nursing intention to help colleagues. This study is the first in proposing that nurse agreeableness strengthens this relationship, contributing to the international nursing knowledge base. Such finding is interesting since nurse agreeableness is generally regarded as positive to nursing intention to help colleagues. Such finding sheds light on the disadvantage side of nurse agreeableness, that is, nurse agreeableness may amplify the negative impact of supervisor negative mood on nursing intention to help colleagues.

Quoidbach and Hansenne (2009) found that nursing emotional intelligence improves team cohesion, indicating that nurse personality is useful in explaining teamwork outcomes. The present study is in line with the study of Quoidbach and Hansenne (2009) in addressing how nurse personality facilitates teamwork. However, our study is new by identifying nurse agreeableness interacts with workplace stressors (i.e. negative mood of supervisors) to impact team work (in terms of intention to help colleagues).

Cortese *et al.* (2010) identified the positive relationship between peer support
and job satisfaction, which further retains nurses van der Heijden et al., (2010), intriguing the question of how to improve peer support. Nurses frequently experience stresses in fulfilling multiple roles (Greggs-McQuilkin, 2004) that restrains their energy and intention to help colleagues. Thus understanding how to improve peer support or nursing intention to help colleagues is critical. The present study identified supervisor negative mood as a vital predictor, providing a novel means for improving nursing peer support, which further increase nursing job satisfaction, basing on the finding of Cortese et al. (2010).

Moreover, van der Heijden et al. (2010) used a large survey and found that social support from close colleagues is negatively related to nursing intention to leave the profession. Support from close colleagues may be increased by the perception that colleagues are willing to help. In this sense, the present study is in line with van der Heijden et al. (2010) in addressing social support from colleagues. Van der Heijden et al. (2010) have identified the importance of support from colleagues, while the present study is new to the literature in linking support form colleagues to supervisor negative mood and nurse agreeableness, deepening our understanding on the antecedents of support from colleagues.

Tourangeau, Cummings, Cranley, Ferron and Harvey (2010) further found that relationships with co-workers help retain nurses. To improve the co-worker relationships among nurses, helping behavior may be realistic and helpful. In this regard, the present study reminds the nursing managers that reduction of supervisor negative mood improves the co-worker relationships and subsequently helps retain nurses.

The empathy-altruism hypothesis (Batson et al., 1981) posits that highly empathetic individuals tend to help others. Empathy is one core component of
agreeableness (McCrae & Costa, 1987). Thus highly agreeable individuals are likely to conduct pro-social behavior, such as helping colleagues. The present study examines the empathy-altruism hypothesis of Batson et al. (1981) in nursing, providing evidences that the empathy-altruism hypothesis can explain the sources of pro-social behavior of the health care professionals.

In the personality literature, King et al. (2005) demonstrated that agreeableness and the interaction of agreeableness and extraversion facilitate helping behavior with a survey of a women’s organization. This study is consistent with King et al. (2005) in investigating the role of agreeableness in relation to helping behavior among females. The findings of this study support that of King et al. (2005) that agreeableness predicts helping behavior. However, the present study is new in discovering that agreeableness also enhances the negative relationship between supervisor negative mood and helping behavior among nurses, which reveals a novel and cautious effect of agreeableness.

Practice Implications

This study found that supervisor negative mood reduces nursing intention to help colleagues. Thus hospital managers may consider offer nursing supervisors courses on mood detection, self-regulation, and mood management. Such courses may help supervisors improve their mood, reducing the occurrences and intensity of their negative moods. According to the findings of this study, reduction of supervisor negative mood may help improve nursing intention to help colleagues, and according to van der Heijden et al. (2010), which subsequently helps retain nurses.

This study found that nurse agreeableness is positively associated with nursing intention to help colleagues. This finding indicates the value of nurse agreeableness in
maintaining effective teamwork among nurses. Nurse agreeableness and associated psychological variables (e.g. altruism, empathy, and kindness) need to be valued. Since personality may be affected, particularly before a certain age (Terracciano, et al., 2010), training courses for novice nurses may be used to improve agreeableness. According to the findings of this study, increases in nurse agreeableness may increase nursing intention to help colleagues, which is positive to cohesive nursing teamwork.

This study also found that nurse agreeableness strengthens the negative relationship between negative mood of supervisors and intention to help colleagues. Such phenomenon reveals the potential down side of nurse agreeableness. Highly agreeable nurses are sensitive to the emotions of supervisors, and thus react strongly than lowly agreeable nurses. Thus supervisors in charge of units comprising highly agreeable nurses are suggested to improve their emotional intelligence or to reduce their negative emotion, which improves nursing intention to help colleagues. Certain findings in environmental psychology may be used to improve supervisor mood. For example, music of one’s choice (Lepage et al., 2001) or relaxing music (White, 1992) is effective in reducing negative mood with a neural basis (Koelsch, 2010). Thus self-managed music around supervisors may be helpful in reducing supervisor negative moods.

*Research Limitations and Future Research Directions*

This study adopts a cross-section design to investigate the correlation between study constructs, because they are likely to correlate at a certain time point. That is, negative mood of supervisors now may impact nursing intention to help others now rather than that in the future. However, a cross-section design is limited in claiming the causality among the study constructs, comprising one research limitation for this
study. Thus future studies may use qualitative or longitudinal research designs to investigate the mechanisms underlying the phenomena identified by this study.

The study purpose did not cover organizational culture and characteristics. Thus, to avoid the confounding effects from organizational culture and characteristics, this study sampled participants who worked for the same organization. Thus, more research is needed to study participants worked in multiple hospitals, with the purpose of controlling or analyzing how organizational culture and characteristics impact the findings in this study.

**Conclusion**

This study found that negative mood of supervisors reduces nursing intention to help colleagues. Moreover, highly agreeable nurses have strong intention to help colleagues. However, nurse agreeableness amplifies the impact of negative mood of supervisors on nursing intention to help colleagues. This study is an initial step in investigating the relationships among the study constructs, which may help delineate how supervisor-nurse interactions may impact nursing teamwork. Since this study is a single study, further studies are needed to replicate the findings of the present study. Moreover, other personality traits may also exert substantial influences on nursing teamwork, and thus research is warranted to address how nurse personality traits impact nursing teamwork.
References


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Social Psychology, 21 (11), 896-918.


Figure 1: Research Framework
Table 1: Nurse Sample Description

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Table 2: Nursing Supervisor Sample Description

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Table 3: Summary of Confirmatory Factor Analysis

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<td></td>
<td>Anxious</td>
<td>3.36</td>
<td>1.55</td>
<td>.96</td>
<td>[.91, .95]</td>
<td>.94</td>
<td>.83</td>
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<tr>
<td></td>
<td>Depressed</td>
<td>3.36</td>
<td>1.69</td>
<td>.99</td>
<td>[          ]</td>
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<td></td>
<td>Worrisome</td>
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<td>1.67</td>
<td>.78</td>
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<tr>
<td><strong>Nurse Agreeableness</strong></td>
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<td></td>
<td>Sympathetic</td>
<td>5.26</td>
<td>0.99</td>
<td>.91</td>
<td>[          ]</td>
<td>.96</td>
<td>.86</td>
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<td>Considerate</td>
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<td>0.98</td>
<td>.96</td>
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<tr>
<td></td>
<td>Kind</td>
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<td>1.03</td>
<td>.94</td>
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<tr>
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<td>Cooperative</td>
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<td>0.93</td>
<td>.90</td>
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<tr>
<td><strong>Nurse Intention to Help Colleagues</strong></td>
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</tr>
<tr>
<td></td>
<td>Willing to help colleagues</td>
<td>4.99</td>
<td>1.01</td>
<td>.87</td>
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<td>.93</td>
<td>.76</td>
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<tr>
<td></td>
<td>Willing to give colleagues a hand</td>
<td>4.70</td>
<td>1.15</td>
<td>.93</td>
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<tr>
<td></td>
<td>Tend to promise requests of colleagues</td>
<td>4.82</td>
<td>1.19</td>
<td>.95</td>
<td>[          ]</td>
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<tr>
<td></td>
<td>Remind colleagues of what they should attend to</td>
<td>4.74</td>
<td>1.13</td>
<td>.72</td>
<td>[          ]</td>
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*Note. \( \lambda \) denotes indicator loading. C.I. denotes confidence interval. CR denotes composite reliability. AVE denotes average variance extracted.*