JAANP

Conflict resolution between physicians and nurse practitioners

Christopher W. Blackwell, PhD, APRN, ANP-BC, AGACNP-BC, CNE, FAANP, FAAN (Associate Professor & Program Director)[1] & Nicholas Faraci, BSN, RN (Doctor of Medicine Candidate)[2]

ABSTRACT

Background: In the United States health care system, nurse practitioners (NPs) and physicians work very closely in the delivery of high-quality patient care across lifespans and acuities. In fact, advanced practice nurses work closer with physicians in their day-to-day care delivery than with any other group of professionals. This remains true even in states with independent practice for NPs. Because of the significant relationships between physicians and NPs, assessment of how these professionals resolve conflict is essential.

Purpose: The purpose of this study was to determine the style of conflict resolution employed by NPs and physicians.

Methods: Nurse practitioners ($n = 57$) and physicians ($n = 58$) were randomly sampled from the Florida Department of Health—Health Care Practitioner Data Portal ($N = 115$). Participants completed a demographic questionnaire assessing experience in conflict resolution training and the *Rahim Organizational Conflict Inventory—II, Form C*, which defined the style of conflict resolution they most used and preferred.

Results: Results showed that 29.8% of physicians and 40.4% of NPs received formal conflict resolution/management education/training ($p = .24$). The dominant style of conflict resolution used for 78% of physicians and 74% of NPs was the integrating style, with no statistical difference between the two professions ($p = .87$).

Implications for practice: Physicians and NPs lack formal education on conflict resolution in their graduate studies. In addition, both professionals tend to use similar styles of conflict resolution among one another in clinical practice, which affects their collaboration and ultimately how optimal care is delivered to patients.

Keywords: Advanced practice nurse; collaboration; conflict; conflict resolution; nurse practitioner; physician; Rahim Organizational Conflict Inventory II Form C.

Journal of the American Association of Nurse Practitioners 00 (2020) 1–7, © 2020 American Association of Nurse Practitioners

DOI# 10.1097/JXX.0000000000000491

Introduction and literature review

Interprofessional collaboration

The United States health care system is dependent on interprofessional collaboration to provide high-quality patient outcomes. In fact, health care is dependent on multifunctional and interdisciplinary teams, effective collaboration among members of these teams, and the ability of individual providers to work together to provide the best outcomes for patients (Morley & Cashell, 2017). Green and Johnson (2014) provided a simple and concise definition of interprofessional collaboration as occurring, "when two or more professions work together to achieve common goals and is often used as a means of solving a variety of problems and complex issues" (p. 1).

In addition, these authors have identified 12 major benefits of collaboration, including 1) opportunities to learn and go beyond traditional ways of thinking; 2) access to people not normally reached to serve a larger body of people; 3) potential to develop lifelong relationships and bonds that may be beneficial in the future; 4) gain from the wisdom of others; 5) access to new resources and the potential to develop new skills; 6) increased productivity through doing more work in less time; 7) sharing recognition and accolades; 8) association with others who are successful; 9) sharing costs; 10) improved access to monies; 11) cross fertilization across disciplines; and 12) the pooling of knowledge for tackling large and complex problems (Green & Johnson, 2014, p. 3). Although some of these benefits may be seen in the dyad relationship between nurse practitioner (NPs) and physicians, it is essential to examine the collaborative relationships between physicians and nurses through a historical perspective.

[1]Adult-Gerontology Acute Care Nurse Practitioner Programs, College of Nursing, University of Central Florida, Orlando, Florida [2]College of Medicine, University of Central Florida, Orlando, Florida

Correspondence: *Christopher W. Blackwell, PhD, APRN, ANP-BC, AGACNP-BC, CNE, FAANP, FAAN, College of Nursing, University of Central Florida, 12201 Research Parkway, Suite 300, Orlando, FL 32826-2210; E-mail: christopher.blackwell@ucf.edu*

Received: *30 March 2020; revised: 29 May 2020; accepted 8 June 2020*

Conflict resolution in health care, nurse–physician, and nurse practitioner–physician

Relationships. Unfortunately, assessment of the ways in which health care professionals resolve conflict is almost completely void in the literature. Researchers postulate that this is because of the difficulties associated with observing conflicts as they occur in "real time" (Sexton & Orchard, 2015, p. 316). However, some predictors of successful resolution of conflicts have been identified. These include formal conflict resolution training and communication competence (Sexton & Orchard, 2015). In addition, research has identified ways in which nurses resolve conflict with physicians when it occurs during collaboration. These include "ignoring" the conflict or "engaging" in it (Leever et al., 2010). More specifically, nurses choose which path to take by assessing five factors: 1) the influence of oneself; 2) influence of the other; 3) nature of the conflict; 4) context of the conflict, and 5) personal motives (Leever et al., 2010, p. 612).

Historically, the nursing and medical professions have collaborated closer than any other two professions; however, this relationship has sometimes been perceived as being oppositional and adversarial (Price et al., 2014). This could be related to socialized perceptions that medicine is the pinnacle of health professions, relegating nursing as inferior to medicine (Price et al., 2014). This might also contribute to advanced practice nurses' (APNs) past difficulty in defining their roles and scopes of practice (Jakimowicz et al., 2017).

There is also perception of nursing as having a monopoly on caring, asserting that physicians are less caring and capable of expressing empathy when compared with nurses (Price et al., 2014). Although it is likely that these could be vestigial in a health care system that is becoming increasingly reliant on interprofessional collaboration in most aspects of patient care, it is possible that some of these elements have continued to affect the relationships between APNs and physicians.

In addition, the push for independent practice by NPs has resulted in what some might perceive as a turf war between these providers and physicians (see Mayer, 2019). Although this could result in friction between the professions in the immediate future, the roles of NPs and physicians may evolve similarly to that of certified registered nurse anesthetists and anesthesiologists, which have seen a maturation of the professions as having more mutual appreciation for the role of each anesthesia provider (Kane & Smith, 2004). Regardless of the legal supervisory regulations found in each state, NP and physician collaboration will continue to be mutually dependent, as each of these providers rely on one another's expertise to provide optimal care to patients. Thus, a scholarly examination of the ways in which these two providers resolve conflict among one another is vital.

Conflict formation. Jameson (2003) postulated that conflict between professionals occurs when the following stages are met: 1) *Threat*: Typically, threats result when one party perceives the other as a danger, usually because the existence of that party invalidates the other. Consequently, one or both parties develop a "defensive stance" (p. 566). 2) *Distortion* (also known as *denial*): Depending on the level of identity threat perceived, one party denies the legitimacy (and opinions) of the other; 3) *Rigidification*: "In the rigidification stage, beliefs become fixed and their scope enlarged as issues that were not part of the original conflict are now seen as threatening and become central to the conflict" (p. 566). During this phase, communication channels are closed, with physical or social distancing possibly occurring. One party may praise itself while depicting the other with negative characteristics. Differences between the two parties are greatly inflated. 4) *Collusion*: Considered the final phase, conflict is perpetuated because the parties collude in doing so. The conflict becomes engrained in the self-definition and identity of each party. Conflict resolution is avoided and propagated by both parties due to the mutual belief that resolving the conflict would cause significant harm to each party's identity (Jameson, 2003, p. 566–567).

Conflict resolution and the Rahim Organizational Conflict Inventory—II, Form C

Because this study used the *Rahim Organizational Conflict Inventory—II, Form C*, conflict resolution is framed through the ways in which this author (Rahim, 1983) describes it. Rahim (1983) conceptualized conflict resolution as occurring across two dimensions: 1) concern for self and 2) concern for others. Concern for self explains the degree to which an individual attempts to satisfy personal concerns. Concern for others explains the degree to which an individual attempts to satisfy concerns of the other party. A combination of both concern for self and concern for others results in five explicit approaches to resolving conflicts.

According to Rahim (1983), these include integrating, avoiding, dominating, obliging, or compromising. Integrating is defined by both high concern of self and high concern for others. Both parties are focused on collaboration to reach a solution (Allen, 2015). Avoiding is marked by low concern for self and the other party (Enact, 2020). Specifically, avoiding focuses on ignoring of adverse information and relying on others as a means of resolving conflict, or "passing the buck" (Enact, 2020, p. 3).

Obliging involves a low concern for self and high concern for others. Differences are softened and commonalities enforced to satisfy one party's concern (Allen, 2015). Dominating involves a high concern for self but low concern for others. It is considered a win/lose situation and forces behavior for one's position to triumph (Allen, 2015). Finally, compromising involves integration of these other four approaches in resolving the conflict and a moderate concern for self and other parties involved in the conflict (Allen, 2015; Rahim, 1983; Rahim & Magner, 1995). Compromising

focuses on a give-and-take approach with reciprocated sacrifice by both parties to reach a "mutually acceptable decision" (Rahim & Magner, 1995, p. 123).

Methods

Purpose of study

The purpose of this study was to determine the style of conflict resolution employed by NPs and physicians.

Sample

A sample of Florida licensed NPs and physicians (N = 115) was randomly selected from the Florida Department of Health—Health Care Practitioner Data Portal. A total of 2,918 recruitment emails were sent to potential physician participants, whereas 1,230 emails were sent to potential NP participants. The email addresses were randomly selected in Microsoft Excel (see the technique described by Cheusheva, 2019) from the database over six physician and four NP recruitment periods. Fifty-seven Florida licensed NPs and 58 Florida licensed physicians participated in the study. To meet eligibility, NP participants had to indicate that they worked directly with physicians currently or in the past. Reciprocally, physician participants had to indicate that they worked directly with NPs currently or in the past.

Protection of human subjects, data collection, and treatment

Prior to data collection, the study was reviewed and approved by the Institutional Review Board of the University of University of Central Florida. Data were collected via Qualtrics-XM, an online proprietary data collection system that allows for online administration of surveys and data collection instruments (Qualtrics Research Services, 2020). A demographic questionnaire that collected data related to participants' years of practice, sex, age, area of specialization, and completion of formal education/training in conflict resolution/management was uploaded into Qualtrics-XM in addition to the *Rahim Organizational Conflict Inventory—II, Form C* (*Rahim Organizational Conflict Inventory-II, Form C*: Used with permission from the © Center for Advanced Studies in Management. Further use or reproduction of the instrument without written permission is prohibited. This tool is a proprietary survey designed to assess the style in which persons engaged in collaboration resolve conflict when it arises. A fee was paid to the owner of the survey for its use. To access the survey, contact the Center for Advanced Studies in Management (1574 Mallory Court Bowling Green, KY 42103).

As described by Allen:

> The five styles of handling conflict are measured by 7, 6, 5, 6, and 4 statements, respectively, selected on the basis of repeated factor and item analyses. An organizational member responds to each statement on a 5–point Likert scale. A higher score represents greater use of a conflict style (2015, para. 2).

Validity and reliability of the *Rahim Organizational Conflict Inventory—II, Form C*, has been strongly supported through prior research (see Rahim & Magner, 1995; Weider-Hatfield, 1988; and; Rahim, 1983). It has also been used in research on conflict resolution in nurses (see Valentine, 1995). After the data collection period, statistical analyses of results were performed using SPSS, Version 25. Pearson Chi-square analyses were performed to determine significant (p = < .05) relationships between demographic variables and conflict resolution styles and to determine which conflict style was used significantly among the NPs and physicians. Because the data were not normally distributed, the Mann–Whitney U test was used to determine which conflict style was used significantly among the NPs and physicians using the Shapiro–Wilk test.

Results

Sample

The sample (N = 115) consisted of 57 NPs (49.5%) and 58 physicians (50.4%). Demographic data from the sample revealed that the majority of the NP participants were female (n = 51; 90.5%), White (n = 41; 71.9%), younger than 50 years (n = 30; 52.6%), had practiced between 1 and 15 years (n = 34; 59.6%), and had not received formal education/training in conflict resolution/management (n = 34; 59.6%). Among the physicians, the majority were men (n = 36; 62.1%), White (n = 35; 60.3%), between 31 and 55 years (n = 33; 56.8%), had practiced between 21 and more than 30 years (n = 33; 56.8%), and had not received formal education/training in conflict resolution/management (n = 41; 70.6%).

These data indicate that NP participants were more likely to be younger, of female sex, and have less practice experience compared with physician participants, who were more likely to be older, of male sex, and have more practice experience. Both groups were predominantly of White ethnicity; and the majority had not received formal education/training in conflict resolution/management. **Table 1** depicts the demographic characteristics of the sample.

Conflict resolution styles used

The majority of the participants (n = 87; 75.6%) used the integrating style of conflict resolution, including 42 (73.7%) of the NPs and 45 (77.6%) of the physicians. Very few used the obliging style, including one NP (1.7%) and one physician (1.7%), dominating style, including one NP (1.7%) and two physicians (3.4%), avoiding style, including seven NPs (12.2%) and four physicians (6.8%), or compromising style, including six NPs (10.5%) and six physicians (10.3%). There were no statistical differences between the NPs and physicians in the use of conflict resolution style (1.246; DF: 4; p =

Table 1. Demographic sample data

Variable	Nurse Practitioners (*n* = 57)	Physicians (*n* = 58)
Sex	Male (6; 10.5%)	Male (36; 62.1%)
	Female (50; 87.7%)	Female (20; 34.5%)
	Unspecified (1; 1.7%)	Unspecified (2; 1.7%)
Age	18–25 (0; 0%)	18–25 (0; 0%)
	26–30 (1; 1.7%)	26–30 (0; 0%)
	31–35 (5; 8.8%)	31–35 (4; 6.9%)
	36–40 (7; 12.3%)	36–40 (8; 13.8%)
	41–45 (9; 15.8%)	41–45 (7; 12.1%)
	46–50 (8; 14.0%)	46–50 (3; 5.2%)
	51–55 (8; 14.0%)	51–55 (11; 19.0%)
	56–60 (13; 22.8%)	56–50 (7; 12.1%)
	61–65 (5; 8.8%)	61–65 (10; 17.2%)
	> 65 (1; 1.7%)	> 65 (8; 13.8%)
Ethnicity	White (41; 71.9%)	White (35; 60.3%)
	Hispanic/Latino (9; 15.8%)	Hispanic/Latino (7; 12.1%)
	African American (3; 5.3%)	African American (1; 1.7%)
	Asian/Pacific Islander (2; 3.5%)	Asian/Pacific Islander (10; 17.2%)
	Native American (0; 0%)	Native American (0; 0%)
	Other (2; 3.5%)	Other (5; 8.6%)
Years of practice	1–5 (14; 24.6%)	1–5 (5; 8.6%)
	6–10 (13; 22.8%)	6–10 (9; 15.5%)
	11–15 (7; 12.3%)	11–15 (4; 6.9%)
	16–20 (7; 12.3%)	16–20 (7; 12.1%)
	21–25 (5; 8.8%)	21–25 (9; 15.5%)
	26–30 (3; 5.3%)	26–30 (7; 12.1%)
	>30 (8; 14.0%)	>30 (17; 29.3%)
Formal education/ training in conflict resolution/ management	23 (40.4%)	17 (29.3%)

.87). **Table 2** presents the dominant strategy/occupation cross tabulation data, whereas **Tables 3 and 4** show the Chi-square calculations and group statistics, respectively.

Discussion

Conflict resolution between nurse practitioners and physicians

Results indicated that the majority of the participants (*n* = 87; 75.6%) used the integrating style of conflict resolution, including 42 (73.7%) of the NPs and 45 (77.6%) of the physicians. This style of conflict resolution has a high concern for self and a high concern for others and is focused on using a collaborative approach to solving conflict (Allen, 2015; Rahim, 1983). Specifically, this style of conflict resolution involves the NP and physician coming to a mutually agreed upon solution through, "openness, exchange of information, examination, and exploration of differences for arriving at a constructive solution that goes far beyond personal and limited visions of the problem" (Enact, 2020, p. 5).

Rahim (2017) emphasizes that this style of conflict resolution involves the use of open communication, explaining misinterpretations, assessing the major causes of the conflict, and problem solving. A benefit of this conflict resolution style is that it increases satisfaction of both parties because it relies on both parties to reach a mutually agreed upon resolution (Enact, 2020). An example might be resolving conflict that arises between an NP and physician about prescribing a certain treatment by one party, clarifying updated treatment guidelines to the other.

Integrating to resolve conflicts between NPs and physicians provides legitimacy to both roles. Perceived legitimacy of the role has been identified as a major predictor of satisfaction among NPs (Jakimowicz et al., 2017). This also emphasizes an evolving perception among NPs as seeing their relationships as being interdependent, rather than dependent, on physicians (Lim et al., 2017). It also highlights the value of creating a climate of inquiry to reach mutually agreed upon solutions to conflict when they arise between health care professionals (Chen, 2006). Results showed that both NPs and physician participants were unlikely to use a dominating style of conflict resolution.

Just one NP (1.7%) and one physician (1.7%) preferred use of this style. Although this style can be useful when an immediate action is needed or one of the parties involved in the conflict may be threatening to the party itself, it can often lead to deadlock and nonresolution (Enact, 2020). An example might be a physician attempting to use his or her traditionally held hierarchical belief regarding his or her position to insist an NP order a diagnostic procedure the NP does not believe would benefit a patient.

This asserts an unequal balance in the structural relationship between the NP and physician, and it is more likely to threaten open channels of communication rather than openness. This type of imbalanced structural relationship among professionals has also been identified as an outdated dominating pedagogy and threat to healthy collaborative problem solving among health care teams (Chen, 2016). Although only one physician and NP participant

Table 2. Dominant strategy/occupation cross tabulations

Conflict Resolution Style	Nurse Practitioners (*n* = 57)	Physicians (*n* = 58)
Integrating[a]	42 (73.6%)	45 (77.5%)
Obliging	1 (1.7%)	1 (1.7%)
Dominating	1 (1.7%)	2 (3.4%)
Avoiding	7 (12.2%)	4 (6.8%)
Compromising	6 (10.5%)	6 (10.3%)

[a]*Dominant Strategy.*

indicated the use of the dominating style of conflict resolution, it is important to identify the potential of social desirability bias. This is characterized by an increased likelihood for participants' to underreport unfavorable behaviors and overreport favorable ones (Gittelman et al., 2015). Participants could have been less likely to indicate higher use of this style because it asserts unfavorable traits related to control of one party over another during conflict resolution.

Lack of formal education/training on conflict resolution/management

Results showed that just 29.8% of physicians and 40.4% of NPs received formal conflict resolution/management education/training at some point during their graduate education or postgraduate training (p = .24). This strongly suggests that the majority of these professionals do not receive adequate education in their academic preparation or appropriate postgraduate training on how to effectively resolve interprofessional conflict when it occurs. Because NPs and physicians work interdependently (Lim et al., 2017), it is vital for these professionals to be engaged with one another prior to their introduction as mutual members of the health care team or partners in providing patient care. One of the best ways to ensure that this happens is for both graduate medical and graduate NP programs to participate in interprofessional education (IPE) experiences (Hanyok et al., 2013).

One strategy employed at the Johns Hopkins University involved an extensive IPE experience in which adult NP students worked closely with internal medicine residents:

> This experience focused on providing care for complex community based patients during clinic and home visits, preceded by didactic learning that emphasized understanding one another's professional roles and education, teamwork and conflict management.
>
> Evaluation demonstrated significant improvements in attitudes and beliefs associated with professional role, respect among health professions' disciplines and conflict management (Hanyok et al., 2013, p. 526).

In addition to IPE experiences during the formal academic preparation of NPs and physicians, postgraduate training programs, including continuing education units and continuing medical education modules, can provide an excellent avenue for both NPs and physicians to learn conflict resolution strategies. Continuing education programs focusing on conflict resolution are available for purchase by universities (e.g., see University of North Florida, 2020) or for free through continuing education organizations. For example, MedScape (2020) offers a multitude of continuing education activities aimed at helping health care professionals improve their conflict resolution skills (requires registration). Nurse practitioners who are members of the American Association of Nurse Practitioners (AANP, 2020) can access continuing education activities through AANP's Continuing Education Center through their member portal on AANP's Web site. Some of these activities include content on interprofessional and patient-related conflict resolution that can arise in clinical care.

Table 3. Chi-square analyses

	Value	df	Asymptotic Significance (2-Sided)
Pearson Chi-square	1.246[a]	4	0.870
Likelihood ratio	1.263	4	0.868
Linear-by-linear association	0.254	1	0.614

No. of valid cases 115.
[a]*Four cells (40.0%) have expected count less than 5. The minimum expected count is .99.*

Limitations and future inquiry

Because the sample for this study was obtained from the State of Florida, its findings may not be generalizable to other regions or nationally. Future inquiries should use a more geographically broad sample, so findings are more nationally representative. In addition, the response rate of both NPs and physicians asked to participate in the study was low.

Although Internet-based studies involving nurses and physicians tend to have low response rates (Silverman et al., 2018), future research could offer incentives for participation; this study was unfunded and those resources unavailable. In addition, the sampling technique employed was limited to email solicitations. Future studies on this topic could use more aggressive means of sample recruitment, including paid advertisements on web sites frequented by NPs and physicians, increasing buy-in to participate by stronger demonstration of the topic's significance to both professions, and sampling from these professionals' organizational listservs (Silverman et al., 2018).

Table 4. Group statistics

Conflict Resolution Style	Occupation	N	Mean	SD	Sig. (*p* Value)
Avoiding	Physician	58	2.91	0.9	.45
	NP	57	3.04	1.01	
Obliging	Physician	58	3.04	0.6	.54
	NP	57	3.40	0.71	
Integrating	Physician	58	4.40	0.62	.90[a]
	NP	57	4.38	0.59	
Dominating	Physician	58	2.89	0.98	.45[a]
	NP	57	2.83	0.88	
Compromising	Physician	58	3.96	0.65	.81[a]
	NP	57	3.93	0.81	

Note: NP = nurse practitioners.
[a]*Used Mann–Whitney* U *test to compare means because data were not normally distributed (determined using Shapiro–Wilk test).*

Finally, the manner in which demographic data were categorically recorded made it difficult to assess statistical relationships between these variables and conflict resolution styles captured by the *Rahim Organizational Conflict Inventory—II, Form C*. For example, although both NPs and physicians were asked their practice areas, responses greatly varied, rendering this variable meaningless in the analyses. Providing specific practice setting options for participants to select (e.g., hospital, primary care clinic, outpatient specialty practice, skilled nursing facility, etc.) could have enriched the value of this independent variable. Future researchers should be more explicit in their collection of demographic variables to determine if characteristics such as board-certification specialty, direct and consistent work partnerships by NPs with physicians and physicians with NPs, or educational preparation of NPs (e.g., Master of Science in Nursing versus Doctor of Nursing Practice) and physicians (e.g., Doctor of Medicine versus Doctor of Osteopathy) affect conflict resolution styles used.

Conclusions

Results from this study suggest that both NPs and physicians tend to use similar integrating styles of conflict resolution among one another in clinical practice. This approach highlights the mutual respect these professionals have for each other's roles, which can have wide reaching impacts on the practice of both professionals. For example, it augments self-perceived legitimacy of the contribution NPs make to patient outcomes. However, both physicians and NPs lack formal education on conflict resolution in their graduate studies. Thus, evolution of the use of an integrative style of conflict resolution could be a consequence of personal, professional, and social experiences, interpersonal and interprofessional interactions, and use of trial and error rather than employment of strategy gained through formal means.

Findings from this study are significant to the practice of both NPs and physicians. First, the ways in which NPs and physicians resolve conflict could be a major influence on their satisfaction as members of interprofessional and collaborative health care teams. This can ultimately carry weight on how optimal care is delivered to patients. Second, increasing collaboration between NPs and physicians is an evidence-based approach to meeting the directive of providing high-quality patient care in an efficient manner (Bridges, 2014; Litaker et al., 2003; Norful, 2016). Thus, it is essential that NPs and physicians possess the skills necessary to resolve conflict when it inevitably arises.

Despite its significance to health care systems, there is a marked lack of data on this subject. Future research should use larger and more nationally representative samples, capture greater influence of demographic variability, and determine the best practices in which to teach NPs and physicians the skills associated with conflict resolution during both their graduate academic preparation and continuing education.

Acknowledgments: The authors would like to acknowledge Andrew Todd, MLIS, BSN, RN for his major contributions to the literature review used for this article.

Authors' contributions: *C.W. Blackwell: Conceptualization, methodology, project administration, resources, supervision, validation, visualization, writing—original draft, writing—review, and editing. N. Faraci:*

Conceptualization, data curation, formal analysis, investigation, and methodolgy.

Competing interests: *The authors report no conflicts of interest.*

References

Allen, S. W. (2015). *Rahim Organizational Conflict Inventory-II (Rahim, 1983)*. https://westallen.typepad.com/files/rahim-organizational-conflict-inventory.pdf.

American Association of Nurse Practitioners. (2020). *Continuing education center*. https://aanp.inreachce.com.

Bridges, S. (2014). Exploration of the concept of collaboration within the context of nurse practitioner-physician collaborative practice. *Journal of the American Association of Nurse Practitioners*, 26, 402–410.

Chen, A. (2016). Resisting outdated models of pedagogical domination and subordination in health professions education. *American Medical Association Journal of Ethics*, 18, 903–909.

Cheusheva, S. (2019). *How to select random sample in Excel*. https://www.ablebits.com/office-addins-blog/2018/01/31/excel-random-selection-random-sample/.

Enact. (2020). *Learning material on interpersonal conflict: Rahim's model*. https://www.mondodigitale.org/files/Rahim-interpersonal-conflict.pdf.

Gittelman, S., Lange, V., Cook, W. A., Frede, S. M., & Lavrakas, P. J. (2015). Accounting for social-desirability bias in survey sampling: A model for predicting and calibrating the direction and magnitude of social-desirability bias. *Journal of Advertising Research*, 55, 242–254.

Green, B. N., & Johnson, C. D. (2015). Interprofessional collaboration in research, education, and clinical practice: Working together for a better future. *The Journal of Chiropractic Education*, 29, 1–10.

Hanyok, L. A., Walton-Moss, B., Tanner, E., Stewart, R. W., & Becker, K. (2013). Effects of a graduate-level interprofessional education program on adult nurse practitioner student and internal medicine resident physician attitudes towards professional care. *Journal of Interprofessional Care*, 6, 526–528.

Jakimowicz, M., Williams, D. & Stankiewicz, G. (2017). A systematic review of advanced practice nursing in general practice. *BMC Nursing*, 18, 1–12.

Jameson, J. K. (2003). Transcending intractable conflict in health care: An exploratory study of communication and conflict management among anesthesia providers. *Journal of Health Communication*, 8, 563–581.

Kane, M., & Smith, A. F. (2004) An American tale—Professional conflicts in anaesthesia in the United States: Implications for the United Kingdom. *Anaesthesia*, 59, 793–802.

Leever, A. M., Hulst, M. V. D., Berendsen, A. J., Boendemaker, P. M., Roodenburg, J. L. N., & Pols, J. (2010). Conflicts and conflict management in the collaboration between nurses and physicians—a qualitative study. *Journal of Interprofessional Care*, 24, 612–624.

Lim, A. G., North, N., & Shaw, J. (2017). Navigating professional and prescribing boundaries: Implementing prescribing by nurse practitioners in New Zealand. *Nurse Education in Practice*, 27, 1–6.

Litaker, D., Mion, L. C., Kippes, C., Mehta, N., & Frolkis, J. (2003). Physician-nurse practitioner teams in chronic disease management: The impact on costs, clinical effectiveness, and patients' perception of care. *Journal of Interprofessional Care*, 17, 223–237.

Mayer, A. (2019). Viewpoint: AAEM opposes NP and PA independent practice. *Emergency Medicine News*, 41, 2–3.

Medscape. (2020). *Medscape education*. https://www.medscape.org/nurses.

Morey, L., & Cashell, A. (2017). Collaboration in health care. *Journal of Medical Imaging and Radiation Sciences*, 48, 207–216.

Norful, A. (2016). Patient co-management by nurse practitioner (NP)-physician teams in primary care settings: A concept analysis. *Nursing Research*, 65, E69.

Price, S., Doucet, S., & Hall, L. M. (2014). The historical social positioning of nursing and medicine: Implications for career choice, early socialization, and interprofessional collaboration. *Journal of Interprofessional Care*, 28, 103–109.

Qualtrics Research Services. (2020). *Market research services*. https://www.qualtrics.com/research-services/.

Rahim, A., & Magner, N. (1995). Confirmatory factor analysis of the styles of handline interpersonal conflict: First-order factor model and its invariance across groups. *Journal of Applied Psychology*, 80, 122–132.

Rahim, M. A. (1983). A measure of styles of handling interpersonal conflict. *Academy of Management Journal*, 26, 368–376.

Rahim, M. A. (2017). *Managing conflict in organizations* (4th ed.). Routledge.

Sexton, M., Orchard, C. (2016). Understanding healthcare professionals' self-efficacy to resolve interprofessional conflict. *Journal of Interprofessional Care*, 30, 316–323.

Silverman, T. B., Schrimshaw, E. W., Franks, J., Hirsch-Moverman, Y., Ortega, H., El-Sadr, W. M., & Colson, P. W. (2018). Response rates of medical professionals to internet surveys regarding their adoption of preexposure prophylaxis for HIV: Methodological Implications. *International Journal of Providers of AIDS Care*, 17, 1–6.

University of North Florida. (2020). *Division of continuing education: Conflict resolution*. https://www.unf.edu/ce/conflict/.

Valentine, P. E. (1995). Management of conflict: Do nurses/women handle it differently? *Journal of Advanced Nursing*, 22, 142–149.

Weider-Hatfield, D. (1988). Assessing the Rahim organization Conflict Inventory-II (ROCI-II). *Management Communication Quarterly*, 1, 351.