Synergy in Social Action: A Dental Hygiene Theory

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Abstract

Purpose: The intent of this qualitative study was to construct a new theory for the discipline of dental hygiene. Dental hygienists' experiences while participating in legislative efforts to expand their scope of practice and the provision of direct access to oral care were explored as social action experiences.

Methods: A grounded theory approach was used to collect and analyze data. Using semi-structured interviews, data were collected from eight practitioners in three states, who met the inclusion criteria. Data analysis consisted of three separate coding procedures: initial, focused and theoretical. Critical theory was used as the theoretical lens, which focused on the struggle to improve access to care.

Results: The learning process was categorized into actions: *Committing to Social Action*, *Challenging the Status Quo to Improve Access to Care*, *Surviving in Social Action* and *Envisioning the Future*. The education process involved: *Raising Critical Awareness of Underserved Populations' Oral Health Needs*, *Building Support for Improving Access to Care*, *Sustaining Support for Social Action* and *Building the Next Generation of Dental Hygiene Practitioners*. The resulting theory, Synergy in Social Action, is composed of three key elements which provide energy to sustain momentum for social action through the interaction both within and among these elements. The identified elements are: learning and educating process, critical awareness and empowerment, and individual and collective action.

Conclusion: The Synergy in Social Action Theory provides the means to understand the challenge of improving access to oral health care from a new vantage point and advances dental hygiene as a discipline with its own theories.

Keywords: social action, dental hygienists, dental hygiene education, grounded theory, social determinants of health

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Introduction

The World Health Organization (WHO) has established health as a fundamental human right of every person in the global community.[1] Recently, the WHO provided credibility to the adoption of the *Tokyo Declaration on Dental Care and Oral Health for Health Longevity* at the 2015 World Congress. This declaration affirmed oral health as a fundamental right throughout the lifespan while emphasizing the needs of the geriatric population and the overall improvement of the quality of life when oral health is maintained.[2] Furthermore, the declaration recommended the inclusion of oral health when creating evidence-based health policies.[2]

Such health policies include laws and regulations influencing the systems, communities and individuals that promote health, well-being and quality of life. Improvements made to policies at the broad systems level have the greatest impact on population health.[3] Policy changes made at the state or national level influence the health of communities, families and individuals. If a current policy is ineffective, the policy requires modification or the establishment of a new policy.[4] Ineffective policies relative to unmet health needs and unfair treatment include inequitable access to care and maldistribution of health resources.[4]

Governments in agreement with human rights concepts have a responsibility to maximize efforts in creating policies to reduce health inequities in vulnerable populations.[5] These populations experience a disproportionate number of health problems including disability and death.[1] In 2000, the Economic and Social Council (ESC) of the United Nations reported that justice and fairness regarding the right to health are based on four elements: availability, accessibility, acceptability and quality.[5] Availability refers to the quantity of healthcare facilities, goods and services from skilled healthcare

practitioners. Accessibility implies access to healthcare facilities and to services without discrimination to marginalized populations. Additionally, accessibility means eliminating barriers to physical access, affordability and information. Acceptability is the application of ethical principles and sensitivity to culture, age and gender, whereas, quality is associated with evidence-based practice and overall quality in healthcare facilities, goods and services. Health equity can be improved for vulnerable populations by changing policies related to these four elements.

Dental hygienists from across the United States (U.S.) have worked to change health policies to advance the availability, accessibility, acceptability and quality of oral health care by implementing new practice models requiring legislative changes to state dental practice acts. The first legislative initiative in 1984 expanded dental hygiene practice to include direct access in limited settings in Washington state[6] and was followed in 1987 by changes in the Colorado dental practice act which granted direct access to dental hygiene care in all settings.[6] Oregon created the Limited Access Permit to expand direct care in 1997, however in 2012 this dental hygiene designation was revised to the Expanded Practice Permit.[7] In 1998, California created the Registered Dental Hygienist in Alternative Practice whereby specially licensed dental hygiene practitioners provide direct care in underserved areas and settings.[8] Additional practice models expanding access to serve vulnerable populations include collaborative practice, special dental hygiene permits and public health endorsements.[9] To further address the oral health needs of the U.S. population, the American Dental Hygienists' Association (ADHA) created the competencies for a new mid-level provider, the Advanced Dental Hygiene Practitioner (ADHP), in 2008.[10] The concept of the mid-level oral health care provider was realized in the passing of legislation to implement the advanced dental therapist in Minnesota in 2009.[11-13] Other states have followed Minnesota's lead to change health policy to establish an advanced dental hygiene practitioner.

The dental hygiene profession has a historical commitment to implementing and changing health policies to expand access to care and will most likely to continue these efforts. The development of a theory specific to the discipline is beneficial to understand the complexities of these actions. While the dental hygiene community is beginning to collect data documenting individual and collaborative efforts to improve access to care,[11-13] no theory exists in the dental hygiene literature to understand this process. For the purpose of this investigation, *social action* was defined as engaging in actions to change health policies and provide direct care in alternative practice settings. Accordingly, the purpose of this grounded theory inquiry was to construct an interpretive dental hygiene theory on social action to improve health equity, centered on the process of learning and educating. The qualitative inquiry focused on dental hygienists' experiences in social action in their pursuit to expand the availability, accessibility, acceptability and quality of oral health care for vulnerable populations. The data collected from the study participants were used to develop a new theory for the discipline to guide future social action initiatives to ultimately improve the oral health of all populations.

Methods

The framework for this qualitative inquiry was adult learning based on Lindeman's perspective that lifelong learning occurs within the context of daily life through experiences and situations.[14] Critical theory, an adult learning theory, provided the theoretical lens to view learning as the recognition of controlling beliefs and systems, identification of powerful forces, awareness of alternatives to the status quo and controlling systems, and a future vision of freedom from powerful forces and adherence to justice, fairness, and compassion.[15] Therefore, data collection, data analysis and theory construction focused on the participants' struggle against the status quo of the traditional oral care delivery system, and the power and injustice of external forces to impede those efforts. These factors are evident in current struggles to change practice acts to enhance access to care for vulnerable populations.

A grounded theory approach was employed, and the data analysis consisted of three rounds of analysis (initial coding, focused coding, and theoretical coding).[16] Each round of coding involved different procedures to move the analysis of the same data to a higher abstract level, resulting in the construction of a theory. Grounded theory is a well-established qualitative research method in the social sciences and has expanded into healthcare, primarily in nursing, as researchers have recognized the value of theory to guide clinical practice and advance the discipline. The methodology applied to this inquiry included traditional social sciences methods[17] and more current approaches including constructivist grounded theory[16] and situational analysis methods.[18]

Dental hygienists engaged in social action in the states of Washington, Oregon and California were recruited to participate in the study. Additional selection criteria included current licensure, a minimum of 5 years practicing as a dental hygienist, and experience with legislative initiatives or direct access practice. Participants were screened to ensure personal experiences would inform the data collection. After informed consent was gained

and a pseudonym selected, a face-to-face or telephone interview was conducted to explore the dental hygienists' experiences in social action. Data from interviews were audio recorded, transcribed verbatim and verified for accuracy.

After each interview, initial coding of the transcripts resulted in analyzing the data into small segments and assigning a code to interpret the participant's experiences. Focused coding was implemented following the initial coding of multiple interviews which occurred during the second coding procedure. Focused coding allowed similar initial codes to be grouped into categories to interpret larger amounts of data. Additionally, the analysis of multiple interviews provided the opportunity to use the constant comparative method to evaluate the consistency of applying initial codes and focused codes among the transcripts. Further analysis raised some focused codes to substantive categories while other codes were subsumed under the substantive codes as subcategories. As additional data were needed to inform the theory construction and achieve theoretical saturation, theoretical sampling using the same inclusion criteria was employed to recruit dental hygienists with varied social action experiences to enrich the data collection.

According to constructivist grounded theory methodology, the third coding procedure, theoretical coding, was used to conceptualize how the substantive codes were related and raise the analysis in a theoretical direction.[16] This final coding procedure required theorizing as an interpretation of the complexities and variation of the social action experiences.[16] The construction of theoretical concepts served as a mechanism to understand the relationships between and among substantive codes.[16]

Situational analysis served as a supplemental data analysis procedure to explore the power of various social worlds and uncover situations, people, and issues in which learning and educating in social action occurred.[18] Mapping techniques were used in conceptualizing the relationship of the codes and categories allowing for a deeper interpretation of data.[18]

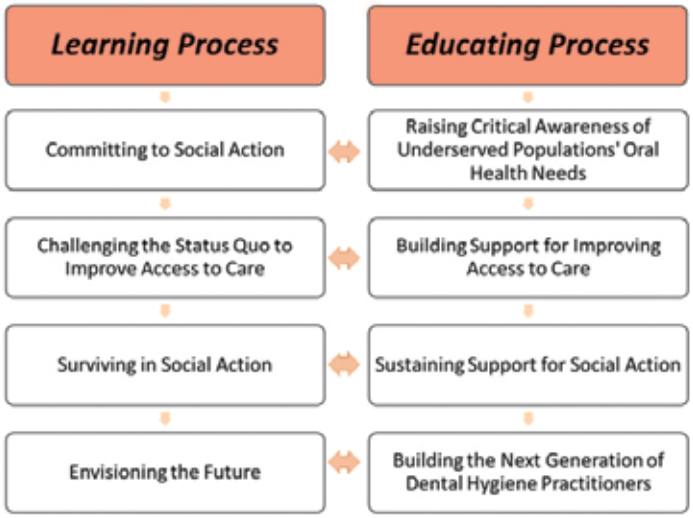
Throughout the data analysis processes, memos were written by the principal investigator (PI) to document thoughts and decisions about the analysis, raise questions, clarify interpretations, create conceptual definitions for substantive codes and improve the conceptualization of codes to theoretical concepts. Memo writing was one strategy used as an audit trail to confirm the validity of the data analysis.[19] The use of member checks and an inquiry auditor were additional methods applied to assert the credibility (validity) of the data analysis.[20] Member checks involved the participants' review of the data analysis to confirm the researcher's interpretation of their experiences. The inquiry audit was conducted by a peer who used the memos written by the PI during data analysis to establish the credibility of the data interpretation.

Results

The results of the focused coding procedures revealed three categories of learning and one educating category. Categories for the process of learning were: awareness, adaptation and relationships; the category for the learning process was: improvement.[21] This research summarizes the theoretical coding results and subsequent theory created from the social action experiences of the dental hygienist participants. All participants were licensed for at least 25 years, were members of the ADHA and had actively participated in their state association's legislative endeavors. The majority of participants were engaged in direct access practice and provided care for residents in a long-term care facility (n=5). Two participants were employed in a public health setting and one participant was employed in private practice and had served as a change agent for a state dental hygienists' association.

Results of the theoretical coding procedures revealed that dental hygienists who engaged in social action used a combination of learning and educating processes in the quest to improve access to care. Figure 1 illustrates the relationship between and among the learning and educating processes. The learning process was categorized into actions of *Committing to Social Action*, *Challenging the Status Quo to Improve Access to Care*, *Surviving in Social Action* and *Envisioning the Future*. The actions for educating process involved *Raising Critical Awareness of Underserved Populations' Oral Health Needs*, *Building Support for Improving Access to Care*, *Sustaining*

Figure 1. Theoretical Coding Results: Relationship between actions in the learning and educating processes



Support for Social Action and *Building the Next Generation of Dental Hygiene Practitioners*.

Table I provides detail on the learning action of *Committing to Social Action* and the educating action of *Raising Critical Awareness of Underserved Populations' Oral Health Needs*. Dental hygienists developed a commitment to social action as they learned about vulnerable populations with oral health inequities impeding the ability to meet basic needs. These populations were marginalized based on the inability to access oral healthcare and the lack of power to change the status quo. Dental hygiene practitioners' interactions with individuals in their direct access practices and community oral health programs influenced their awareness of the high stakes of oral diseases. These interactions and situations impacted the practitioners' self-awareness of values and mission to establish a personal commitment to social action. The educating action involved communicating to raise critical awareness of the vulnerable populations' poor oral health as dental hygienists interacted with colleagues, dentists, legislators and advocacy groups.

The learning action, *Challenging the Status Quo to Improve Access to Care,* is shown in relationship to the educating action, *Building Support for Improving Access to Care,* in Table II. Dental hygienists developed critical awareness of the need to contest the existing oral health care delivery system, the laws restricting dental hygiene practice and the lack of direct reimbursement from third party payers to dental hygienists. These challenges were addressed by participating in legislative advocacy to expand the scope of practice and thereafter, providing care in a direct access practice or community oral health program. From these pursuits, dental hygiene professionals developed critical awareness of the power exerted by organized dentistry to create roadblocks to impede the progress of legislation to expand dental hygiene's scope of practice. Participants regarded this power as attempt to maintain the status quo of the oral health care delivery system and dentistry's gatekeeper function to regulate care.

Furthermore, the realization of injustices of the political and dental third party payer systems contributed to an awakening of critical awareness. Dental hygienists became empowered when critical awareness was gained and the fear of power and injustice was overcome. Empowerment fueled the practitioners to take control of their careers and develop confidence and competence in their social action abilities. In addition, empowerment was enhanced through a sense of "making a difference" in the oral health of marginalized populations and in the political arena by influencing changes in health policies. However, participants also learned the vulnerable aspects of involvement in social action by experiencing personal and financial risks. The educating action consisted of individual practitioners improving knowledge of direct access practice and legislation within the dental hygiene community. Lastly, educating non-dental stakeholders was important to enhance the value of oral health and the importance of dental hygiene practitioners providing care directly to underserved populations. Furthermore, education was necessary to raise awareness of legislative efforts to improve access to care.

Table I. Relationship between Learning to Commit to Social Action and Educating to Raise Critical Awareness of Unmet Oral Health Needs

Committing to Social Action (Learning Process)
Realizing the Stakes of Poor Oral Health in Underserved Populations • Emotionally connecting to underserved individuals and their families • Developing critical awareness of unmet oral health needs of vulnerable populations • Gaining critical awareness of low stakes of preventable oral diseases and high stakes of life threatening oral diseases
Establishing a Personal Commitment to Social Action • Identifying values such as the right to oral health care, justice, fairness, advanced education, that guide actions to improve access to care • Viewing direct dental hygiene care as a worthwhile endeavor to improve access to care instead of providing care as a commodity for financial gain • Committing to a mission or vision to improve oral health of underserved populations and educating the next generation of practitioners
Raising Critical Awareness of Underserved Populations' Oral Health Needs (Educating Process)
Develop Awareness in Others of Underserved Populations' Poor Oral Health • Communicating with others to raise the consciousness of oral health status and access to care needs • Educating dental hygienists, dentists, legislators and middle class advocacy groups who do not interact with individuals experiencing pain and suffering from the lack of oral health care

Table III presents the relationship between the learning action, *Surviving in Social Action,* to the educating action, *Sustaining Support for Social Action*. Participants learned to adapt to new situations and create new strategies to overcome challenges in social action. The most significant aspect of learning was developing an awareness of the collective power resulting from collaborative efforts to achieve a goal by multiple groups

Table II. Relationship between Learning to Challenge the Status Quo and Educating to Build Support for Improving Access to Care

Challenging the Status Quo to Improve Access to Care (Learning Process)	Building Support for Improving Access to Care (Educating Process)
Bucking the System • Developing awareness of need to change status quo of systems to improve oral health • Taking action to implement direct access practices and oral health promotion community programs • Battling with dental insurance entities to provide reimbursement for care • Engaging in legislative advocacy efforts	**Improving Knowledge Within Dental Hygiene** • Communicating with dental hygiene practitioners and students about direct access practice • Educating dental hygiene practitioners and students about legislative advocacy
Attaining Critical Awareness of Powerful Forces • Understanding the power of organized dentistry and its long reach into systems influencing oral health • Feeling the impact of roadblocks placed to impede change in status quo initiated by hygienists • Distrusting organized dentistry's agenda to improve access • Developing critical awareness of power to maintain gatekeeper function to oral health	**Enhancing the Value of Oral Health and Direct Care Provided by Dental Hygienists** • Informing public, legislators, clients and healthcare practitioners on oral-systemic link • Educating public, legislators, dentists and healthcare practitioners to build professional identity • Informing others about solutions to access to care problem such as direct access practice, dental insurance reimbursement, and Advanced Dental Hygiene Practitioner (ADHP)
Reaching Critical Awareness Related to the Injustice of the Political System • Distrusting the fairness of the legislative system and actions of policymakers • Developing critical awareness of backroom politics influenced by wealthy contributors	**Raising Critical Awareness of Legislation to Improve Access to Care** • Educating to build support and gain respect within dental hygiene practitioners and professional association membership • Informing legislators and their staff to build support and gain respect
Realizing Critical Awareness Regarding the Injustice of the Dental Insurance System • Facing the problem of the lack of insurance codes for every dental hygiene procedure • Experiencing the denial of reimbursement to dental hygienists for care provided • Developing critical awareness of overburdened Medicaid system	
Achieving a Sense of Personal Power • Taking control of one's career by operating a business or implementing a community oral health program and participating in legislative advocacy efforts to expand the scope of practice • Gaining competence and confidence in emotional, mental, and spiritual abilities • Overcoming fear from sources of power and injustices • Finding empowerment by "making a difference" in oral health of underserved populations and in political arena	
Experiencing Risks • Experiencing vulnerability when challenging the status quo • Vulnerability = personal risks and business financial risks	

and the public. Collaborative efforts included dental hygiene professional associations as well as stakeholder groups such as oral health coalitions and senior citizen advocacy organizations. The educational component to sustain support for social action required ongoing education of dental hygiene association members, policymakers, stakeholders and the public.

Relationships between the last actions of the learning and educating processes are detailed in Table IV. *Envisioning the Future* with a new view of the oral health delivery system and enhancement of dental hygiene education and graduate preparation was related to *Building the Next Generation of Dental Hygiene Practitioners*. Participants created resources, mentored and served as role models for students and clinicians to educate the next generation of direct access practitioners and advocates for legislative action. Moreover, the educator role was important for creating collective consciousness and collective action to support new oral health delivery systems within the dental hygiene community and entities external to the dental hygiene profession.

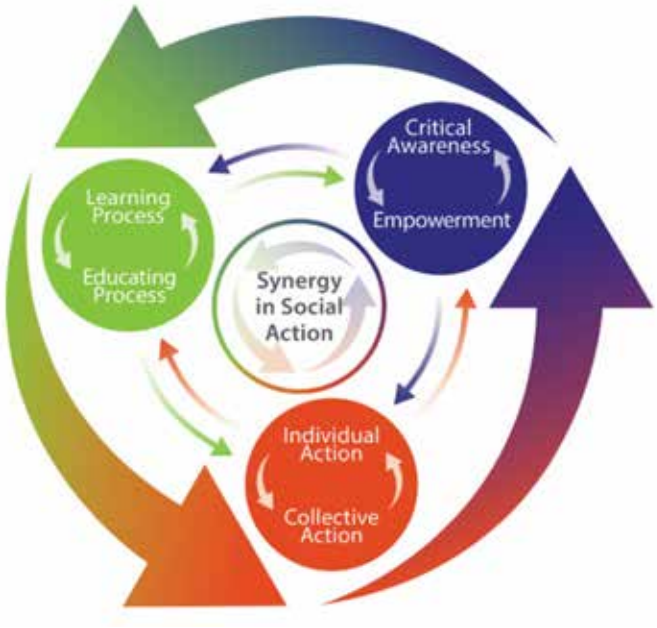
Results of the situational analysis[18] mapped situations, people and issues influencing the learning and educating processes. This analysis was useful for determining the complexities influencing the participants' experiences.[18] The situations in which dental hygienists experienced learning and educating included formal, non-formal and informal educational settings. Formal situations related to educational programs at universities or colleges for entry-level and degree completion as well as direct access care preparation. Non-formal settings included continuing education and professional development courses, whereas informal situations occurred in the context of providing care in nursing homes, implementing community health programs, and participating in dental hygiene professional association and legislative endeavors. The people influencing the participants' learning and educating experiences were numerous and included dental hygiene educators, practitioners and professional association members in addition to individuals and groups such as nursing home administrators, residents and their families; public health employees; dental association members and dentists; lobbyists, legislators and their staffs; and coalition members. Social action issues experienced by the participants related to the policies, systems, laws, power and injustices that presented challenges to improving health equity.

Constructing a theory grounded in the data followed the completion of the theoretical coding and situational analysis. The resulting theory is an interpretation of the complexities and variation of the phenomenon under study derived from a constructivist grounded theory perspective.[16]

A Grounded Theory: Synergy in Social Action

The Synergy in Social Action Theory consists of three key elements. (Figure 2) The first element is the interconnected actions of the Learning and Educating processes in social action. These processes are influenced by the second element of the theory, the interplay between Critical Awareness and Empowerment. The third element consists of the reciprocity between Individual Action and Collective Action. Movement within each key element generates the force to create the momentum among the three elements, which in turn produces synergy.

Figure 2. Synergy in Social Action Theory



Synergy is the perpetual momentum energized by the interaction of the three key elements, thereby creating a combined power greater than the sum of the individual elements. The momentum is fortified by the ongoing interrelationship within and among the key elements. Perpetual momentum is necessary to sustain social action during the continual quest to improve access to care.

Discussion

The Synergy in Social Action Theory explains a dynamic system of interrelated elements that establish momentum for challenging the status quo to improve the availability of and access to oral health care. Momentum for social action begins from the force of movement within each key component and then builds over time as the three elements combine individual energy to produce a momentum greater than the sum of the individual components. Continual movement and energy are necessary to sustain social action on a long-term basis.

Table III. Relationship between *Learning* to Survive in Social Action and *Educating* to Sustain Support for Social Action

Surviving in Social Action (Learning Process)	Sustaining Support for Social Action (Educating Process)
Adapting to Make Improvements • Adjusting to new situations to overcome challenges faced related to restrictive laws, dental insurance system, economic viability of practice, and ongoing access to care problems • Revising policies, procedures, organization, and strategies to improve efficiency and effectiveness in a direct access practice or a community oral health program and legislative advocacy • Applying improvements to direct access practices or community oral health programs and legislative endeavors as members of professional association	**Ongoing Education to Sustain Collective Consciousness within the Dental Hygiene Professional Association** • Constantly educating the dental hygiene association at the local, state, and national level regarding solutions to access to oral health care • Communicating with members of a subcommittee at the state association level charged with initiating legislative changes • Informing membership of a state professional association specifically for direct access dental hygienists
Generating Unique Approaches • Taking on new roles as a change agent for a state association, an advocacy role for patients and dental hygiene association or a case manager in the public health arena. • Creating strategies to overcome challenges or make opportunities to improve oral health	**Ongoing Education to Sustain Support of Policymakers** • Securing a professional lobbyist for the state dental hygiene association to assist with education of legislators and their staff on dental hygiene legislation • Dental hygiene association membership informing legislators and their staff to sustain their support • Dental hygiene association membership testifying at subcommittee hearings on legislation • Dental hygiene association membership communicating with the state board of dentistry executive director and members
Embracing Collective Power within Dental Hygiene • Building relationships within the dental hygiene association membership • Creating a subcommittee at the state association level charged with initiating legislative changes • Creating a state professional association specifically for direct access dental hygienists • Diversifying support for access to care from groups external to dental hygiene • Becoming more politically savvy as a collective power • Inspiring collective action towards achieving a common goal • Recognizing the direct and indirect collective power to influence change	**Building Support in Stakeholder Groups** • Dental hygiene association membership becoming active members in stakeholder groups such as senior advocacy groups, public health committees, • Dental hygiene association membership educating healthcare professional associations and their membership on dental hygiene solutions to access to care problems
Embracing Collective Power External to Dental Hygiene • Developing relationships with groups to foster a mutual appreciation of each other, to gain respect, and to build support • Collaborating with groups of stakeholders regarding a common purpose, vision, or mission • Developing a collective consciousness in associations, coalitions, task forces, advocacy groups, state boards of dentistry • Inspiring collective action towards achieving a common goal • Recognizing the direct and indirect collective power to influence change	

Table IV. Relationship between *Learning* to Envision the Future and *Educating* to Build the Next Generation of Practitioners

Envisioning the Future (Learning Process)
Creating a New Oral Health Delivery System to Improve Access to Care • Establishing successful alternative practice settings • Conceiving the Advanced Dental Hygiene Practitioner (ADHP) as a mid-level provider
Improving Dental Hygiene Education and Graduate Preparation • Ensuring that entry-level degree is commensurate with years of education • Incorporating more public health in the entry-level curricula • Increasing the number of dental hygienists with baccalaureate, master's, and doctoral degrees will enhance respect of profession • Providing ADHP preparation at the graduate level

Building the Next Generation of Dental Hygiene Practitioners (Educating Process)
Improving Direct Access Practice • Creating materials and resources to educate new direct access practitioners and advocates for legislative changes • Mentoring and serving as role models to students and clinicians in direct access practice and legislative action
Building a Collective Consciousness and Collective Action for New Oral Health Delivery Systems • Building collective consciousness and action within dental hygiene profession • Building collective consciousness and action among the public, legislators, coalitions, task forces, associations and advocacy groups

Although this theory was constructed from data collected from dental hygienists located in Washington, Oregon, and California regarding their experiences prior to 2009, the theory can be applied to the more recent initiative to improve the oral health of the underserved population in Minnesota. For example, the implementation of the advanced dental therapist as a new mid-level provider stemmed from actions spanning 8 years,[13] thus demonstrating the longstanding nature of social action movements. Dollins et al. suggested that efforts to pass legislation related to "new workforce models is not a quick process,"[11] therefore dental hygienists who are interested in implementing these new models must understand the commitment needed over a relatively long period of time. Furthermore, the implementation of the advanced dental therapist was not the endpoint. Continual watchfulness of reimbursement and regulatory policies is an critical aspect of the long-term commitment to a new workforce model.[12] Advocates must be prepared to monitor proposed policies and procedures by the board of dentistry, legislature, Department of Human Services, the Commission on Dental Accreditation and the regional testing agency for licensure requirements that could negatively impact positive progress towards the new workforce model.[13]

According to the Synergy in Social Action Theory, the interactions between the actions in the Learning and Educating Processes contribute to the development of momentum within this key element. The most significant experiential learning opportunities were presented in the situations and interactions as participants provided direct care to vulnerable populations and advocated for improving health policy. Participants' personal experiences in the context of social action were transformational in changing their priorities to challenge the status quo and envision change. These endeavors were rich contexts for learning and educating. Moreover, the inter-relationship between learning and educating was evidenced in the context of other social action movements,[22-28] as well as in the Minnesota legislative initiative.[11]

In this qualitative inquiry, education of the dental hygiene community at large along with external individuals and groups was identified as important factor in gaining support for access to care initiatives. Participants felt a responsibility to mentor and educate future generations of dental hygienists to provide direct access to care and to engage in legislative advocacy. Education has played an important role in other social movements.[29-30] During the initial efforts in Minnesota, education was a "strategic initiative" focused on legislators, the public, and the dental hygiene and dental community regarding the benefits of this new mid-level provider[13] and raising awareness of problems that challenge the oral health of vulnerable populations.[11,13] Two years later as the bill was considered by the state legislature, education of legislators focused on helping policymakers discern "myths vs facts" and inaccurate information offered by opposing groups.[13]

The interplay between the first key element Learning/Educating Processes and the second key element Critical Awareness/Empowerment is based on the definitions of Foley because learning is essential for developing critical awareness and empowerment. Critical learning enhances the development of critical awareness of unfair systems and injustices, whereas emancipatory learning influences empowerment and action to gain freedom from unfair and unjust circumstances.[22]

Momentum within the second key element is created from the relationship between critical awareness and empowerment in the Synergy in Social Action Theory. While the participants learned to challenge the status

quo, they also developed critical awareness of the power of organized dentistry, the injustice of the political system based on wealthy contributors' influence on policymakers' votes, and injustices of third party payers related reimbursement for dental hygiene providers. Participants viewed these unfair forces as influencing the lack of access to oral healthcare. In the Minnesota advanced dental therapist endeavor, opponents included the national and state dental associations and the school of dentistry.[12] The original proposed legislation included no supervision requirements for the advanced dental therapist; however, powerful forces influenced a modification to the bill to add the dental therapy model and change the supervision requirement to general supervision for the advanced dental therapist.[12]

The study participants' professional lives had provided the experiences to develop critical consciousness, which according to Freire[31] is learning to understand the social, political, and economic oppressive forces within a system followed by taking action against these forces. Once these forces were identified, the participants learned to overcome their fear of powerful and unjust forces. Participants' actions included adapting to make improvements and generating unique approaches to overcome challenges. Learning to overcome fear and gain freedom from these circumstances was the first step in achieving a sense of personal power or empowerment. Furthermore, empowerment was experienced by the participants as the power to have control over their professional lives and the power to impact health policy changes and impact the oral health of underserved populations.

The interplay between the second key element, Critical Awareness/Empowerment and the third key element of Individual Action/Collective Action is based on Friere's concept[31] that critical awareness influences taking action. Results from this study suggest that empowerment of individuals and groups must be achieved before engaging hearts, souls and minds in social action.

Momentum in the Synergy in Social Action Theory within the third key element is created from the relationship between Individual Action and Collective Action. The participants' singular actions to improve the availability, accessibility, acceptability and quality of oral health care led to interactions with other people and groups to achieve the same outcome. Collective social action was interpreted to mean the collaboration of individuals and groups to achieve a desired outcome to improve access to oral health care by overcoming powerful forces and oppressive injustices. The ADHA was the unifying organization within the dental hygiene community for collective action. Legislative changes were possible through collective action of members within the state association. Legislators tended to vote favorably for policy change in legislative campaigns supported by both dental hygiene and dental associations. However, when collaboration between the two associations was not possible, participants found that a broader network of collective support external to dental hygiene was necessary to increase the power of collective action necessary to change health policies.

The relationship between Individual Action and Collective Action was evident in the Minnesota mid-level provider legislative process. Endeavors began with the individual actions of two educators and the Dental Director of the Minnesota Department of Health.[13] This was followed by the first phase of collective action consisting of the strong support of three groups: the Safety Net Coalition, the Minnesota Dental Hygienists' Association, and the Minnesota higher education system.[12]

The power of collective action for the participants' social action movements was based on building relationships within the dental hygiene community and with policymakers, external and public groups to gain respect and support for legislative advocacy endeavors. In addition, participants who were members of oral health coalitions and task forces experienced the power of collective action where multiple stakeholder groups worked in collaboration to improve oral health. Evidence of the importance of building "sustainable relationships with influential community leaders and organizations" was established in Minnesota's legislative efforts, which resulted in the support of 60 organizations.[13] Furthermore, building relationships with legislators in the Minnesota House and Senate was also played a critical role in the process.[12] The collaborative relationships developed among the organizations and with policymakers were vital in gaining the support to pass the advanced dental therapist legislation.[11] Collaboration from entities external to the dental community were the most influential in establishing the need for access to care, because these entities were viewed as not having a "personal bias" on the legislative outcome.[11]

The energy of the Synergy in Social Action Theory is generated from the momentum *within* each key element and the relationship *among* the three elements. This relationship stems from two domains of learning, which in turn influence action. The learning/educating element focuses on the development of knowledge in the cognitive domain of learning, whereas the element of critical awareness/empowerment emphasizes the affective domain. Learning in the cognitive domain is built on a hierarchy of knowledge requiring an increasing complexity of thought.[32] The lowest

levels of learning involves remembering, understanding and applying knowledge. Higher levels of cognition entail analyzing, evaluating and creating knowledge.[32] Participants experienced knowledge development within the context of social action as they provided direct dental hygiene care to clients and were engaged in changing health policy.

In contrast, the affective domain deals with the more complex emotional aspects of learning such as values, perspectives, attitudes, motivations and feelings.[33] The two lowest levels of this domain include developing an initial awareness and then responding by demonstrating a new way of thinking or acting because of the awareness.[33] The three higher levels require assigning a value to something of worth and committing to the value, then prioritizing values to create a new internal values system and lastly, acting consistently with the new values set.[33]

Participants in this study, along with the dental hygienists involved in the Minnesota legislative efforts, developed a critical awareness of the access to care problem in their respective states.[11,13] This awareness influenced the development of values related to the right to oral health care, justice and fairness in access to care and the need for new workforce models. These values, in turn fostered participants to view improving the status quo as a worthwhile endeavor, and to commit to working towards positive change. Empowerment is embodied in the affective level of prioritizing values and making a transformation to a new perspective, which includes acknowledging injustices, feeling freedom from fear of powerful forces and having the power to impact change. At the highest level of affective development, participants demonstrated social action by engaging in activities to improve the oral health of underserved populations. Social action included providing direct access dental hygiene care or advocating for improving health policy for new workforce models. Therefore, both cognitive and affective learning are paramount to an individual or a collective group, taking action. The interaction among the three key elements creates the synergy and energy to sustain ongoing policy changes to improve the availability of and access to oral health care.

Implications of the Theory

The development of conceptual models and theoretical frameworks is vital for dental hygiene's evolution into a substantive healthcare discipline.[34] Key aspects of dental hygiene's scholarly identity include the creation and testing of the conceptual models and theories on which the body of dental hygiene knowledge is built.[35] Three conceptual models borrowed from other disciplines and adapted to dental hygiene exist in the literature: the Client Self-Care Commitment Model,[36] Oral Health Quality of Life Model[37] and Human Needs Conceptual Model.[38] Researchers have recently investigated the use of two of these conceptual models within dental hygiene practice, education and research.[39,40] At the present time two models created by dental hygiene researchers exist in the literature, the E-Model for Online Learning Communities[41] and the Advocacy Engagement Model.[42] The Synergy in Social Action Theory resulting from this qualitative study is a unique contribution to dental hygiene scientific body of knowledge.

Theories are used to understand a phenomenon and to apply this knowledge to future situations. As dental hygienists continue to promote health policies implementing and sustaining new workforce models, the Synergy in Social Action Theory may be useful in understanding and supporting colleagues' experiences actions in challenging the status quo, advocating for legislation and providing direct access to dental hygiene care.

The Synergy in Social Action Theory can also guide dental hygiene educators in entry-level and master degree programs to ensure graduates are prepared with the knowledge and values to participate in legislative advocacy to improve health policies and provide dental hygiene care in direct access practices. Results from a quantitative study of entry-level and graduate degree dental hygiene students demonstrated that students' knowledge, values, and projection of future advocacy actions increased significantly after completing a 7-week legislative advocacy project.[43,44] Educators must be mindful of preparing practitioners to engage in expanded practice by addressing gaps in knowledge identified in the literature and not addressed in current curricula.[7,44]

The small number of participants in this study may be viewed as a limitation. However, this inquiry established data saturation, and the validity and credibility of data collection and analysis through the use of standard qualitative research methodology. Dental hygiene researchers and practitioners must challenge their thinking regarding the value of qualitative research as a means to explore unanswered questions and create theories and conceptual models as guides for practice. Establishing doctoral programs in dental hygiene and educating researchers competent in qualitative methods will contribute to advancing and validating dental hygiene as a substantive healthcare discipline based on its own theories.

Future research could focus on exploring each element of the theory in greater detail using either qualitative or quantitative approaches or by a mixed methods approach. Dental hygienists engaged in social action endeavors should consider documenting their experiences based on the theory and add new insights into the process of social action.

Conclusion

Dental hygienists are engaged in social action to improve access to oral health care. Realizing this vision requires decades-long sustained energy and commitment. Dental hygienists' experiences in social action were collected and analyzed according to grounded theory methods to create an interpretive theory. The Synergy in Social Action Theory is the perpetual momentum energized by the interaction of three key elements, thereby creating a combined power greater than the sum of the individual elements. The momentum is fortified by the ongoing interrelationship within and among the key elements of Learning and Educating, Critical Awareness and Empowerment, and Individual and Collective Action. This theory assists dental hygienists in understanding the multidimensional components of social action, their interrelationship, and ultimately the role they play in improving access to care. The Synergy in Social Action Theory is unique to the dental hygiene discipline as it was created by a dental hygienist researcher based on data derived from dental hygienists. Theory development must be a priority for the research community in order to enhance the credibility of the discipline by creating a strong theory base in the scientific body of knowledge.

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