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# Relational Variables Impacting the Healthcare Team

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## Abstract

The movement in the healthcare system towards interprofessional collaborative teamwork values the perspectives of various healthcare professionals. Although this system shift has been essential to quality improvement, there have been indications of issues occurring between professionals that include conflict and impaired team performance. Although the current literature on interprofessional collaboration acknowledges the competencies and demonstrated behaviours that indicate successful and difficult collaborative efforts there is a lack of research investigating the relational variables that occur between healthcare professionals.

The purpose of this research was to test a theoretically derived model relating to the perception of healthcare professionals' relational variables. These variables related to warmth, competence and agreeableness associated with respect and the shame strategies of attack self, attack other, withdrawal, avoid and adapt to see if these variables moderated or mediated health professionals' socialization in the healthcare team. This study used an online questionnaire to capture responses to the survey from 315 healthcare professionals consisting of Registered Nurses, Registered Practical Nurses and Physicians.

The conceptual model was supported by data associated with several proposed hypotheses. These findings relate to how health professionals perceive the variables under investigation. In this study, hypotheses for research question 1 confirmed that health professionals who displayed warmth were more likely to receive a high level of respect, while those who displayed high degrees of competence were more likely to receive high levels of agreeableness from team members. When high degrees of warmth were exhibited health professionals were more likely to receive high levels of competence from team members.

Three mediation relationships associated with research question 2 were confirmed indicating the shame responses of attack self and attack other accounted for some of the relationship between low respect and poor socialization through partial mediation. The shame response of withdrawal, accounted for full mediation of the relationship between low respect and poor socialization.

Two global questions asked whether healthcare professionals felt comfortable and included in the team. It was found that Physicians felt more comfortable and included while Registered Nurses and Registered Practical Nurses differed, feeling much less comfortable and less included as part of their teams.

*Keywords*: interprofessional collaborative practice, warmth, competence, agreeableness, respect, shame, socialization

## Summary for Lay Audience

It has been well documented that healthcare professionals struggle to get along while at work. Around the world many individuals have researched these struggles in the hope to uncover how to improve working relationships between nurses and doctors. Many areas were studied including professional knowledge, skills, attitudes and values, but few studies have focused on the relational context between these professionals.

What prompted the need for this study was a recognition that how healthcare professionals perceive getting along with each other could influence not only nurses and doctors' wellbeing, but also could have negative and potentially risky outcomes for patient care delivery. Understanding the behaviours that assist or disrupt how nurses and doctors relate to one another therefore is important, to understand and improve effective working relationships.

A total of 315 healthcare professionals consisting of Registered Nurses, Registered Practical Nurses and Physicians participated in this study. This study aimed to know more about the variables that could explain interactions between nurses and doctors leading to their ability to work together within teams. The perceived effects of health providers warmth, competence and agreeableness on how these impacted on the respect they received from others was examined. It is suggested in the literature that when health professionals are exposed to disrespectful experiences in practice settings, these can cause responses in future events that may result in use of behaviours such as attack self, attack other, withdrawal, avoid and/or adapt. In this study, I wanted to learn if these variables moderated or mediated health professionals' socialization abilities to work together in their collaborative teams. What was discovered was that when respect was low, it mediated through shame responses impacting work team's socialization.

## Co-Authorship Statement

I, Linda MacDougall acknowledge that this thesis includes three manuscripts in addition to an introduction and conclusion chapter. These were written with collaboration from my PhD supervisor Dr. Carole Orchard and my committee members which included Dr. Mina Singh, Dr. Ian Nicholson and Dr. Bing Siang Gan.

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# Chapter 1 – Introduction to Relational Variables Impacting the Healthcare Team

Interprofessional collaborative (IPC) practice is a process where healthcare professionals work together to achieve a common goal of quality care for patients, their families, and caregivers (Keba Kebe et al., 2019). The benefits of this practice arrangement have been documented to include greater role clarity (Bosch & Mansell, 2015), increased job satisfaction, enhanced professional wellbeing (Mickan et al., 2010), decreased medical adverse events and medical errors through communication improvement and promotion of respect between team members (Goulding et al., 2020). The need for interprofessional teamwork has escalated due to increasing numbers of patients experiencing complex healthcare needs and co-morbidities (Ansa et al., 2020). Interprofessional collaborative practice has the capacity to address this complexity of practice environments. Understanding relational variables that occur between professionals may impact their socialization into healthcare teams. This socialization is a key component to achieving interprofessional client-centred collaborative practice (Lindstrom et al., 2011).

## 1.1 Background and Significance

Many credible sources have documented the need to adopt an interprofessional collaborative practice (IPC) model. The World Health Organization (2010) declared IPC as an important mechanism to deal with the growing health workforce crisis and improve population health outcomes. The Canadian Interprofessional Health Collaborative (CIHC) developed the National Interprofessional Collaborative Competency Framework to provide a model for interprofessional collaboration (Canadian Interprofessional Health Collaborative, 2010). In Canada, health professional organizations such as the Canadian Nurses Association (2011) have provided a position statement on interprofessional collaboration and provided tools and resources for building collaborative teams; the Registered Nurses Association of Ontario established a best practice guideline on sustaining and developing interprofessional healthcare with the aim of

fostering healthy work environments (Registered Nurses Association of Ontario, 2013) while the College of Nurses of Ontario provided a practice standard that highlights Registered Nurse (RN) and Registered Practical Nurse (RPN) accountabilities while collaborating in practice environments (College of Nurses of Ontario, 2018). Overall standards for IPC have also been established by representatives of several health professional organizations that resulted in the Accreditation of Interprofessional Health Education Standards for Interprofessional Education and Practice (AIPHE, 2009). Other professionals have also adapted these competency domains to accommodate some of the CIHC National Interprofessional Collaborative Competency Framework into their program accreditation standards. For example, the Royal College of Physicians and Surgeons of Canada revised the CanMEDS Physician Competency Framework (2015) that includes the role of collaborator as a physician who establishes respectful relationships with an interprofessional team sharing decision-making, common goals and outcomes while managing differences (Royal College of Physicians and Surgeons of Canada, 2015). The Canadian Association of Schools of Nursing (CASN) implemented a learning module on interprofessional and intersectoral collaboration for nursing programs (CASN, 2020).

Despite reported positive outcomes of IPC and the governing bodies that stress its inclusion into healthcare practice, challenges for full adoption remain. While professional competencies focus on indicators that reflect professional judgements of knowledge, skills, attitudes and values, studies focusing on behaviours resulting in collaborative success or difficulty are limited. Barriers to teamwork have been reported as insufficient communication (Matsunaga et al., 2021), unfamiliarity with differing professional roles, limited interprofessional interactions (Robinson et al., 2021) and lack of organizational support and goals (Xyrichis & Lowton, 2008). At stake when difficulties arise, is the lack of an integrated flow of patients from

one professional service to another. This lack of flow leads to duplication of services and inefficient use of healthcare resources, increasing costs. Hence, these inefficiencies can lead healthcare systems to reduce the use of other required medical services (Kates et al., 2011). Further, inadequate IPC has been associated with conflicts within teams, medication errors and patient safety problems that can lead to patient mortality (Keba Kebe et al., 2019). Ultimately, the need for high quality effective service realized through IPC is at the root of a safety agenda to reduce and intervene in preventable adverse events occurring with patients (Goulding et al., 2020). The question arises why do healthcare professionals not embrace IPC in their practice to improve the quality of health for their patients and improve their own work environment? The purpose of this study is to investigate key variables (warmth, competence, agreeableness, respect, attack self, attack other, withdrawal, avoid, adapt and socialization) associated with IPC and determine if responses to negative interactions that cause shame responses to future encounters, moderate or mediate socialization into teams (Keba Kebe et al., 2019).

The need to study the context (environment) in which teams work has been acknowledged but underreported (Carroll et al., 2021). Therefore, this study contributed to the contextual body of knowledge by investigating relational variables such as *warmth, competence, agreeableness, respect* and *shame* (*attack self, attack others, withdrawal, avoid* and *adapt*) that occur between healthcare professionals. Warmth is described as demonstrating helpfulness, empathy, trustworthiness (Abele & Wojciszke, 2014) likeability, friendliness (Sutcliffe et al., 2019) and kindness to one another (Wojciszke et al., 2009). Competence refers to goal achievement and completion of tasks (Abele & Wojciszke, 2014). To be competent, a team member appears to need assertiveness and decisiveness (Wojciszke et al., 2009), while demonstrating intelligence, power, efficacy and skill (Sutcliffe et al., 2019). Team members with

the agreeableness personality disposition are believed to have a preference for positive interpersonal relationships and perform well in jobs involving interpersonal interactions (Simha & Parboteeah, 2019). Respect is defined as a feeling of deep admiration for someone, or something elicited by their abilities, qualities or achievements (Oxford Dictionary, n.d.). Finally, shame is an emotion felt when an individual internalizes a negative judgement of themselves from a perceived failure in meeting a standard of acceptable behaviour (Gu & Myoung-Ho, 2021). Nathanson (1992) conceptualized a series of coping responses when shame is experienced that include attack self, attack others, withdrawal, avoid and adapt. In attack self, shame is turned inward; in attack others, shame is turned outward to another; in withdrawal, shame leads the person to move away from others and isolate; in avoid, shame leads the person to distract themselves or elevate themselves above others and the situation; and in adapt, the shame response is to restore the relationship (Vagos et al., 2019).

### 1.2 Purpose of the Study

To enhance the delivery of patient care to improve health outcomes, there is a need to understand key perceived relational variables – *warmth, competence, agreeableness, respect* and *shame* (*attack self, attack others, withdrawal, avoid* and *adapt*) that impact the *socialization* of health professionals into these healthcare teams. This socialization is a key component to achieving interprofessional client-centred collaborative practice.

### 1.3 Research Questions

The overall research questions included:

1) Do the relational factors of *warmth, competence, agreeableness* and *respect* predict *socialization* in the healthcare team in various practice settings?

2) Does a *shaming* experience (related to *attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate or mediate the relationship between *respect* and *socialization* into healthcare teams?

**1.4 Research Hypotheses**

To answer research question 1, seven hypotheses were proposed:

Hypothesis 1: Health professionals who display *warmth* are more likely to receive high levels of *respect* from team members.

Hypothesis 2: Health professionals who display *competence* are more likely to receive high levels of *respect* from team members.

Hypothesis 3: Health professionals with the personality trait of *agreeableness* are more likely to receive high levels of *respect* from team members.

Hypothesis 4: After controlling for *warmth*, health professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 5: After controlling for *competence*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 6: After controlling for *agreeableness*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members.

Hypothesis 7: Health professionals who received high levels of *respect* in their teams are more likely to be strongly *socialized* in their teams.

To answer research question 2, two hypotheses were proposed:

Hypothesis 8: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderated the relationships between *respect* and *socialization* into teams.

Hypothesis 9: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals mediated the relationships between *respect* and *socialization* into teams.

### 1.5 Methodology

This study used a convenience, cross-sectional nonexperimental design involving healthcare professionals (Registered Nurses, Registered Practical Nurses, and Physicians) to test the proposed conceptual model using the independent variables of *warmth, competence, agreeableness, respect,* and five *shame* responses (*attack self, attack other, withdrawal, avoid and adapt*) with the dependent variable of *socialization* in healthcare teams. The data analysis used descriptive, inferential statistical procedures and post hoc testing. To test the conceptual model fit, structural equation modelling was utilized to determine its best fit.

### 1.6 Overview of Chapters and Integrated Article Format

This thesis follows an integrated article format where each chapter is a separate manuscript as outlined by Western University School of Graduate and Postdoctoral Studies. It includes five chapters.

Chapter One is the introduction to the thesis, which is this current chapter titled, *Introduction to Relational Variables Impacting the Healthcare Team*.

Chapter Two is a manuscript titled, *Exploring Relational Variables Impacting the Healthcare Team: A Review of the Literature* and explores the relational elements believed to have an impact on team collaboration including prior experience of warmth and competence judgements, personality traits specifically agreeableness, respect, shame (attack self, withdrawal, attack other, avoid, adapt) and socialization in healthcare teams. Based on the literature, the conceptual model is then described.

Chapter Three is a manuscript titled, *Methodology for Testing Relational Variables Impacting the Healthcare Team*. This manuscript presents the methodology and step-by-step process of the study to test the theoretically derived model. An overview of the study design and data analysis procedures are provided.

Chapter Four is a manuscript titled, *Explaining the Relational Variables Impacting the Healthcare Team*. This chapter provides the study results that explored the independent variables of warmth, competence, agreeableness, respect, and five shame features of attack self, attack other, withdrawal, avoid and adapt that were proposed to influence the dependent variable of socialization in the healthcare team. The testing for moderation and mediation between key variables and refinement of a theoretical model using structural equation modelling will also be presented.

Chapter Five is a manuscript titled, *Relational Variables Impacting the Healthcare Team Study Summary of Key Findings, Implications and Conclusion.* This manuscript provides a discussion of the study key findings, implications of the findings with recommendations regarding healthcare professionals, healthcare organizations, nursing policy, post-secondary education, and nursing research. Final conclusions related to the entirety of the study are also included.

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# Chapter 2- Exploring Relational Variables Impacting the Healthcare Team: A Review of the Literature

## 2.1 Abstract

Interprofessional collaboration has been a focus for delivery of healthcare in Canada and throughout the world (Folkman et al., 2019; Gilbert et al., 2008; Romanow, 2002; Skela-Savic et al., 2017; World Health Organization, 2010). Studies provide evidence that professionals working together rather than as individuals, have greater capacity to achieve integrated patient care (Shin et al., 2021) and optimize human health services (Virani, 2012).

To add to this body of research, this article outlines several relational variables consisting of competence, warmth, agreeableness, respect, shame (attack self, withdrawal, attack other, avoid, adapt) and their impact on the socialization of members in their healthcare team. These are believed to have an impact on team socialization towards their collaboration.

The purpose of this article is to provide a literature review on these variables to support a theorized model that will be studied.

*Keywords*: interprofessional collaboration, warmth, competence, respect, shame, socialization

## 2.2 Introduction

Globally, interprofessional collaboration (IPC) as a model of care delivery has been discussed in many countries besides Canada (Grady et al., 2023) such as in Switzerland at the World Health Organization (World Health Organization, 2010), in the United Kingdom (Cabral et al., 2019; Peltonen et al., 2020; Reeves & Lewin, 2004; Steven et al., 2017), in the United States of America (Kaur & Tadros, 2019; Nawal Lutfiyya et al., 2016; Selle et al., 2009; White-Williams et al., 2021) and in Australia (Greenstock et al., 2012; Sudeshika et al., 2021; Thomas et al., 2017; Walker et al., 2019). More recently this discussion has occurred in South Africa (Hlongwa & Rispel, 2021), Brazil (Guedes de Brito et al., 2021; Macias et al., 2020; Pan American Health Organization., 2021), Japan (Koyama, et al., 2022), Indonesia (Herawati et al., 2022) and in European countries including Germany (van Duin et al., 2022), Norway (Johansen & Ervik, 2022), Slovenia (Šanc & Prosen, 2022) and Poland (Medical Letter on the CDC & FDA, 2022).

Historically, the earliest documentation of interprofessional multidisciplinary teamwork occurred at the beginning of the last century and increased after World War II (Baldwin, 1996; Dracup, 2017). Szasz (1969) from the University of British Columbia discussed a need for a broad approach for collaboration to exist between the health professions. An interprofessional committee delivered recommendations regarding what content and how it should be delivered so students could learn together. Interdisciplinary learning experiences were then provided to students in the health sciences at the University of British Columbia (Szasz, 1970).

In the past 40 years a stronger emphasis for adoption of interprofessional team collaboration has occurred; in response to rising healthcare costs (Buscemi et al., 2012; Hald et al., 2021), a rise in chronic diseases, and multimorbidity within the population (de Groot et al., 2021) leading to escalating patient care complexity (Mette et al., 2021; Smith et al., 2002) and

patient safety concerns within the healthcare environment (Kaifi et al., 2021; Palanisamy & Verville, 2015). Interprofessional team collaboration continues to be recognized as a critical system change to facilitate improved health outcomes amongst health system users (Canadian Nurses Association, 2011; de Groot et al., 2021; Keba Kebe et al., 2019; Orchard & Bainbridge, 2010; Suter et al., 2012). Although health system shifts have focused on quality improvements there are indications of impediments to this movement due to ineffective dynamics between healthcare professionals (McNair, 2014; Raurell-Torred`a et al., 2021).

In response to these obstacles, many university institutions, educators, healthcare professionals and policymakers have recognized the need for patient-centred collaborative practice (de Groot et al., 2021; Dracup, 2017; Gilbert et al., 2008; Kaur & Tadros, 2019) with a focus on how healthcare providers' learning, values, expertise and perspectives (Lucas et al., 2019; Orchard et al., 2005; Seaton, et al., 2021; Skela-Savic et al., 2017) create barriers to its implementation. Hence, there is an urgent need to gain an understanding of what constitutes effective IPC teamwork with a focus on dynamics occurring between healthcare professionals to stimulate a practice-based movement towards IPC teamwork.

Successful movement towards effective IPC teamwork necessitates the valuing of contributions by all members to share within their interprofessional teams (Adamson et al., 2018; Schmid et al., 2021; World Health Organization, 2010). It is theorized that when these shared contributions are not recognized, an undervaluing of each other's participation in collaborative teamwork is likely to occur. This undervaluing is believed to be associated with poor relational communications within teams. In order to achieve a transformative behavioural change to IPC between healthcare professionals, their interpersonal relationships need to be investigated. This

may lead to gaining an understanding of relational variables that impact collaborative healthcare team practice.

### 2.3 Background and Significance

IPC is defined as team members extending their professional socialization to include an interprofessional identity (King et al., 2010) or a dual identity (Khalili & Orchard, 2020) to reach shared agreements about patient goals. However, when health professionals are socialized only to their own specific professional role or generic role (Orchard & Rykhoff, 2015), barriers to IPC may occur (Chew et al., 2019; Schmitt et al., 2021; Sulaiman et al., 2021). Shulman's signature pedagogy of professionals presents the rigidity of these professional roles in blocking change to embracing such delivery of care models as in IPC (2005). Hence, for IPC to occur healthcare professionals must assume an interprofessional role that supports the functioning of health provider teams. Orchard and Rykhoff (2015) suggest that it is the adoption of team functioning that is often missing in the professional socialization of healthcare professionals. Khalili and Orchard (2020) in a study of students found that the socialization process was underpinned by Social Identity Theory (Tajfel & Turner, 1986) and Intergroup Contact Theory (Pettigrew, 1998). Allegiance to ones' signature pedagogy and social identity create the presence of power and status imbalances between team members from different professions reported to create and reinforce impressions of superiority/inferiority (Brown & Moran, 2003; Chew et al., 2019; Gilbert, 2005; McInnes et al., 2015; Price, 2021; Shulman, 2005). Thus, perceptions of group membership status and its inherent power (Brown & Moran, 2003; Fox et al., 2021; Zadeh et al., 2018) can lead to relational conflict (O'Neill et al., 2018) within and between team members (Darbyshire & Thompson, 2018; Herriott & McNulty, 2021; Lancaster et al., 2015; Orchard et al., 2005).

When people's behaviour is structured by both their personal sense of self and their membership in social groups (eg. their health profession) (Best, 2021; Haslam, 2014) an orientation towards their own in-group as a chosen profession occurs. This phenomenon reflects Tajfel and Turner's Social Identity Theory (1986). Other members are then viewed as out-group members creating an adversarial mentality of 'us' verses 'them' protecting their claimed in-group from a respective out-group (Darbyshire & Thompson, 2018; Nembhard & Edmondson, 2006; Rehman Khan, 2021; Watson et al., 2016). When healthcare professionals identify with their own particular group, their respect and favoritism are more likely shown towards their in-group members. Out-group members may experience distancing and relational conflict such as insults or humiliating actions from in-group members (Bochatay et al., 2019; Chrobot-Mason et al., 2009; McNair, 2014; Tajfel & Turner, 1986).

In order to elevate these interactions, Intergroup Contact Theory is relevant. It stresses that when exposure experiences to group members (differing health professionals) occur, there is anxiety reduction (Pettigrew & Tropp, 2008). This affect is important as it can change the underlying experiences of negative emotion, allowing group members to learn about one another's roles, accept each other and relate together. This can lead to a reappraised perception of previous views towards individuals. These positive encounters involve respect being shown towards other group members (Pettigrew, 1998). Therefore, it is argued here that other factors beyond individual health professionals' knowledge and skills (Khalili et al., 2013) may explain collaborative relationship development leading to socialization.

There has been extensive research related to interprofessional collaboration, conditions related to successful interprofessional collaboration, teamwork, team roles, team culture and operations occurring within teams (Dellafiore et al., 2019; Hald et al., 2021; Orchard & Rykhoff,

2015; Ulrich & Manning Crider, 2017). While interprofessional competencies and their domains outline characteristics of ideal collaborative practitioners (Keba Kebe et al., 2019; Interprofessional Collaborative, 2016; Mette et al., 2021; Orchard & Bainbridge, 2010) there is a gap in how these competencies are enacted in practice settings. While these competencies focus on indicators that reflect professional judgements within the practice context, studies focusing on behaviours indicating collaborative success or difficulty are limited.

Currently, there is a paucity of studies investigating relational variables that occur between healthcare professionals (Jayasuriya-Illesinghe et al., 2016; Keba Kebe et al., 2019; Orchard & Bainbridge, 2010; Seaton, et al., 2021). The aim of this study is to investigate the presence of healthcare professionals' relational variables at play during their interactions with one another. Study results may inform relational strategies to overcome impediments to IPC that may further enhance interprofessional collaboration. Only then, can the variables impacting collaborative practice become explicit and be acted upon within healthcare teams.

## 2.4 Literature Review

This literature review will focus on relational elements believed to have an impact on team collaboration including prior experience of *warmth* and *competence judgements, personality traits* specifically *agreeableness, respect, shame* (*attack self, withdrawal, attack other, avoid, adapt*) and *socialization* in healthcare teams.

### *2.4.1 Warmth and Competence Judgements*

Porter and Lawler (1968) suggested a person's past experience allows an individual to analyze a subsequent situation to fit with his/her previous pattern matching against prior experiences (Chen et al., 2018; Klein, 2000; Lenaert et al., 2016; Mischo-Kelling et al., 2021). The meaning that healthcare team members attribute to their prior experiences can impact the

way professionals engage in future interactions with one another (Eby & Dobbins, 1997; Laws et al., 2019; Sutherland et al., 2021; Ulrich & Manning Crider, 2017) and can act as a significant barrier to collaboration (Wei et al., 2022). Gillman et al., (2016) noted that if a healthcare professionals' previous team performance enhanced a sense of positive teamwork and outcomes, then it is more likely for the person to anticipate a positive working relationship with future teams. Thus, it appears that past working experiences in teams, may influence future expectations, which then may affect team relationships.

Relationships then are likely based on expectations formed during previous team experiences. As such, it is believed that positive previous experiences are more likely to favour teamwork (Bochatay et al., 2019; Ferris et al., 2009; Mischo-Kelling et al., 2021; Sullivan et al., 2016). If repeated instances of mixed met and unmet expectations are experienced by individuals, then they may experience skepticism towards teamwork. These uncertainties are difficult to overcome and require consistent behaviours that demonstrate respect and valuing towards all team members (Cain et al., 2019).

Working within a team necessitates social contacts with others. Social networking leads to perceptions of social support as a resource to team members' interactive exchanges. This can enhance the quality of care arrived at by the group that may not likely be achieved by an individual working alone (Baik & Zierler, 2019; Jarvis, 2016; Peirce et al., 2000; Sutherland et al., 2021). The complexity of healthcare environments then seems to influence team members social judgement making about each other.

Wojciszke and Sobiczewska (2013) conceptualized judgement as being comprised of both social and intellectual aspects (Rosenberg et al., 1968), communion and agency (Bialobrzeska et al., 2019; Wojciszke et al, 2009), morality (Wojciszke, 2005) and competence

and warmth (Abele et al., 2021; Fiske et al., 2002; Formanowicz et al., 2018;). For the purposes of this discussion, both competence and warmth will be used. These terms seem to provide an overall essence of the type of judgements made in healthcare teams.

In collaborative teams, there is a need to achieve shared outcomes through cooperation and contributions of competence, into the team. Competence refers to goal achievement and completion of tasks. To be competent, a team member appears to need assertiveness and decisiveness, while demonstrating intelligence, power, efficacy and skill. Warmth refers to the degree in which one is cooperative in maintaining relationships within the team. Warmth is described as demonstrating helpfulness, empathy, trustworthiness, likeability, friendliness and kindness to one another (Abele & Wojciszke, 2014; Sutcliffe et al., 2019; Wojciszke et al., 2009). Therefore, making social judgements about another team member seems to be based on both their perceived competence to fulfil tasks and their exhibited warmth towards team members (Abele et al., 2021; Cuddy et al., 2011; Sutcliffe et al., 2019).

When a person with high competence has negative experiences within a team, these can challenge that person's own self-esteem (Abele, et al., 2021; Bialobrzeska et al., 2019; Wojciszke & Sobiczewska, 2013). In contrast, initial negative competence judgements can be reversed by positive perceptions of a colleague's new achievements and then transferred toward their continued successes. Periodic failures by a team member seem to be tolerated by others who believe with experience these failures will be overcome (Cuddy et al., 2011; Kirby et al., 2019).

It is suggested by authors that perceptions of warmth are gathered prior to making competence judgements, followed by assessments of whether there is team psychological safety (Edmondson, 1999) to interact with another person. It has been reported that demonstrating a

‘cold’ behaviour by another team member even once, may secure a negative social judgement by other team members. Consequently, this social judgement is difficult to reverse as an individual becomes sensitive when signs confirm a lack of warmth by other team members (Dricu et al., 2018; Cuddy et al., 2011; Wróbel et al., 2021).

The concept of competence is within a person’s self-interest, whereas their warmth is a dimension related to the interests of others (Abele, et al., 2021; Azevedo et al., 2018; Cuddy et al., 2011). How another’s warmth and demonstrated competence during social encounters is demonstrated seems to reflect the determination of social judgements (Dricu et al., 2018; Fiske et al., 2007; Wróbel et al., 2021). Consequently, competence and warmth may be an outcome of a person’s personality traits (Ames & Bianchi, 2008; Ye et al., 2018).

It is theorized that healthcare professionals will interact with other healthcare team members to establish social networks. This is achieved by assessing feedback gained regarding members’ competence and warmth demonstrated in team interactions. These interactions are believed to be further influenced by team members’ personality traits (Bradley et al., 2013; Clegg et al., 2021; Fiske et al., 2007; Ye et al., 2018).

### *2.4.2 Personality Traits*

Healthcare team members bring a variety of personality traits into their collaborative environment that can influence their team behavioural norms (Corlin, et al., 2017; Li & Xie, 2020; Robertson & Callinan, 1998). O’Neil and Allen (2014) investigated secondary psychopathy with individuals exhibiting outbursts, lack of goal commitment, impulsivity and difficulty in relating to others. It was recommended that team members exhibiting these traits be placed across teams as concentrating them onto a few teams might be detrimental to team performance.

The Five Factor Model (FFM) was originally developed in the 1960s, and captures the most important and enduring personality trait dispositions including: extraversion (involves positive emotionality, sociability and high activity levels), neuroticism (involves negative emotionality, physiological reactivity to stress, and behavioural inhibition), openness to experience (involves the tendency to be creative, curious, flexible, imaginative and involved in a range of intellectual interests), conscientiousness (involves high levels of self-regulation, impulse control, achievement orientation, and self-discipline) and agreeableness (involves compliance and tendermindedness found to be relevant to ethical outcomes) (Costa & McCrae, 1992; Goldberg, 1992; McCrae & John, 1992; Simha & Parboteeah, 2019; Suldo, et al., 2015). The endurance and stability of these five dispositions, suggests their value in assessing individuals' personality traits (McCrae & Costa, 1990; Sleep et al., 2021; Stricker, et al. 2019).

It is theorized that the FFM's focus on common dimensions of team member personality dispositions, may have an impact on team practice. Within these dispositions, agreeableness has been reported in other healthcare team studies to be important in collaborative teamwork (Chang et al., 2012; Corlin et al., 2017).

**2.4.2.1 Agreeableness.** Individuals with high agreeableness demonstrate altruism, caring, trust, forgiveness and have cooperative values that characterize friendly compliance. Team members who use their agreeableness personality disposition are believed to have a preference for positive interpersonal relationships, perform well in jobs involving interpersonal interactions (Kudek et al., 2020; Simha & Parboteeah, 2019), demonstrate active engagement and independent thinking (Corlin, et al., 2017; Peeters et al., 2006) and have increased satisfaction while working within a team (Digman & Takemoto-Chock, 1981; Mount, et al., 1998; Zhao & Seibert, 2006). Agreeableness was also reported to be related to the display of empathy (Acuna

et al., 2015; Bakx et al., 2002; Fetterman, et al., 2019; Xu et al., 2021) and the ability to evaluate responses to interpersonal problems as well as an accuracy in reading facial expressions (Fetterman, et al., 2019; Hunter & Cushenbery, 2015; Lopes et al., 2003; Rudert et al., 2020).

The dimensions of agreeableness among interprofessional team members are likely to result in information sharing supported by collaborative relationships (Acuna et al., 2015; de Vries et al., 2006; Esmaeelinezhad, & Afrazeh, 2018; Graziano et al., 1996; Harb Y., 2021; Sun & Shang, 2019). Individuals with low agreeableness have been reported as manipulative, ruthless, suspicious, self-centered and demonstrate hostile non-compliance (Akyunus & Gençöz, 2019; Costa & McCrae, 1992; Digman, 1990; Digman & Takemoto-Chock, 1981; Hunter & Cushenbery, 2015; Rudert et al., 2020). Thus, team members with low agreeableness are likely to experience negative relationships with their peers (Cochran et al., 2019; Rudert et al., 2020; Zhao & Seibert, 2006). It appears that in the absence of this social facilitator trait, collaborative teamwork may be affected (Bradley et al., 2013; Cochran et al., 2019; McManus et al., 2004; Rudert et al., 2020). Although authors have reported that individuals adopt a team approach that relates to a team's personality, what is not known, is if any of this study's chosen relational variables may impact on these prior findings.

Therefore, it is theorized that a healthcare professional generally has prior experiences with a team member. During these exchanges, warmth and competence judgements are made which likely influence how the healthcare professional interacts with the judged team member. These interactions are further impacted by team members' personality disposition of agreeableness. Individuals who demonstrate agreeableness are reported to be more likely to respect other team members (Bradley et al., 2013; De la Fuente-Solana et al., 2021; Fiske et al.,

2007; Vecchione et al., 2019). The level of participation within a team is further related to how individual members experience respect or disrespect (Donahue, 2020; McNeil et al., 2013).

### *2.4.3 Respect*

Respect is influenced by prior experiences that may impact relationships among healthcare professionals (Aphane et al., 2020; Pullon, 2008; Sheridan et al., 2018). Respect is defined as a feeling of deep admiration for someone, or something elicited by their abilities, qualities or achievements (Oxford Dictionary, n.d.-a). Feelings of respect towards others is denoted in the literature as either appraisal or recognition respect. Appraisal respect is defined as excellence seen in another that warrants respect in return from the appraiser, while recognition respect is defined as an attitude, behaviour, or feeling toward another that conveys proper regard (Darwall, 1977).

When appraisal respect exists, an individual's judgements are more likely accepted by others resulting in a sense of self-worth. Appraisal respect is an outcome response that relates to how an individual's personal qualities and social contributions or worthiness are viewed by team members (Clarke et al., 2019; Grover, 2021; Stievano et al., 2016).

Recognition respect is envisioned as an unconditional value given to team members. It is based on how each individual is able to experience a shared humanity or moral imperative. Respect should be provided to any team member regardless of their actions (Grover, 2021; Meltzer Henry et al., 2015; Sekerka & Marar Yacobian, 2019). Recognition respect is not an outcome but related to interactive processes. It is therefore related, and not contingent on team members' social roles or work-related positions (Clarke et al., 2019; Grover, 2021; Stievano et al., 2016). During team member interactions, recognition respect is suggested to be demonstrated through effective listening, supportive communication, building camaraderie with each other and

acknowledging the importance of role diversity within a healthcare team (Carmeli et al., 2015; Geller et al., 2015; Sekerka & Marar Yacobian, 2019). Building positive working relationships among healthcare professionals, enhances teamwork and interprofessional recognition respect.

Alternatively, disrespect is defined as showing a lack of respect for another through insult or lack of courtesy (Oxford Dictionary, n.d.-b). Disrespecting another team member may lead to poor working relationships and lack of teamwork; impacting on patient safety, subsequently affecting health outcomes, and escalating healthcare costs (Jarden et al., 2021; Sheridan, et al., 2018; Sikka et al., 2015). Disrespect is believed to limit full engagement with team members by blocking the sharing of insights and observations that may affect morale and potentially lead to poor patient outcomes (Donahue, 2020; Formanowicz et al., 2018; Schaubroeck et al., 2011).

When recognition disrespect occurs, individuals may attempt to restore their self-worth, while withdrawing or attacking the individual who is blocking their discussion (Lipworth et al., 2013). Recognition disrespect seems to relate to power differentials exhibited between team members or between healthcare professionals and patients. Thus, power struggles within team members may lead to social and cognitive boundaries that can negatively impact on collaborative relationships. This may block participation and create social distances that may further cause lack of interactions within healthcare teams (Gogineni & Choucair, 2019; Stievano et al., 2016). Consequently, promoting recognition respect between healthcare professionals is warranted for both clinician and patient well-being (Geller et al., 2015; Sekerka & Marar Yacobian, 2019) and will be used as the respect variable in this research study.

It is therefore theorized that healthcare professionals who find themselves in clinical settings generally have prior experience pertaining to warmth and competency judgements which influence how they interact with other team members. This is further influenced by team

members' exhibiting a personality disposition of agreeableness (Bradley et al., 2013; Fiske et al., 2007; Kudek et al., 2020; Simha & Parboteeah, 2019). The level of participation they enter into within a team, is further related to experiences of recognition respect which may facilitate socialization within the healthcare team.

### *2.4.4 Socialization in the Healthcare Team*

Professional socialization is a role development process through which an individual becomes a mature member of a profession (Sewell et al., 1969). Socialization into a profession establishes processes adopted in creating work-based norms, beliefs, values, skills, knowledge, expected roles and a profession's culture (Becker et al., 1961). Attitudes toward one's own profession, are adjusted through the socialization process that begins before formal professional education and continues as professionals make adaptations in practice (Hershey, 2007; Mastalerz et al., 2021; Nash et al., 2018; West et al., 2016).

Healthcare team interprofessional socialization has been defined as a reciprocal learning process occurring through relational interactions with other professionals. Within healthcare teams, socialization occurs as a process of creating team based shared values, work-based norms, shared meanings, attitudes, behaviours and expected roles within situations that evolve from valuing each other's knowledge, skills and expertise (Kramer et al., 2013; Nash et al., 2018; Price et al., 2021; Simpson, 1967).

The outcome of this process results in professionals formulating a self-view as members of an interprofessional group with the goal of internalizing both a professional and interprofessional identity as a participant and collaborative team member. Khalili and Orchard describe this as development of a dual identity (2020). The development of a professional-interprofessional identity that is both independent and interdependent, requires building

relationships within and across healthcare teams (Farrell et al., 2015; Pereira & Oliveira, 2019; Price et al., 2021). Healthcare teamwork is an important contributor to improved communication, efficiency, innovation, cost effectiveness, patient outcomes and patient-centeredness (McNair, 2014; Price et al., 2021). Therefore, interprofessional socialization is enhanced when healthcare professionals from different disciplines have exposure opportunities to one another. These experiences can reduce uncertainty about other healthcare professionals' discipline (knowledge, skills and expertise) and enhance future contact (Best et al., 2021; Pettigrew et al., 2011; Sollami et al., 2018).

The valuing of professional interactions develops a sense of belonging within the interprofessional community (Alavi & McCormick, 2004; Khalili et al., 2014; Khalili & Orchard, 2020). This ability depends on team member's capacity to manage interactions within their interpersonal relationships. Connections between team members may result in short-term interactions or development of enduring relationships (Luthans, 2002). Whether brief or long-lasting, connections are dependent on how each individual respects their fellow team member (Geller et al., 2015; Khalili & Orchard, 2020; Liebe et al., 2019; Ragins & Dutton, 2007). Pettigrew (1998) posits that four cognitive processes are required for this to occur in Intergroup Contact Theory. First learning about out-groups or those who are not a member of the same profession as this has been found to improve attitudes. Second, changing one's behaviour by accepting out-group members. Third, acceptance occurs through their shared interactions which can end prejudices and change attitudes towards each other. Fourth, generating affective ties through positive encounters then leads to an in-group reappraisal. The outcome is believed to create a broadened lens of the in-group's historically held perspectives, leading to less bias towards the out-group (Pettigrew, 1998).

The implicit bias held within one professional towards another has been studied as the unconscious awareness of prejudice present within individuals (Merriam-Webster, 2022). Sukhera et al., conducted a scoping review on how implicit bias influences interprofessional collaboration (2021). Study findings indicated that professionals' attitudes and behaviours were impacted towards themselves and others when implicit bias was internalized towards their own profession. For example, physicians' implicit bias was that they were leaders, while nurses' bias was that they were powerless. Moceri (2012) reported that when intraprofessional bias occurred between Registered Nurses (RNs) and Registered Practical Nurses (RPNs), they experienced low levels of support from their peers particularly if they were from diverse backgrounds. These professionals were often unaware of how their own attitudes and behaviours were perceived by their team members. These implicit biases may lead to disrespect which can contribute towards conflict among the team. This can result in members who refuse team activities such as withdrawing their participation from collaborative meetings and cause RNs and RPNs to leave their workplaces (Moceri, 2012; Sukhera et al., 2021).

When a team experiences conflict related to team tasks, team potency may be elevated. Team potency is defined as a team's collective belief in itself to perform. During conflict, the intense efforts enacted toward goal achievement from a team's collective potency through information sharing and learning is viewed as a successful performance (O'Neil et al., 2018). Conversely, when team members become competitive and experience animosity leading to fear, mistrust and guardedness, the team's collective potency decreases impacting their performance (O'Neil et al., 2018; O'Neil et al., 2017).

Furthermore, when there is ambiguity surrounding role boundaries, interactions can become conflictual over shared areas of knowledge and skills. Ambiguities may force individual

team members to define themselves according to their professional membership in order to restore their own self-value (Best et al., 2021; Cain et al., 2019). Disagreements arising among team members can interrupt proceeding in work and execution of care planning (O'Neil et al., 2018). The outcome is believed to be a return to socialization towards their own profession and not to their interprofessional team (Price et al., 2021). Prior studies have found that while Physicians rate their interactions positively on teamwork and collaboration, RNs and RPNs find Physician participation to be lacking (Makary et al., 2006; O'Leary et al., 2020; Sexton et al., 2006; Thomas et al., 2003). Intraprofessionally, relationships between nurses may be impacted by negative behaviours between them. Moore et al. (2019) suggests that the poor relational skills of RNs and RPNs adversely impact their capacity to collaborate.

Therefore, it is theorized that healthcare professionals in clinical settings have prior experiences with other team members that provoke warmth and competency judgements. These judgements are believed to influence how healthcare professionals interact in future encounters with team members. This is further impacted by team members' personality disposition of agreeableness. Their level of participation within a team is then related to the level of recognition respect they experience between team members. Thus, the interprofessional healthcare team socializing process may impact a member's willingness or unwillingness to socialize within the team which may be moderated or mediated when individual team members have experienced previous shame.

### *2.4.5 Shame*

Shame has been described as a self-conscious emotion characterized by an internal negative self-devaluation and personal judgement of being inadequate. It is also triggered in an external social context when an individual feels judged by others as inferior or worthless due to a

perceived error in meeting a social standard (Sedighimornani et al., 2021). Shame may moderate or mediate the level of respect experienced if a team member responds adaptively or maladaptively in a situation towards another team member. Shame is an emotion felt when an individual internalizes a negative judgement of themselves from a perceived failure in meeting a standard of acceptable behaviour (Gu & Myoung-Ho, 2021). A person's perception of their own shame can lead to beliefs of unacceptable behaviour, that may cause them to avoid connection to a valued community (a healthcare team) and social system (work environment). When individuals identify that they are experiencing shame in themselves (Lewis, 1971) they are more likely to use defensive coping strategies to manage negative experiences with others (Gu & Myoung-Ho, 2021; Vagos et al., 2019; Yelsma et al., 2002). A team member's coping capacity requires socialization in working within interprofessional collaborative teams. This capacity is believed to be moderated or mediated by previous and ongoing experiences of shame in response to negative or adaptive interactions with others.

Nathanson (1992) conceptualized a series of coping response patterns made by individuals when they experience shame. These patterns provide a means for interpretation, evaluation, prediction, and production or control of events. They form a set of points in a compass which Nathanson termed the Compass of Shame. These patterns are associated with either internalizing shaming experiences ('attack self' and 'withdrawal') and/or externalizing responses ('attack other' and 'avoid') (Campbell & Elison, 2005; Elison et al., 2006; Nathanson, 1992; Reid et al., 2009; Vagos et al., 2019).

When individuals internalize shame, they will 'attack self', by exhibiting self-anger or contempt towards themselves (Capinha et al., 2021; Lyons, 2018; Reid et al., 2009; Schmader & Lickel, 2006). Shamed individuals may also use 'withdrawal' by hiding or withdrawing from

interactions with others in order to protect themselves from emotions such as shame itself, anxiety or fear that is linked to their own discomfort. Withdrawal is reported to be gender influenced and used more frequently by women than men. It is suggested this is due to women's tendency to blame personal inadequacies during times of threat (Carpenter et al., 2019; Lewis, 1971). In contrast, men are believed to experience externalizing responses to a greater extent isolating themselves from other shame management reactions that might be more effective (Capinha et al., 2021; Brown & Moran, 2003; Lyons, 2018;). It is theorized that given women's socialization, healthcare professionals may adopt internalizing responses to shame situations. Both attack self and withdrawal coping styles may be harmful to a person's inability to reassure oneself during a crisis due to anxiety and depression (Capinha et al., 2021).

When individuals externalize their shame responses they can 'attack others' by outwardly directing anger and blame to individuals with hostility and physical and verbal aggression. Alternatively, they may engage in 'avoidance' reactions by denying and minimizing an event as a distraction to their response to the event. Attack others is thus a coping style that is neither accepted nor personally recognized. Instead, it is transferred to other individuals to make them feel worse (Capinha et al., 2021; Campbell & Elison, 2005; Vagos et al., 2019). Further, externalizing reactions to 'avoidance' are demonstrated when individuals psychologically avoid feeling shame through denial. They shift their focus from the shame triggering event to something more pleasant (Capinha et al., 2021). This can be manifested in perfectionism, excessive competitiveness, being a workaholic or engagement in other addictions and escaping from situations. Individuals may also mask their shame by habitually exhibiting high self-esteem or by giving impressions of superiority.

Shame has been described as a moral emotion that is connected to the interests of others and motivates interpersonal behaviour (Capinha et al., 2021; Roos et al., 2014; Shen, 2018). Although maladaptive responses are associated with four of Nathanson's (1992) shame management patterns; 'attack self', 'attack other', 'avoid' and 'withdrawal', these negative patterns can also be viewed as purposeful to prevent further self-damage (Capinha et al., 2021; de Hooge et al., 2008; Shen, 2018;). However, shame experiences may not be conducive to building interprofessional team excellence if the shamed individual chooses 'avoidance' or 'withdrawal' response strategies. In doing so, they may remove themselves from the supportive and respectful team member environment (Shen, 2018). Moreover, when psychological distress is present, poor team relationships can impact healthcare performance leading to suboptimal patient care (Jarden et al., 2021). Some social groups develop a work culture of arrogance and authoritarianism that help them avoid experiencing shame responses to any transgressions. Avoidance may then prevent individuals from consciously focusing on their response due to the suppression of shame feelings (Brown & Moran, 2003; Campbell & Elison, 2005; Capinha et al., 2021; Schalkwijk et al., 2019).

The Compass of Shame has an additional 'adaptive pattern' which can protect individuals when shame is experienced within a team situation (de Hooge et al., 2008, Yelsma et al., 2002) by harnessing their internal resources to face the shame. This component addresses the team member's threatened self-view of their perceived competence (Dempsey, 2017; Lewis, 1971). Individuals with self-awareness may resort to competent shame coping strategies. Their self-awareness may be informative, conveyed by recognition of their responsibility for what happened and their ability to rectify such situations. Thus, individuals' motivation to restore their positive self-image following a shaming experience, appears to be associated with their

willingness to risk further failure by trying harder (de Hooge et al., 2010; Dempsey, 2017). When this adaptive shame management pattern is adopted, it is believed to help discharge shame in order for an individual to contribute collectively within their group. They overcome the shame through their self-reassurance based on a positive regard of themselves in the face of distressing experiences. Thus, persons using adaptive patterns who demonstrate self-reassurance in the face of distressing experiences may also have the ability to feel better and improve their interpersonal relationship outcomes (Capinha et al., 2021; Vagos et al., 2019).

**2.5 Summary**

Interprofessional collaboration is considered as an essential model of healthcare delivery with many facets investigated in the academic literature. Variables such as conditions related to successful interprofessional collaboration, team roles, culture and competencies outline characteristics of excellence within collaborative practitioners. However, there is a paucity in research that specifically focuses on relational behaviours that indicate collaborative success or difficulty.

Based on this literature review, it is theorized that several relational variables occur between healthcare professionals that are believed to have an impact on team collaboration. These variables relate to competence, warmth, agreeableness, respect, shame (attack self, attack other, withdrawal, avoid and adapt) and socialization in the healthcare team. When healthcare professionals have prior experiences with other team members who demonstrated competence in their clinical judgements and show warmth, it is believed to influence how they interact with these persons. This is further impacted by team members' agreeableness. A member's level of participation within a team is also related to the level of recognition respect they experience from team members. The interprofessional socializing process they participate in within a healthcare

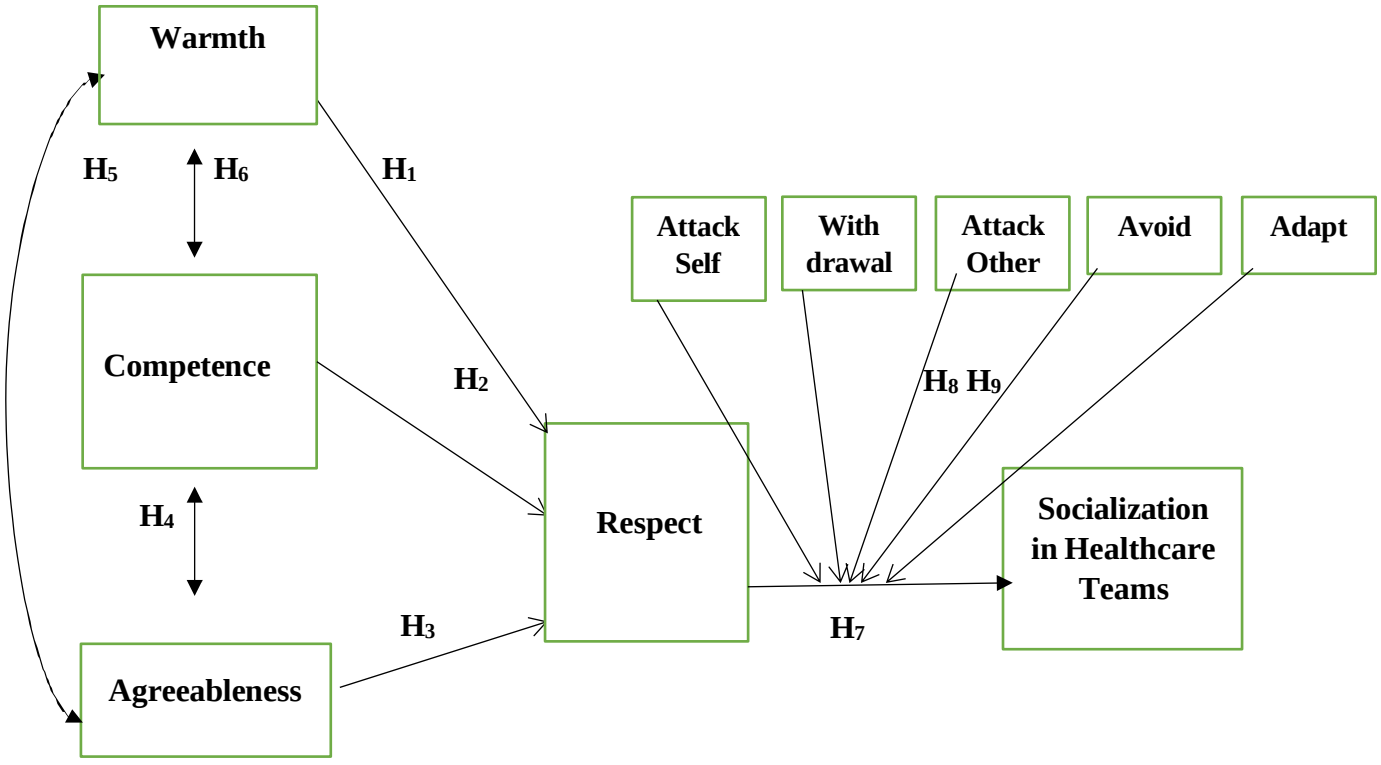
team, may impact members' willingness or unwillingness to socialize in their healthcare team which may be moderated or mediated when individual members experience shame. Shame may moderate or mediate the level of respect experienced if a team member responds adaptively or maladaptively in a situation towards another team member. The coping capacity of a team member required to be socialized in working within interprofessional collaborative teams is therefore believed to be moderated or mediated by previous and ongoing experiences of shame in response to negative or adaptive interactions with others.

### 2.6 Conceptual Framework

The propositions outlined above are depicted in the proposed theorized model in figure 1.

**Figure 1**

*Proposed Theorized Model*



Based on this literature review, this study theorized that healthcare professionals who experience warmth, competence and have the personality disposition of agreeableness will influence the respect experienced, which in turn is proposed to influence their interprofessional socialization process. A shaming experience (attack self, withdrawal, attack other, avoid, adapt) within a healthcare professional is hypothesized to moderate or mediate the relationship between the respect received and the socialization experienced in their team.

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# Chapter 3 – Methodology for Testing Relational Variables Impacting the Healthcare Team

## 3.1 Abstract

The purpose of this article is to provide a description of the process used to investigate the study, "Relational Variables Impacting the Healthcare Team". Extensive research related to interprofessional collaboration (IPC) in healthcare teams has been carried out. Prior research outlined the exhibited competency domains and demonstrated behaviour but rarely focused on the perceived relational variables for collaborative teamwork efforts. This study aimed to focus on IPC relational variables.

The overall research questions for this study were: "Do the relational factors of *warmth, competence, agreeableness* and *respect* predict *socialization* in healthcare teams in various practice settings?" and "Does a shaming experience (*attack self, withdrawal, attack other, avoid, adapt*) within a health professional moderate or mediate the relationship between respect and socialization into healthcare teams?"

This article discusses the methodology for testing this study's theoretically derived conceptual model to determine its impact on socialization of team members into interprofessional collaborative practice. This article builds onto the previous literature review related to variables in the conceptual model that link social judgements (*warmth* and *competence*), personality (*agreeableness*), *respect* and shame (*attack self, withdrawal, attack other, avoid and adapt*) to the outcome of team *socialization* (MacDougall, 2023). Hypothesis testing of the theorized model was achieved utilizing structural equation modelling.

*Keywords*: interprofessional collaboration, socialization, relational variables, social judgements, theorized model testing

## 3.2 Introduction

Although there is an abundance of research pertaining to interprofessional collaboration (IPC) competencies (Orchard & Bainbridge, 2010), there is a gap in studies regarding specific relational variables within professionals. Investigation into this area could enrich the knowledge understood and contribute to IPC. This study aims to examine relational variables that impact healthcare teams. A theoretically derived model was tested using the concepts of competence, warmth, agreeableness, respect, shame (attack self, withdrawal, attack other, avoid and adapt) and socialization in healthcare teams among Registered Nurses (RNs), Registered Practical Nurses (RPNs) and Physicians working in rural and urban hospital settings.

In this paper, the methodology used in the study is presented. The theoretical model is outlined, and the research questions and hypotheses reviewed. Furthermore, the specific study parameters will be discussed providing information related to the quantitative study design, subject recruitment and data collection processes. The instruments used in the study are also described as is the data analysis using Statistical Package for the Social Sciences (SPSS), Analysis of a Moment Structures (AMOS) and Structural Equation Modelling (SEM) for a model fit.

## 3.3 Literature Review

The need for patient-centered collaborative practice across all health professions was recognized and steps taken to shift working relationships towards an interprofessional collaborative model (Orchard, 2010; World Health Organization, 2010). Despite this, there have been indicators that working together in a cohesive interprofessional team is difficult to achieve (Fox et al., 2021). Few studies discuss the interpersonal relationship between healthcare professionals regarding the perceived specific relational variables that may be barriers or enablers of working within an interprofessional team. Instead, authors explored attitudes (Shin et

al., 2021), communication (Fox et al., 2021), shared goals (Kangas et al., 2021) and philosophy of care, power and hierarchy dynamics (Seaton et al., 2021) to gain understandings of professional relationships with each other. Wei et al. (2022) in a recent IPC systematic meta-review, stated that individual barriers included holding onto past negative experiences between team members demonstrating disrespect. This disrespect created enduring feelings of being undervalued by others in interprofessional teams.

Interprofessional collaboration (IPC) is vital to the delivery of patient care and this study is intended to gain further understanding of relational variables that impact healthcare teams to achieve interprofessional client-centred collaborative practice. This research is building upon findings reported by Wei et al. (2022).

### 3.4 Theoretical Model

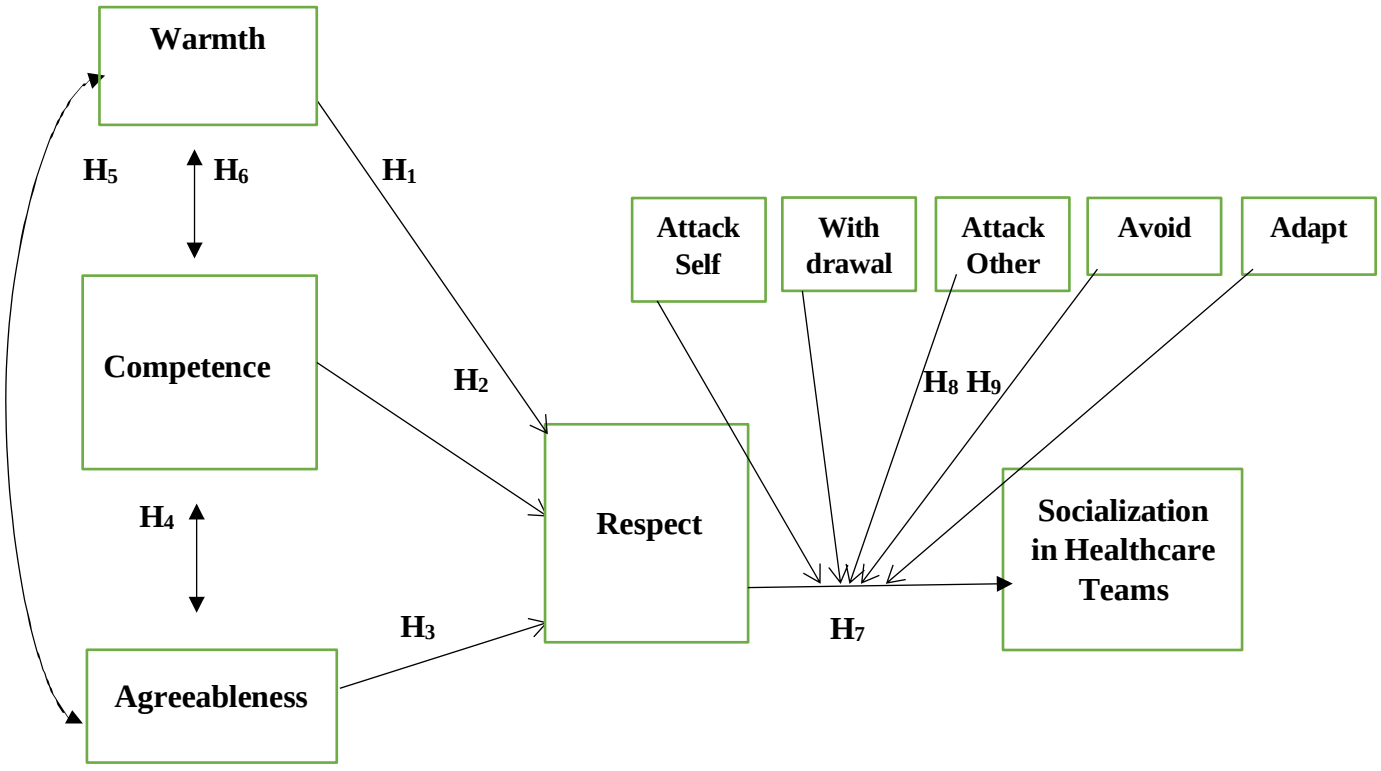
The theoretical model used in this research study (see figure 3) is underpinned by Tajfel and Turner's Social Identity Theory (1986) and Intergroup Contact Theory (Pettigrew, et al., 2011). Social Identity Theory posits that persons gain a sense of belongingness to a group by identifying themselves through their personal sense of self as a member of a social group. A positive social identity is achieved by aligning oneself as a member with an in-group. In-group membership can lead to adoption of group values and norms resulting in behavioural conformity of members. This in-group allegiance can influence an avoidance of social identification with other groups (beyond their own) who then view 'others' through an adversarial lens. This stance protects in-group members from out-group member infiltration. For example, when specific healthcare professionals such as Physicians, identify with their own group they are more likely to demonstrate respect towards members of their in-group. In contrast, out-group members such as RNs or RPNs may experience distancing and conflict, such as insults or humiliating actions from

Physician members of an opposing group (Bochatay et al., 2019; Darbyshire & Thompson, 2018; McNair, 2014; Rehman Khan, 2021; Tajfel & Turner, 1986). However, Intergroup Contact Theory further posits that members who share experiences between colleagues facilitates their socialization. This can reduce uncertainly and enhance positive experiences between members affectively leading to socialization in sharing work (Pettigrew et al., 2011).

This study proposed that socialization in healthcare teams is achieved by respecting each other and being socialized in working together as collaborative team members within and across disciplines (King et al., 2016), occurring when group members perceived experiences of warmth (friendliness, being liked) (Wróbel et al., 2021), competence (being capable, ambitious) (Wróbel et al., 2021); and sharing agreeableness (altruistic, cooperative behaviours) (Xu et al., 2021), which is associated with respecting, appreciating or showing worth to everyone (Grover, 2021). This group socialization may be moderated or mediated by shame (worthless, inferior) feelings (Sedighimornani et al., 2021). The proposed theorized model is provided below (see figure 2)

**Figure 2**

*Proposed Theorized Model*



### 3.5 Research Questions

The study's research questions were (Q.1) Do the relational factors of *warmth, competence, agreeableness* and *respect* predict *socialization* in the healthcare team in various practice settings? (Q.2) Does a shaming experience (related to *attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate or mediate the relationship between *respect* and *socialization* into healthcare teams?

To address question 1: Do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' socialization into their health teams? Seven hypotheses were tested specifically:

Hypothesis 1: Health professionals who display *warmth* are more likely to receive high levels of *respect* from team members.

Hypothesis 2: Health professionals who display *competence* are more likely to receive high levels of *respect* from team members.

Hypothesis 3: Health professionals with the personality trait of *agreeableness* are more likely to receive high levels of *respect* from team members.

Hypothesis 4: After controlling for *warmth*, health professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 5: After controlling for *competence*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 6: After controlling for *agreeableness*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members.

Hypothesis 7: Health professionals who received high levels of *respect* in their teams are more likely to be strongly *socialized* in their teams.

To address question 2: Does a shaming experience (related to *attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate or mediate the relationship between respect and socialization into healthcare teams? The following hypotheses were tested, specifically:

Hypothesis 8: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderated the relationships between *respect* and *socialization* into teams.

Hypothesis 9: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals mediated the relationships between *respect* and *socialization* into teams.

**3.6. Research Design**

The research study, "Relational Variables Impacting the Healthcare Team", used a cross-sectional nonexperimental design involving health professionals in healthcare practice settings.

**3.7 Sample Size Calculation**

The sample size was based on the use of SEM. Typical median sample sizes in SEM studies indicate sample sizes of 200 based on the review of studies in different fields (Kenny, 2015; Kyriazos, 2018). If this is not adhered to technical problems can occur in the analysis. Given that there is no simple rule that is consistent across studies (Kline, 2016), Kelcey (2019) and Jackson (2003) described use of the N:q rule which considers the minimum sample size in terms of the ratio between the number of cases (N) to the number of model parameters for statistical estimates (q). When the N:q ratio falls below 10:1 there is a risk that parameter estimates are unstable and significance tests lack power. In this study a recommended sample size to the parameter ratio would be 20:1. The required number of respondents for this study also included attention to reduce the risk of Type II errors (Bagiella & Chang, 2019; Wolf et al., 2013). Soper's (2019) online calculator to determine sample size on the basis of: anticipated

effect size (0.3); desired statistical power level (0.8); number of latent variables (5); number of observed variables (31) and probability level (0.05), estimated a minimum sample size (n) for the study's model structure was 233 participants. The proportionate stratified random sampling for the three groups was an n of 233 participants (127 RNs, 55 RPNs and 51 Physicians).

The study planned for use of an online survey. To accommodate response rates for online, mailed or face-to-face interviews, web-based surveys Petchenik and Watermolen, (2011) suggest a response rate of between 25% to 50%. The sample size was adjusted to accommodate 25% respondent attrition, resulting in a planned N of 437 (RNs $n$ = 238, RPNs $n$ = 103 and Physicians $n$ = 96) (Lesser et al., 2016; Polit & Beck, 2019; Sauermanna & Roach, 2013).

**3.8 Recruitment**

A proportionate stratified sample of healthcare professionals were recruited for this study. The sampling frame sampled the Ontario, Canada population of healthcare professionals (RNs, RPNs, Physicians) within their professional designations. This population was divided into three separate groups. A three-phased recruitment approach was adopted. The sample group size of each was planned to be proportionate to the population size of their respective professional designations' total population. Hence, samples were planned to be obtained by randomly selecting the same sampling fraction for each group. In this way, a sample was planned to be specific to the relative proportions of professional designation subgroups (Polit & Beck, 2019).

The first phase of recruitment was planned to be implemented between March 4, 2019 - April 29, 2019, utilizing RNs, RPNs and Physicians who met the inclusion criteria (i.e., holding current registration with their respective professional colleges in Ontario). These professionals were planned to be selected due to their prevalence on many healthcare teams. Their participation in the study was planned by requesting mailing addresses through the College of

Physician and Surgeons of Ontario (for Physicians) and the College of Nurses of Ontario (for RNs, and RPNs). These organizations were asked to identify health professionals who are registered in their discipline-specific college and agree to participate in research studies. The above approach was planned to be an expedient method. However, due to a low number of respondents to this first phase a further phase was added.

A second phase of recruitment was planned between July 22, 2019 – August 22, 2019, using the LinkedIn Corporation (an internet social networking site that focused on business and employment-oriented services). And finally, a third phase was required and planned for between August 16, 2019 – November 30, 2019, from seven hospitals within Ontario.

**3.9 Inclusion and Exclusion Criteria**

The subject's inclusion criteria comprised healthcare professionals between aged 19 and more than 68 years of age; who possess active licenses in their respective profession; currently employed in a hospital or had hospital privileges; worked with other healthcare professionals in their workplace and provided direct care to patients. Exclusion criteria pertained to health professionals working under a temporary license who had not yet completed their registration/licensing exam as well as inactive, non-practicing healthcare professionals.

To improve the response rate in the first sample, the researcher used university letterhead (Dillman, 2000) and personalized all mailed communication by addressing and hand signing postcards (Sauermanna & Roach, 2013). Two weeks following the initial mail out of the postcard (see Appendix M), participants were sent a reminder postcard (see Appendix N). In a further two weeks, the researcher sent out an additional postcard (see Appendix O) to those who had not submitted a completed survey. The final reminder occurred two weeks later with another

reminder postcard sent to the non-responded participants (see Appendix P). A total of 1738 postcards were mailed out.

### 3.10 Incentive

Respondents who completed the Survey into a secure Qualtrics Survey file were invited to participate in a draw in thanks for their study participation, through a second URL link. The incentive offered was a draw towards winning a weekend in Stratford Ontario with lodging at a landmark bed and breakfast or alternatively a pre-loaded $650.00 Visa credit card with equivalent value. This draw related to Aire's (2017) findings that incentives of increasingly larger amounts may be needed to secure web-based survey participation and confirmed by Morris et al., (2013) who suggested this need being particularly important for participants with higher education and income levels.

### 3.11 Data Collection

Following ethics approval obtained from the Western University Human Ethics Board, the study was initiated (see Appendix A). Each respondent was mailed a postcard using Canada Post announcing the study and directing them to the Qualtrics survey URL study link. The online survey comprised a package of a Letter of Information, demographic information and five instruments (see Appendix B).

An advertisement was posted on the LinkedIn social networking site with the study link embedded within the advertisement. Participants were required to click on the advertisement to participate (see Appendix C and D).

The hospital RNs, RPNs, and Physicians were sent a request to complete the study online survey through their respective internal email system within each institution. Each potential

respondent was invited to click on an embedded study link to participate (see Appendix E, F and G).

### 3.12 Demographic Data

Demographic information included participants' profession, age, gender, years worked as healthcare professionals, years worked with other healthcare professionals (RNs, RPNs, Physicians), highest level of education, means of learning about the survey, size of hospital working in, province of work and setting of healthcare. Two global questions were asked about participants feelings regarding their team experiences: (1) While working in your clinical area how often do you feel comfortable interacting with other healthcare professionals? And (2) While working in your clinical area, how often do you feel included as part of the team?

### 3.13 Data Collection Instruments

The instruments used within the survey included the Warmth and Competence Scales (Wojciszke et al., 2009), the Ten Item Personality Inventory (Gosling et al., 2003), the Respectful Leadership Scale (van Quaquebeke & Eckloff, 2010), the Interprofessional Socialization and Valuing Scale (King et al., 2016), and the Compass of Shame Scale (Nathanson, 1992).

#### *3.13.1 Warmth and Competence Scales*

Warmth and Competence scales (Wojciszke et al., 2009), measure four sub-dimensions including: *liking* (3 items), *competence* (3 items), *agency* (5 items) and *communion* (5 items). Five items for warmth (communion) and 5 items for competence (agency) were used and rated using a 5-point Likert scale (disagree = 1, hard to say = 3; and definitely agree = 5). For the purpose of this study, only the *communion* and *agency* sub-dimensions were utilized. These sub-dimensions measure social judgements associated with team members prior experience with their

associates. The *communion* sub-dimension measured the concept of *warmth* while the *agency* sub-dimension was used to measure the concept of *competence.*

Validity of the overall scale was established using a principal component analysis that revealed two sub-dimensions – agency and communion. The scales showed high item-total correlations. Satisfactory reliabilities reported ranged from .84 to .90 competence (agency) = Cronbach's *a* of .90 and warmth (communion) = Cronbach's *a* of .84 (Wojciszke et al., 2009). Wojciszke e al., (2009) carried out a principal component analysis on the items intended for agency and communion sub-dimension yielding two factors with eigen values exceeding 1.00 (3.88 and 2.85) accounting for 38.75 and 28.49% of the total variance. These two sub-dimensions were weakly correlated. To obtain results sub-dimension items scores were added to obtain an overall score (Wojciszke et al., 2009). A negative score of 10 indicates a low warmth score which pertains to team member's inability to relate in meaningful ways with their colleagues, while a low competence score indicates that colleagues are being judged as incompetent in carrying out tasks. Alternatively, a positive score of 50 indicates a high warmth score where colleagues are judged by their ability to develop rapport and collaborate with others, while a high competence score reveals that colleagues achieved competence in carrying out tasks (see Appendix H).

### *3.13.2 Ten Item Personality Inventory (TIPI)*

TIPI (Gosling et al., 2003) is a very brief measure containing 10-items and rated using a 7-point Likert scale ranging from 1 = disagree strongly to 7 = agree strongly. It takes one minute to complete and was evaluated as a reasonable alternative to the longer Big Five Inventory instruments (Connor-Smith, & Flachsbart, 2007). The TIPI 10-items correspond with the five personality domains and traits presented as two dichotomous opposites (one item on each trait

being reverse scored) (Connor-Smith & Flachsbart, 2007). To determine the presence of traits, reversed scored items are converted then all items were summed together. TIPI was used in this study to measure agreeableness. An increased score on a positive item and a decreased score on a negative item were deemed to assess strong agreeableness.

The TIPI was reported to have low inter-item correlations. Its reliability ranged from .40 to .73 using Cronbach's *a* (Gosling et al., 2003). Corrections for the initial testing was established using test-retest reliability correlations where the TIPI displayed convergences comparable to other multi-item inventories (mean *r* ¼: 77). Gosling et al (2003) reported that the TIPI displayed patterns of correlations nearly identical to those of the Big Five Inventory, with all column-vector correlations exceeding .90 (see Appendix I).

### *3.13.3 Respectful Leadership Scale*

The Respectful Leadership Scale (van Quaquebeke & Eckloff, 2010) is a 12-item unidimensional instrument rated using a 5-point Likert scale from 1 = do not agree at all to 5 = agree completely. It measured respect in this study. The ratings were summed together. A score of 12 indicated perception of low respect between members in healthcare teams while a score of 60 indicated perception of high respect between members. The instrument demonstrated good reliability in all studies with Cronbach's *a* of 0.85 to 0.95 (van Quaquebeke & Eckloff, 2010). The Kaiser-Guttman Criterion consistently demonstrated a 1-factor solution explaining 60% to 70% of the total variance (Respect Research Group, n.d.) (see Appendix J).

### *3.13.4 Interprofessional Socialization and Valuing Scale (ISVS-9)*

The ISVS-9 (King et al., 2016) measured socialization towards working in interprofessional teams. It is a unidimensional instrument comprised of 9-items rated using a 7-point Likert scale (7 = to a very great extent; 6 = to a great extent; 5 = to a fairly great extent; 4 =

to a moderate extent; 3 = to a small extent; 2 = to a very small extent; 1 = not at all; 0 = not applicable) and measured socialization in teams. The *9-item ISVS* (Equivalent Form A) has reported to demonstrate excellent measurement properties with a Cronbach's *a* of 0.970, 95% confidence interval (CI) 0.963–0.976 (King et al., 2016). All item ratings were summed to establish levels of socialization towards teamwork (see Appendix K).

### *3.13.5 Compass of Shame Scale (CoSS-5)*

The CoSS-5 (Nathanson, 1992) is a 58-item instrument that presents 12 general shame-eliciting patterns and 10 adaptive patterns that can be encountered in daily life. Responses to these patterns described related feelings and behaviours. It contains four Compass of Shame responses comprised of 5-subdimensions which included *withdrawal* (12 items), *attack self* (12 items), *avoid* (12 items), *attack other* (12 items) and *adaptive* (10 items) (Yelsma et al., 2002). These are rated using a 5-point Likert-type scale that includes 1 = does not apply at all, to 5 = almost always. Total scores on each of the 12-item sub-dimensions can range from 12 to 60. Higher scores indicated overuse of withdrawal, attack self, avoid or attack other (Nathanson, 1992). Nathanson indicated that low levels on any of the four sub-dimensions indicated adaptive responses to shame. Conversely, high levels on any of the four sub-dimensions indicates maladaptive shame responses. The adaptive 10-item sub-dimension total score can range from 10 to 50, with higher scores indicating adaptation to regulate shame and lower scores indicating less adaptation. Several studies demonstrated good reliability and validity for the CoSS (Elison et al., 2006a; Elison et al., 2006b; Campbell & Elison, 2005; Yelsma et al., 2002). The measure has a robust four-factor structure and internal consistency reliability for the four subscales using Cronbach's *a* showed a range from .74 to .91 (Robins et al., 2007; Elison et al., 2006a; Campbell & Elison, 2005). The adaptive sub-dimension reported a Cronbach's *a* range from .78 to .80

(Elison, 2015). Confirmatory factor analysis demonstrated an acceptable fit (CFI = 0.94; RMSEA = 0.055) and convergent validity with the Internalized Shame Scale (Reid et al., 2009; Cook, 2001) and discriminant validity with the Ways of Coping Questionnaire when used to assess problem-focused coping (Elison et al., 2006a; Folkman & Lazarus, 1988) (see Appendix L).

### 3.14 Data Analysis

Descriptive and inferential analysis of the data were conducted based on recommended processes by instrument authors using IBM Statistical Package for Social Sciences (SPSS) version 27 (IBM Inc., 2021b). Descriptive statistics were computed on all demographic and model variables. Inferential analysis was examined during the post hoc analysis. Cronbach's *a* reliability testing was computed for all instruments to determine their internal consistencies. The dataset was reviewed for outliers and gaps in data entry. A missing data analysis was conducted to determine if data were missing completely at random (MCAR). This was assessed using the *Little MCAR test* to determine if the missing data was significant or not. If the level of MCAR was greater than 5% then a mean substitution was planned to be implemented to replace all the MCAR missing values (Tabachnick & Fidell, 2013).

Structural equation modelling (SEM) using Analysis of Moment Structures (AMOS) version 27, (IBM Inc., 2021a) with maximum likelihood of fit estimated the values of the parameters. This resulted in the highest likelihood, or "best-fit", of the model, matching the data set obtained (Polit & Beck, 2019; Meyers et al., 2013). The coefficients of each path among the model variables and their fit between the covariance structure and the hypothesized model were then assessed (Kelloway, 2015).

### *3.14.1 Measurement Model*

The measurement model evaluated how well the observed indicators (*warmth, competence, agreeableness, respect* and *shame - attack self, withdrawal, attack other, avoid and adapt*) combined to identify the hypothesized outcome (*socialization in the healthcare team*) (Meyers et al., 2013). *Warmth, competence, agreeableness, respect* and *shame* were the independent latent variables and *socialization in the healthcare team* was the dependent latent variable. The two sub-dimensions of warmth and competence, the five dimensions of personality traits, the ten sub-dimensions of respect, the five dimensions of shame and the nine dimensions of socialization in the healthcare team were treated as indicators of their underlying constructs and were depicted by rectangles. The underlying sub-dimensions (*warmth, competence, agreeableness, respect* and *shame - attack self, withdrawal, attack other, avoid, adapt* and *socialization in the healthcare team* were depicted by circles. In addition, the factor structure for warmth and competence had 2-latent variables; personality traits had 5-latent variables; respect had a single latent variable; shame had 5-latent variables and socialization in the healthcare team was a single latent variable. Assumptions used for the confirmatory factor analysis included multivariate normality, a sufficient sample size (n >200), a priori model specification, and data from a random sample (Statistics Solutions, 2019).

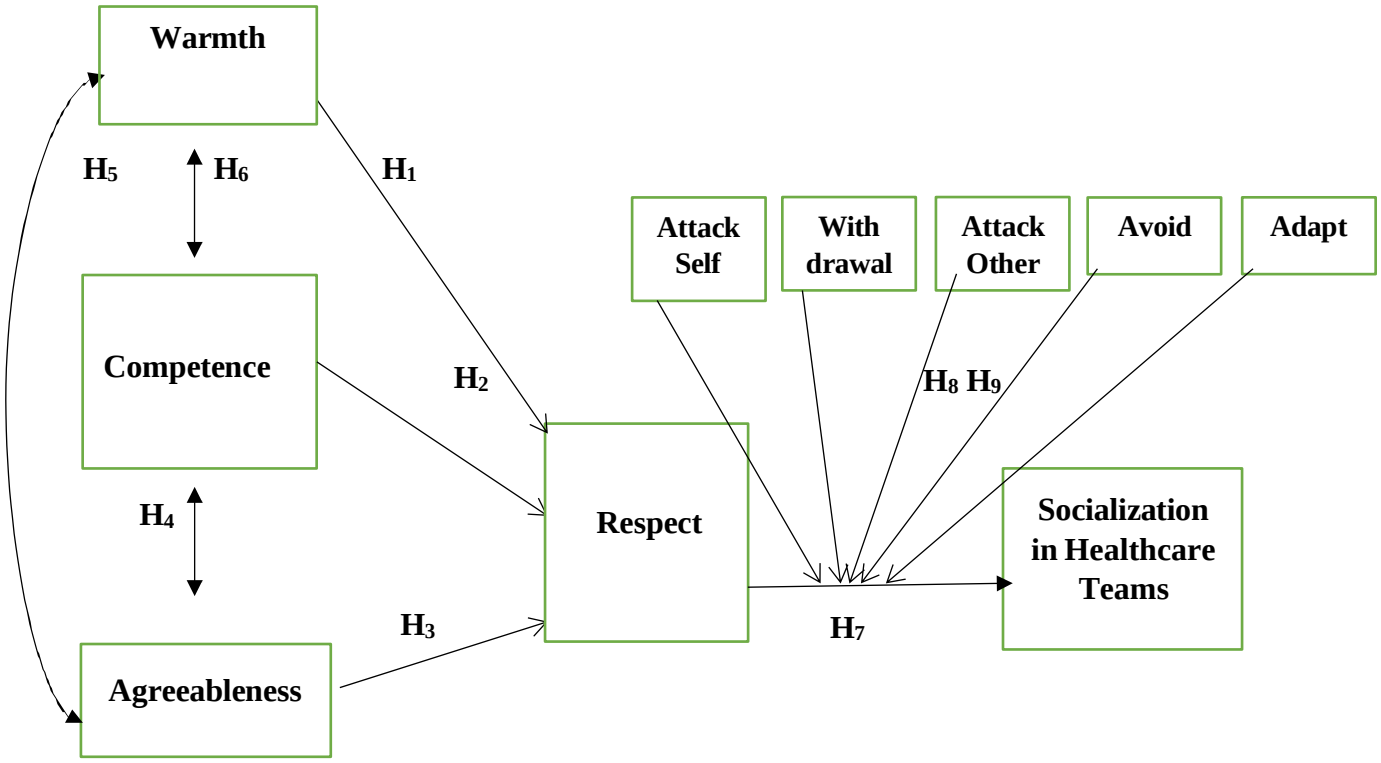
### *3.14.2 Structural Model*

A path analysis model comprised of relationships between exogenous, independent variables (*warmth, competence, agreeableness, respect, shame - attack self, withdrawal, attack other, avoid and adapt*) and the endogenous, dependent variables (*socialization in the healthcare team*) was created. The model had 5 exogenous latent variables (*warmth, competence, agreeableness, respect, shame - attack self, withdrawal, attack other, avoid and adapt*) and 1

endogenous or observed variable (*socialization in the healthcare team*). The hypothesized model is shown below (see figure 3).

**Figure 3**

*Proposed Theorized Model*




There were 80 parameters as calculated by the number of factor loadings (26), plus path coefficients (4), plus indicator error variances (44), plus disturbance error variance (1) plus independent latent variable variance (5). The pattern of correlations implied that the proposed theory was assessed for its plausibility of the observed variables. All relationships between variables were planned to be linear. The hypothesized pathway among the variables were to be tested to see if they were found to be consistent with the theorized model. The structural model then consisted of the model specification, identification, estimation and testing fit (Kelloway, 2015).

In this study, assessment of testing fit was to include assessment of model fit indices and assessment of model parameters. The fit indices in this study were to be assessed using broad criteria that included chi-square, degrees of freedom, increment fit indices including normed fit index (NFI), relative fit index (RFI), incremental index of fit (IFI), Tucker-Lewis index (TLI) comparative fit index (CFI), model comparison indices such as Akaike's information criterion (AIC), Browne-Cudeck criterion (BCC), Bayes information criterion (BIC) consistent version of the Akaike's information criterion (CAIC), absolute fit indices root-mean-square error of approximation (RMSEA) and standardized root-mean-square residual (SRMR). In the following paragraph the fit indices used in this study are discussed.

*Chi-square (χ2/df) divided by the degrees of freedom* ratio appears as CMIN/df and a ratio of ≤2 indicates a fit between the hypothesized model and the study data (Alavi et al., 2020).

*Increment fit indices* was used to measure the improvement in fit of the hypothesized model as compared to a baseline model (Kline, 2016). These indices included: normed fit index (NFI), incremental index of fit (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI) and goodness of fit index (GFI) in which numbers ranging from 0 to 1 but closer to .95 indicates a well-fitting model (Byrne, 2016). The adjusted goodness of fit index (AGFI) should be greater than 0.90 for a goodness of fit model (Statistics Solutions, 2021).

*Model comparison indices* such as Akaike's information criterion (AIC) and the consistent version of the Akaike's information criterion (CAIC)**,** Browne - Cudeck criterion (BCC)**,** and the Bayes information criterion (BIC) was planned to be utilized in the comparison of two models. The AIC and the CAIC addressed how well a model reproduced the data calculated from the maximum likelihood estimate in future samples. The BCC and BIC functioned in the same way as the AIC and the CAIC except these indices imposed greater

penalties when models were complex. The better fit to the hypothesized model is reported to occur with smaller values. (Byrne, 2016).

*Absolute fit indices* such as the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) was planned to compare the hypothesized model alone. RMSEA and SRMR values of .05 or less indicate a good fit (Byrne, 2016). Together, the measurement model combined with the structural model is expected to account for any measurement errors within the model's dependent variables and estimate direct, indirect and total effects (Goodboy & Kline, 2017; Khodarahmi et al., 2019; Pakpahan et al., 2017).

**3.15 Testing Moderation in Structural Equation Modeling**

This study examined hypothesis 8 and 9, that a *shaming* experience (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate (H8) or mediate (H9) their relationship between *respect* and *socialization* in healthcare teams. Both moderation and mediation were evaluated as a learning experience for the researcher. To test this hypothesis, interaction terms were planned to be created by multiplying respect with the moderator shame (ResxAttackS, ResxWD, ResxAttackO, ResxAvoid, ResxAdapt). These new interaction terms were planned to be added into the measurement model with the rest of the paths and the overall fit studied. Modification indices, regression weights and *p* values were planned to be examined. Analysis of interaction terms were planned to see if moderation was occurring. Moderation will have occurred if the relationship between *respect* and *socialization* changes depending on what shame experience a healthcare professional might have had in relation to *attack self, withdrawal, attack other, avoid and adapt*. However, if a poor model fit is found, mediation will be tested to see if it provides a better understanding of the data and produces a superior model fit.

### 3.16 Testing Mediation in Structural Equation Modeling

Hypothesis 9 will be tested to determine if respect influences shame which in turn mediates socialization in teams. Bootstrap estimates are planned to be computed, to determine if direct and indirect effects are found. The indirect effect of *respect* on *socialization* through the mediators of *shame* if found to be significant, will indicate that respect is acting through the shame variables to in turn affect the socialization variable. Also considered is if the direct effect of respect on socialization is not significant because of the indirect effect occurring which diminishes the direct effect noted above. Therefore, if mediation occurred with significant findings, respect will be low and will act through the shame experiences which will impact healthcare professionals' poor socialization into the team. Findings will then determine if significant and nonsignificant relational variables of *warmth, competence, agreeableness, respect and shame - attack self, withdrawal, attack other, avoid, adapt* that impact *socialization* on the healthcare team are found.

### 3.17 Limitations

There are likely to be limitations in this study. First, it utilized a cross sectional design which is likely to limit the ability to separate presumed causes from their potential effects despite significant correlations that may exist (Taris et al., 2021). Second, the use of a convenience sample may also not be representative of all healthcare professionals and therefore the findings will likely be limited to those who participated in the study (Andrade, 2021).

Third, the use of a multisourced approach may lead to inconsistent participant rates across healthcare professionals (than was planned) and therefore will limit interpretation of findings from this planned clustered approach (Holmbeck et al, 2002).

Fourth, selection bias may be present related to relational factors such as shame which may be a sensitive topic for some participating in the study. A further selection bias may occur through use of a postcard approach without an automatic link to the online survey. This may force potential participants to type in the URL address into a cell phone or computer browser as an impediment to participation.

Fifth, response bias may have occurred through use of self-reports after participants recalled a recent negative situation experienced with another team member while working in their clinical area. These encounters without direct researcher observation may have caused response biases through participants reaction to a recalled negative situation.

Sixth, nonresponse bias (Dykema et al., 2020) may have occurred among those professionals receiving the invitation to participate. The combination of these limitations have the potential to influence findings in this research study.

### 3.18 Conclusion

Although many studies have investigated diverse issues related to IPC such as attitudes, behaviours and experiences (Ansa et al., 2020) research focusing on behaviours indicating collaborative success or difficulty are limited. This study assists in filling some of this gap by focusing on selected relational variables that may explain part of the dynamics occurring within healthcare teams.

This paper presented a detailed methodology used for testing a theoretically driven model that linked several relational variables (*warmth, competence, agreeableness, respect* and *shame - attack self, withdrawal, attack other, avoid, adapt*) to *socialization* in IPC healthcare teams. Research question one, do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team member's *socialization* in their healthcare teams? Seven hypotheses were analyzed using factor corrections. To address research question

two, does a shaming experience (related to *attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate or mediate the relationship between *respect* and *socialization* in the healthcare team? Moderation and mediation between *respect* and *socialization* via the *shaming* experiences was planned to be analyzed. In moderation, if the relationship between *respect* and *socialization* was significant depending on what level of *shame* healthcare professionals are experiencing, then moderation was occurring. In mediation, if the planned relationship between *respect* and *socialization* was found to not be significant, but the relationship was significant between *respect* and the *shame* variable and the *shame* variable and *socialization*, then full mediation would be found to be occurring. However, if the relationship between *respect* and *socialization* was significant, and the relationship was significant between *respect* and the *shame* variable and the *shame* variable and *socialization*, partial meditation would be found to be occurring.

Based on the findings, the theorized model is planned to be revised and standardized regression weights (Z scores) would then be used to determine the fit indices of the revised model. As an outcome, key relational variables will be identified that impact on socialization in teams when mediated by coping responses to shame experiences.

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# Chapter 4- Explaining the Relational Variables Impacting the Healthcare Team

## 4.1 Abstract

The purpose of this article is to provide the results from the study, “Relational Variables Impacting the Healthcare Team”. The overall research questions for this study were: “Do the relational factors of warmth, competence, as well as agreeableness associated with respect lead to socialization in healthcare teams in various practice settings?” and “Does a shaming experience (attack self, withdrawal, attack other, avoid, adapt) within health professionals moderate or mediate the relationship between respect and socialization into the healthcare team?”

This chapter therefore focuses on the above research questions through testing of the conceptualized model conceived to link social judgements (warmth and competence), personality (agreeableness), respect and shame (attack self, withdrawal, attack other, avoid, adapt) to the outcome of team socialization. Hypothesis testing of the theorized conceptual model was achieved utilizing structural equation modelling (SEM) to determine the findings from the study.

The participant sample contained 315 respondents. Most respondents were Registered Nurses, 71.1% (n = 224) followed by Registered Practical Nurses, 19.4% (n = 61) then Physicians 9.5% (n = 30). Males represented 14.3% (n = 45) of the respondents and females represented 83.8% (n=264). The highest level of education was Diploma or Certificate 27.9% (n = 88), then Master’s degree 12.4% (n = 39) followed by Bachelor’s degree 6.3% (n = 20). The percentage that had a PhD was 1.0% (n = 3). Those that had a Bachelor of Medicine, 5.7% (n = 18) and 3.2 % had a Fellowship in a Specialty (n = 10). The hospital size most represented was from large hospitals over 500 beds 52.7% (n = 166) followed by small hospitals between 50 to 100 beds 18.4% (n = 58) and then medium hospitals over 200 beds 12.1% (n = 38).

The most significant findings pertained to the presence of low respect related to a shame response of withdrawal. This relationship may indicate that a shame response of withdrawal results in poor socialization when there is low respect between team members. Also, a shame response of attack self and attack other may account for some but not all, of the relationships between poor socialization when low respect is present between team members. Furthermore, the display of warmth may signal that team members are cooperative and trusting, therefore worthy of their colleague's respect and competence.

*Keywords*: interprofessional collaboration, relational variables, social judgements, structural equation modelling

## 4.2 Introduction

There are a number of studies outlining the results when effective interprofessional collaborative practice (ICP) occurs. These study findings include better service delivery (Stadick, 2021), increased staff retention and job satisfaction (Keba Kebe et al., 2019) and reduced burnout rates (Retrouvey et al., 2020). Conversely, ineffective ICP has been associated with poor morale, a lack of communication, uni-professional decision making (Stadick, 2021), medication errors, team conflict and increased patient mortality (Keba Kebe et al., 2019).

Given these outcomes, this study investigated relational variables that impact healthcare teams. A theoretically derived conceptual model was tested using the concepts competence, warmth, agreeableness, respect, shame (attack self, withdrawal, attack other, avoid, adapt) and socialization in healthcare teams among Registered Nurses (RNs), Registered Practical Nurses (RPNs) and Physicians working in rural and urban hospital settings. A stratified randomized sample of 315 healthcare professionals was obtained consisting of RNs (n = 224, 71.1%), RPNs (n = 61, 19.4%), and Physicians (n = 30, 9.5%). Most participants were female (n = 264, 83.8%) while male response rates were much less (n = 45, 14.3%) and a small proportion (n = 1, 0.3%) were missing a response. The age group most represented in the sample was 29 – 33 years (n = 52, 16.5%) followed by 39 – 43 years (n = 42, 13.3%). The respondents with a Bachelor's degree were the largest group (n = 125, 39.7%) followed by a Diploma (n = 88, 27.9%). The longest range of years worked in their profession was 6 – 10 years (n = 67, 21.3%) followed by 1 – 5 years (n = 52, 16.5%). These age ranges also corresponded to the range of years working on a healthcare team with 6 – 10 years (n = 68, 21.6%), followed by 1 – 5 years (n = 53, 16.8%). All participants worked in hospital healthcare teams. Large hospitals over 500 beds constituted the greatest number of employers of participant (n = 166, 52.7%), followed by small hospitals (50 to

100 beds) in size (n = 58, 18.4%) and finally medium sized hospitals over 200 beds (n = 38, 12.1%).

### 4.3 Literature Review

Healthcare professionals working together in an interprofessional team is now an embedded key element for effective education to pre-service students as well as a recognized strategy in the delivery of health care to patients (CanMEDS, 2015; CASN, 2020; Pakkanen et al., 2021). Despite the value reported of this service model (Nygren et al., 2021; Seaton et al., 2021; Karam et al., 2018), challenges remain in successful integration of this delivery mode into healthcare systems (Martimianakis et al., 2020; Retrouvey et al., 2020).

Keba Kebe et al. (2019), reported that studies indicate IPC is inadequately practiced therefore requiring a need to research distinguishing variables in healthcare teams (Bender et al., 2013; Kates, et al., 2011; Mitchell, et al., 2011; Weinberg, et al., 2009). A small number of studies have explored interprofessional team social dynamics (Mitchell, et al., 2011). These social interactions pertained to attitudes toward team members (Wang et al., 2019), negative prior experiences (Pype et al., 2018), level of comfort with collaborators' personal behaviours (Bronstein, 2003), existence of mutual respect, open and active communication, and willingness to collaborate in teams (Martín-Rodríguez, et al., 2005).

Disagreements related to patient care resulting in poor collaboration have been studied (Sexton & Orchard, 2016; Ugirase, 2022). Professionals have been reported to remain silent, preventing sharing of their own expertise with potential negative impacts on patients' health outcomes (Barzallo Salazaret et al., 2014; Clark & Kenski, 2017; Kritsotakis et al., 2022). Attention to untoward patient events led to policy directions toward IPC with the intent of improved quality of patient care. Attention of health professional interaction quality was therefore seen as a means, to both avoid damage to collaborative relationships and prevent harm

to future collaboration and patient impacts (College of Physicians and Surgeons of Ontario, 2016). When health professionals' opinions and advice were either initially ignored or not listened to by their colleagues, it resulted in suboptimal IPC and risks to poor patient outcomes (Alingh et al., 2018; Pype et al., 2018).

Further studies indicated that social dynamics between professionals can facilitate manipulative forms of communication. These forms may use prompts and questions to control specific decision-making pathways (Forbes et al., 2020) that do not facilitate effective interactions and discussions (Orchard & Bainbr/idge, 2010). It is believed these forms may arise from a lack of mutual respect between professionals (Kaifi et al., 2021). Given these findings, there is a need to investigate team dynamics impacting socialization in interprofessional healthcare teams.

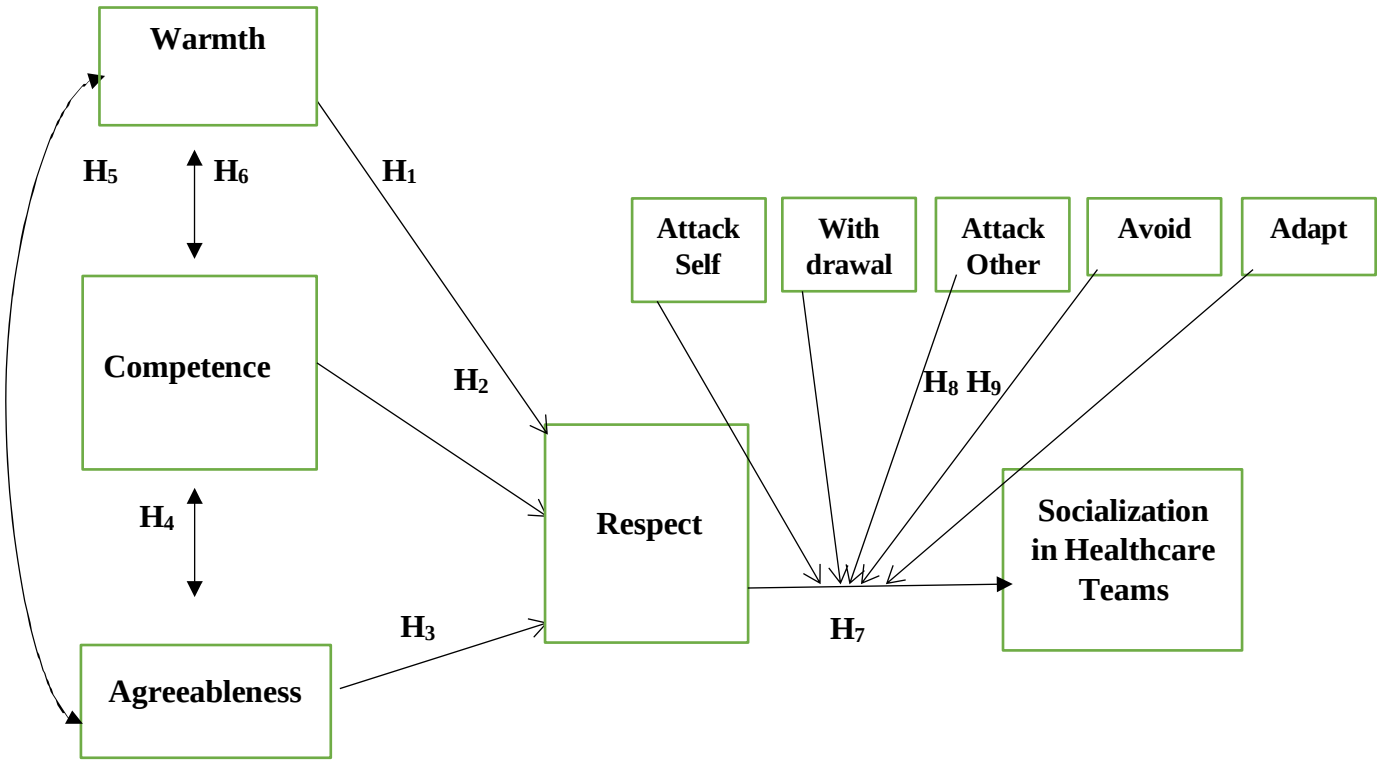
### 4.4 Theoretical Conceptual Model

The theoretical conceptual model used in this study (see figure 3) was supported by Tajfel and Turner's Social Identity Theory (1986). In this theory, persons gain a sense of belongingness to the group by defining themselves through their personal sense of self and identification with their social group. A positive social identity is achieved by aligning oneself with an in-group membership. In health professions, this in-group association is with their chosen profession. This identification can lead to adoption of their professional in-groups' values and norms resulting in behavioural conformity. This in-group allegiance can influence an avoidance of a negative social identity with other health professional groups (beyond their own); who are then viewed as 'others' through an adversarial lens. This stance protects the in-group from respective out-groups. For example, when specific healthcare professionals such as Physicians identify with their own group, they are more likely to demonstrate respect towards

members of their in-group. In contrast, out-group members such as RNs or RPNs may experience distancing and conflict such as insults or humiliating actions from members of Physician in-groups (Bochatay et al., 2019; Darbyshire & Thompson, 2018; McNair, 2014; Rehman Khan, 2021; Tajfel & Turner, 1986). This study focused on interprofessional socialization in healthcare teams (working together to practice within and across disciplines) (King et al., 2016). It was theorized that interprofessional socialization occurred when group members experienced warmth (friendliness, being liked) (Wróbel et al., 2021), competence (being capable, ambitious) (Wróbel et al., 2021); agreeableness (altruistic, cooperative behaviours) (Xu et al., 2021), and respect (fundamental appreciation or worth accorded to everyone) (Grover, 2021) which are moderated or mediated by shame (worthless, inferior) feelings (Sedighimornani et al., 2021) (see figure 4).

**Figure 4**

*Proposed Theorized Model*



**4.5 Research Questions**

The overall research question was, does socialization into healthcare teams depend upon relational factors of warmth, competence and agreeableness associated with respect that is moderated or mediated by shaming experiences? This question was studied through two research questions.

(Q.1) Do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' *socialization* into their health teams?

(Q.2) Does a shaming experience (related to *attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderate or mediate the relationship between *respect* and *socialization* into healthcare teams?

Question 1: Do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' *socialization* into their health teams?

Seven hypotheses were tested to answer this question:

Hypothesis 1: Health professionals who display *warmth* are more likely to receive a high level of *respect* from team members.

Hypothesis 2: Health professionals who display *competence* are more likely to receive high levels of *respect* from team members.

Hypothesis 3: Health professionals with the personality trait of *agreeableness* are more likely to receive high levels of *respect* from team members.

Hypothesis 4: After controlling for *warmth*, health professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 5: After controlling for *competence*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *agreeableness* from team members.

Hypothesis 6: After controlling for *agreeableness*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members.

Hypothesis 7: Health professionals who received high levels of *respect* in their teams are more likely to be strongly *socialized* in their teams.

Question 2: Does a *shaming* (*attack self, withdrawal, attack other, avoid, adapt*) experience within health professionals moderate or mediate the relationship between *respect* and *socialization* into healthcare teams?

The following hypotheses will be tested to answer this question:

Hypothesis 8: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderated the relationships between *respect* and *socialization* into teams.

Hypothesis 9: Shaming experiences (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals mediated the relationships between *respect* and *socialization* into teams.

## 4.6 Methodology

### 4.6.1 Research Design

The design for this research study, "Relational Variables Impacting the Healthcare Team", used a stratified randomized, cross-sectional nonexperimental design involving healthcare professionals in healthcare practice settings.

#### *4.6.2 Recruitment, Sample and Sampling Frame*

The sampling frame used a probability sampling approach with proportionate stratified random sampling whereby the population of healthcare professionals (RNs, RPNs, Physicians)

within their professional designations were divided into three separate groups. The three-phased recruitment approach discussed above, provided for the planned proportionate to the population size of participants' respective professional designations' total population. Hence, samples were obtained by randomly selecting the same sampling fraction for each group. In this way, a sample was created specific to the relative proportions of professional designation subgroups (Polit & Beck, 2019).

The first phase of recruitment was obtained between March 4, 2019 - April 29, 2019, utilizing RNs, RPNs and Physicians holding current registration with their respective professional colleges in Ontario. These professionals were selected due to their prevalence on many healthcare teams. They were accessed by requesting mailing addresses through the College of Physician and Surgeons of Ontario and the College of Nurses of Ontario. The addresses pertained to health professionals who were registered in their discipline-specific college and agreed to participate in research. Accessing this group of professionals through their registering body was an expedient method. The result of the first phase of recruitment used postcards mailed out to 437 participants four times, for a total of 1738 postcards. Thirty-seven responses were obtained (RNs $n = 25$, RPNs $n = 9$ and Physicians $n = 3$). To increase the response rate an ethics amendment to the data collection was approved to enable a second phase of recruitment.

In the second recruitment process (July 22, 2019 – August 22, 2019) LinkedIn Corporation was used (an internet social networking site that focused on business and employment-oriented services) by posting an advertisement on the site with the study link embedded within the advertisement. The forecasted results for the RN, RPN and Physician audiences was based on a 30-day time period. It was estimated by LinkedIn Corporation that for 87,000 impressions (people seeing the ad) 95 clicks would occur providing the potential for 95

individuals to participate. Canadians were targeted who identified themselves as a 'Registered Nurse', 'Registered Practical Nurse' or 'Doctor of Medicine' for one month with the study's ad (see Appendix 1). The audience size for Physicians utilizing LinkedIn across Canada was 57,000 individuals. For RNs and RPNs the estimated audience size altogether was 65,000 individuals. The second phase of recruitment using the LinkedIn social networking site obtained no responses from RNs, no responses from RPNs and participation from 2 Physicians ($n$ = 39 responses).

A further ethics amendment was approved for recruitment through seven hospitals within Ontario. Emails were sent to each institution's identified nurse leader obtaining their consent to distribute a Qualtrics Survey link. Finally, a third phase was obtained between August 16, 2019 – November 30, 2019, from seven hospitals within Ontario, Canada. A request to complete the survey was sent through each institution's internal email system to RNs, RPNs and Physicians. Each potential respondent was invited to click on the study link embedded within the email. Hospital leaders agreed to send a reminder email 2 weeks after the initial invitation email to prospective participants. Stratification of the size for each professional group was based on employment numbers by hospital size (small = 50 to 99 beds, medium = between 100 to 499 beds, large = over 500 beds). It was not possible to collect the total percentage of staff working in these hospitals in order to document participation rates per professional group. The third phase of recruitment using seven hospitals obtained RNs ($n$ = 249), RPNs ($n$ = 72), and Physicians ($n$ = 34) resulting in a total of $n$ = 355 responses.

#### *4.6.3 Data Collection*

Data collection from all 394 respondents used the same survey located on the online Qualtrics platform within Western University.

### *4.6.4 Instruments*

The instruments used within the survey are discussed in Chapter 3 Methodology for Testing Relational Variables Impacting the Healthcare Team.

## 4.7 Confirmatory Factor Analysis of Instruments

Prior to parametric testing, a Confirmatory Factor Analysis (CFA) using IBM Analysis of a Moment Structures (IBM, AMOS; 2021) version 27 was conducted on each of the instruments to verify instrument structure. Specially, CFAs using maximum likelihood estimates (ML) was executed for the Ten Item Personality Inventory (TIPI), Warmth and Competence Scale (WCS), Respectful Leadership Scale (RLS), Interprofessional Socialization and Valuing Scale Version 9 (ISVS-9) and the Compass of Shame Scale Version 5 (CoSS-5). The CFA data were analyzed for each instrument independently to assist in identifying their fit, as compared to that reported by their authors.

The ten-item personality inventory, respectful leadership scale and the interprofessional socialization and valuing scale lacked model fit data. Therefore, for these three instruments, comparisons with this study's dataset were based on reliabilities instead of both CFA's and reliabilities. The other instruments had acceptable comparable ratings from the study survey based on recommendations by Kline (2016) as aligned with reported CFA's or reliabilities as outlined by the instrument authors (see table 4.7.1).

Table 4.7.1 Confirmatory factor analysis model fit across all study variables. Original author values in bold.

| Variable | $X^2$ (df) | *p* | NFI | IFI | TLI | CFI | RMSEA | SRMR | Cronbach's *a* | **Authors *a*** |
|---|---|---|---|---|---|---|---|---|---|---|
| TIPI | 294.58(35) | <.000 | .46 | .49 | .33 | .48 | .15 | .11 | extraversion=.69 | **.43-.73** |
| | | | | | | | | | agreeableness=.23 | |
| | | | | | | | | | conscientiousness=.39 | |
| | | | | | | | | | emotional stability=.56 | |
| | | | | | | | | | open to experience= .42 | |
| WCS | 141.56(34) | <.000 | .92 | .94 | .92 | .94 | .10 | .05 | warmth= .88 | **.84** |
| | | | | | **.95** | **.96** | **.06** | **.05** | competence= .86 | **.90** |
| RLS | 201.50(54) | <.000 | .88 | .91 | .89 | .91 | .09 | .05 | .90 | **.85-.95** |
| ISVS | 354.67(27) | <.000 | .79 | .80 | .73 | .80 | .19 | .08 | .90 | **.97** |
| CoSS | 4724.12(1595) | <.000 | .58 | .68 | .66 | .67 | .07 | .19 | avoid= .72 | **.74** |
| | | | | | | **.94** | **.05** | | attack self= .92 | **.91** |
| | | | | | | | | | withdrawal= .91 | **.89** |
| | | | | | | | | | attack other= .88 | **.85** |
| | | | | | | | | | adapt= .86 | **.80** |

## 4.8 Data Analysis

All data were downloaded from the Qualtrics survey technology and entered into IBM Version 27.0 of the Statistical Package for Social Sciences (IBM, SPSS; 2021). A descriptive analysis was carried out on the data followed by a correlational analysis. The initial raw data set contained 394 cases.

### *4.8.1 Missing Values*

Upon investigation, 79 cases contained only demographic data and no responses to the instruments. This was categorized as person-level missing data. This occurs when there is a failure to respond to any part of the survey (Newman, 2014). Therefore, these cases were removed from the data set through listwise deletion leaving 315 cases (Tabachnick & Fidell, 2013). Demographic data were then compared between the 79 cases that were removed and the 315 cases to ensure both sets were similar. It was found that most of the demographic variables (profession, age, gender, years worked on a team, level of education, size of hospital employed

in, comfort level working with other healthcare professionals (HCP) and feeling included on a team) but one (years worked as a HCP) had comparable findings. The one that was not comparable was due to the large amount of missing data. Next, item-by-item review of the demographics revealed that all 315 cases met the inclusion criteria, so no further cases were removed. Therefore, the final number of the respondents in the survey consisted of RNs ($n$ = 224, 71.1%), RPNs ($n$ = 61, 19.4%) and Physicians ($n$ = 30, 9.5%).

Little's Missing Completely at Random (MCAR) test was conducted with findings that were not significant ($p$ = .500) indicating that the values were missing completely at random across the cases and variables (Kline, 2016).

### *4.8.2 Imputation*

A missing values analysis was then performed on the remaining 315 cases. It was found that 5.9% of the data was missing. There were 749 missing data points out of a total of 31,185: agreeableness, extraversion and conscientiousness each had six, emotional stability had nine, openness to experience had five, warmth had 36, competence had 25, respect had 60, attack self had 104, withdrawal had 108, attack other had 104, avoid had 103, adapt had 90 and socialization in the healthcare team had 87. Imputation using mean substitution scores was utilized (Tabachnick & Fidell, 2013).

### *4.8.3 Normality of Data*

Further assessment to determine the normality of data was done utilizing Mahalanobis and Cook's Distances to determine the distance of cases from the mean of the predictor variable. It was executed using SPSS and the values compared to the independent variable critical chi-square value using the degrees of freedom, and a $p$ value of <.001 as statistically significant (Tabachnick & Fidell, 2013). Mahalanobis Distance was calculated based on 14 variables

(agreeableness, extraversion, conscientiousness, neuroticism, open to experiences, respect, warmth, competence, adapt, avoid, attack self, attack other, and withdrawal) and a critical value of 36.14 for this number of variables was attained. There were seven multivariate outliers identified with high (greater than 36.14) Mahalanobis Distances.

Prior to deleting these outliers, Cook's Distance was assessed to determine if the seven outliers should be deleted. Any value greater than 1.00 would indicate needed deletion of the outlier (Field, 2013). However, the outliers all had a Cook's Distance result of .069, less than 1.00, therefore the seven outliers were retained, and the data set remained at 315.

Skewness and kurtosis of the data were assessed using Shapiro-Wilk Test of Normality. A significant value (*p* value of <.05) indicated a deviation from normality (Field, 2013). The result indicated that all variables had a *p* value of .000 indicating a statistically significant difference between the variables and their normal distribution. Histograms and Q-Q plots assessed normality in larger samples over 100 cases (Field, 2013; Samuels & Marshall, 2016). A fairly normal distribution was found indicating a statistically significant difference between the variables and the normal distribution.

## 4.9 Results

The results of this study are provided in the following sections including demographics of respondents, a descriptive data analysis followed by a correlational analysis.

### 4.9.1. Demographics of the Sample Respondents

The participant sample contained 315 respondents. Most respondents were Registered Nurses, 71.1% (*n* = 224) followed by Registered Practical Nurses, 19.4% (*n* = 61) then Physicians 9.5% (*n* = 30). Males represented 14.3% (*n* = 45) of the respondents and females represented 83.8% (*n* = 264). The highest level of education was Diploma or Certificate 27.9% (*n* = 88), then Master's degree 12.4% (*n* = 39) followed by Bachelor's degree 6.3% (*n* = 20). The

percentage that had a PhD was 1.0% (*n* = 3). Those that had a Bachelor of Medicine were 5.7% (*n* = 18) and 3.2 % had a Fellowship in a Specialty (*n* = 10). The hospital size most represented was from large hospitals over 500 beds 52.7% (*n* = 166) followed by small hospitals between 50 to 100 beds 18.4% (*n* = 58) and then medium hospitals over 200 beds 12.1% (*n* = 38) (see table 4.9.1.1).

Table 4.9.1.1 Numbers and Percentages of Participants' Demographics

| Demographic Variable (n = 315) | *n* | Sample % |
|---|---|---|
| *Professional Designation*: | | |
| Registered Nurses | 224 | 71.1% |
| Registered Practical Nurses | 61 | 19.4% |
| Physicians | 30 | 9.5% |
| *Gender:* | | |
| Male | 45 | 14.3% |
| Female | 264 | 83.8% |
| Undisclosed | 1 | .3% |
| Missing | 5 | 1.6% |
| *Level of Education*: | | |
| Diploma or Certificate | 88 | 27.9% |
| Diploma to Bachelor's Degree | 20 | 6.3% |
| Master's Degree | 39 | 12.4% |
| PhD Degree | 3 | 1.0% |
| Bachelor of Medicine (MD) | 18 | 5.7% |
| Fellowship in Specialty | 10 | 3.2% |
| Nurse Practitioner | 6 | 1.9% |
| Other | 6 | 1.9% |
| *Hospital Size*: | | |
| Small 50 – 100 beds | 58 | 18.4% |
| Medium over 200 beds | 38 | 12.1% |
| Large over 500 beds | 166 | 52.7% |
| Missing | 53 | 16.8% |

The age of the respondents was largely represented by those 29 to 33 years (16.5%, *n* = 52) followed by those aged 39 to 43 years 13.3 %, (*n* = 42). The number of years worked was between 6 to 10 years, (21.3%, *n* = 67) followed by 1 to 5 years, 16.5% (*n* = 52). The number of

years worked on a team was also 6 to 10 years, 21.6% (*n* = 68) followed by 1 to 5 years, 16.8% (*n* = 53), (see table 4.9.1.2).

Table 4.9.1.2 Numbers, Percentages, Means, Standard Deviations of Year Range Demographics

| Number of Years | *n* | Sample % | M(SD) | Range |
|---|---|---|---|---|
| *Age*: | 315 | 100% | 5.32 (2.40) | 19->68 |
| 19-23 | 5 | 1.6% | | |
| 24-28 | 37 | 11.7% | | |
| 29-33 | 52 | 16.5% | | |
| 34-38 | 36 | 11.4% | | |
| 39-43 | 42 | 13.3% | | |
| 44-48 | 30 | 9.5% | | |
| 49-53 | 41 | 13.0% | | |
| 54-58 | 40 | 12.7% | | |
| 59-63 | 21 | 6.7% | | |
| 64-68 | 9 | 2.9% | | |
| More than 68 | 2 | .6% | | |
| *Number of Years Worked*: | 313 | 99.4% | 6.52 (5.73) | <1->30 |
| Less than 1 | 3 | 1.0% | | |
| 1-5 | 52 | 16.5% | | |
| 6-10 | 67 | 21.3% | | |
| 11-15 | 37 | 11.7% | | |
| 16-20 | 33 | 10.5% | | |
| 21-25 | 38 | 12.1% | | |
| 26-30 | 32 | 10.2% | | |
| More than 30 | 51 | 16.2% | | |
| Missing | 2 | .6% | | |
| *Number of Years Worked in a Team*: | 312 | 99% | 4.32 (2.30) | <1->60 |
| Less than 1 | 10 | 3.2% | | |
| 1-5 | 53 | 16.8% | | |
| 6-10 | 68 | 21.6% | | |
| 11-15 | 50 | 15.9% | | |
| 16-20 | 29 | 9.2% | | |
| 21-25 | 34 | 10.8% | | |
| 26-30 | 21 | 6.7% | | |
| More than 30 | 47 | 14.9% | | |
| Missing | 3 | 1.0% | | |

Two global questions were asked. The first, “while working in your clinical area how often do you feel comfortable interacting with other healthcare professionals” revealed that 25.9% of RNs, 27.9% of RPNS and 40% of Physician respondents always feel comfortable

interacting with other healthcare professionals. Responses from the second question, “while working in your clinical area, how often do you feel included as part of the team” revealed that 55.4% of RNs, 55.7% of RPNS and 73.3% of Physicians feel included as part of the team most of the time (see table 4.9.1.3.). These questions were used to determine the responses as a whole sample, as well as differences between the three groups of healthcare professionals. The rating scale used for these questions was always, most of the time, sometimes, rarely and never.

Table 4.9.1.3 Numbers and percentages to two global questions:

Question 1: While working in your clinical area how often do you feel comfortable interacting with other healthcare professionals?

| Demographic Variable (N = 315) | *n* | Sample % |
|---|---|---|
| *Combined Professional Designations*: | 315 | 100% |
| Never | 0 | 0% |
| Rarely | 2 | 0.6% |
| Sometimes | 27 | 8,6% |
| Most of the time | 199 | 63.2% |
| Always | 87 | 27.6% |
| *Separated Professional Designations*: | | |
| *Registered Nurses* | 224 | 71.1% |
| Never | 0 | 0% |
| Rarely | 2 | 0.9% |
| Sometimes | 20 | 8.9% |
| Most of the time | 144 | 64.3% |
| Always | 58 | 25.9% |
| *Registered Practical Nurses* | 61 | 19.4% |
| Never | 0 | 0% |
| Rarely | 0 | 0% |
| Sometimes | 5 | 8.2% |
| Most of the time | 39 | 63.9% |
| Always | 17 | 27.9% |
| *Physicians* | 30 | 9.5% |
| Never | 0 | 0% |
| Rarely | 0 | 0% |
| Sometimes | 2 | 6.7% |
| Most of the time | 16 | 53.3% |
| Always | 12 | 40% |

Question 2: While working in your clinical area, how often do you feel included as part of the team?

| Demographic Variable (N = 315) | *n* | Sample % |
|---|---|---|
| *Combined Professional Designations*: | 315 | 100% |
| Never | 1 | 0.3% |
| Rarely | 4 | 1.3% |
| Sometimes | 60 | 19% |
| Most of the time | 180 | 57.1% |
| Always | 70 | 22.2% |
| *Separated Professional Designations*: | | |
| *Registered Nurses* | 224 | 71.1% |
| Never | 1 | 0.4% |
| Rarely | 4 | 1.8% |
| Sometimes | 46 | 20.5% |
| Most of the time | 124 | 55.4% |
| Always | 49 | 21.9% |
| *Registered Practical Nurses* | 61 | 19.4% |
| Never | 0 | 0% |
| Rarely | 0 | 0% |
| Sometimes | 14 | 23.0% |
| Most of the time | 34 | 55.7% |
| Always | 13 | 21.3% |
| *Physicians* | 30 | 9.5% |
| Never | 0 | 0% |
| Rarely | 0 | 0% |
| Sometimes | 0 | 0% |
| Most of the time | 22 | 73.3% |
| Always | 8 | 26.7% |

### 4.9.2 Descriptive Data Analysis

Statistics were executed on the study variables and subscale scores. These statistics included mean, standard deviation, ranges and Cronbach *a*. Healthcare professionals reported high levels of *respect* (*M* = 28.85, SD = 5.14), *socialization* in the healthcare team (*M* = 52.19, SD = 6.52) and *adaptation to shame* (*M* = 38.31, SD = 5.07) while their perceptions of the shame responses of *attack self* (*M* = 33.47, SD = 8.10), *withdrawal* (*M* = 33.21, SD = 7.48) and *avoid* (*M* = 31.40, SD = 4.80) were moderate. Also in the moderate range was their perception of *warmth* (*M* = 10.02, SD = 2.99), *competence* (*M* = 11.49, SD = 2.88), *agreeableness* (*M* = 11.26, SD = 2.08), *extraversion* (*M* = 9.14, SD = 2.95), *conscientiousness* (*M* = 12.84, SD = 1.53), *emotional stability* (*M* = 10.83, SD = 2.27) and *openness* (*M* = 11.03, SD = 2.06). They reported low levels of the shame response *attack other* (*M* = 23.04, SD = 5.74), (see table 4.9.2.1).

Table 4.9.2.1 Means, standard deviations and reliability of study variables

| Variable | *n* | No. of Items | *M* (SD) | Cronbach *a* | *Range* |
|---|---|---|---|---|---|
| Agreeableness | 309 | 2 | 11.26 (2.08) | .23 | 5 - 14 |
| Extraversion | 309 | 2 | 9.14 (2.95 | .69 | 2 - 14 |
| Conscientiousness | 309 | 2 | 12.84 (1.53) | .39 | 7 - 14 |
| Emotional Stability | 306 | 2 | 10.83 (2.27) | .56 | 5 - 14 |
| Openness | 310 | 2 | 11.03 (2.06) | .42 | 5 - 14 |
| Respect | 255 | 12 | 28.85 (5.14) | .90 | 14 - 36 |
| Warmth | 279 | 5 | 10.02 (2.99) | .88 | 5 - 15 |
| Competence | 290 | 5 | 11.49 (2.88. | .86 | 5 - 15 |
| Socialization | 228 | 9 | 52.19 (6.52) | .90 | 29 - 63 |
| Adapt | 225 | 10 | 38.31 (5.07) | .86 | 10 - 50 |
| Avoid | 212 | 12 | 31.40 (4.80) | .72 | 14 - 53 |
| Attack Self | 211 | 12 | 33.47 (8.19) | .92 | 12 - 56 |
| Withdrawal | 207 | 12 | 33.21 (7.48) | .91 | 12 - 57 |
| Attack Other | 211 | 12 | 23.04 (5.74) | .88 | 12 - 58 |

When observing the mean of the descriptive statistics by the professions of RPNs, RNs and Physicians statistical significance was determined in the variable of warmth. When professionals perceive themselves as demonstrating warmth, they believe they are helpful,

empathic, trustworthy, likeable, friendly and kind to one another (Abele & Wojciszke, 2018). A low warmth perception scored 5 and a high warmth perception scored 15. The mean for RPNs, RNs and Physicians on their warmth perception was scored moderate. The greatest distance was between RPN's and Physicians (see table 4.9.2.2)

Table 4.9.2.2 Mean and Standard Deviation of Warmth by Profession of RPN, RN and Physician

| Warmth | Profession | Mean | Standard Deviation | N |
|---|---|---|---|---|
| | RPN | 9.33 | 3.04 | 61 |
| | RN | 10.06 | 2.91 | 224 |
| | Physician | 11.13 | 3.24 | 30 |
| Total | | 10.02 | 2.99 | 315 |

When observing the mean of the descriptive statistics by the professions of RNs, RPNs and Physicians statistical significance was also determined in the variable of respect. When professionals perceive themselves as being respected by others, they experience being listened to with supportive communication while building camaraderie with each other (Carmeli et al., 2015). Not being respected was a low score of 12 and perceiving respect was a high score 60. The mean for RNs and RPNs was virtually the same at 28 and Physicians scored higher at 31 on their perception of being respected by others (see table 4.9.2.3)

Table 4.9.2.3 Mean and Standard Deviation of Respect by Profession of RPN, RN and Physician

| Respect | Profession | Mean | Standard Deviation | N |
|---|---|---|---|---|
| | RPN | 28.78 | 4.51 | 61 |
| | RN | 28.49 | 5.27 | 224 |
| | Physician | 31.72 | 4.51 | 30 |
| Total | | 28.85 | 5.14 | 315 |

### 4.9.3 Correlational Data Analysis

Further analysis investigated if there were significant relationships between the variables. Table 4.9.3.1 presents the correlation between the study's independent variables (warmth, competence, agreeableness, respect, and five shame responses of attack self, attack other, withdrawal, avoid and adapt) and dependent variable (socialization) to provide context toward the discussion of the results that follow.

Then, the relationships between the variables, the two research questions and their corresponding hypothesis are discussed.

Table 4.9.3.1 Factor Correlations between the study's independent and dependent variables

| Variable | Correlations (*r*) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** |
| 1 Agreeableness | 1.0 | | | | | | | | | | | | | |
| 2 Extraversion | -.134* | 1.0 | | | | | | | | | | | | |
| 3 Conscientiousness | .120* | .102 | 1.0 | | | | | | | | | | | |
| 4 Emotional Stability | -.349** | .007 | .318** | 1.0 | | | | | | | | | | |
| 5 Open to Experience | .082 | .256** | .253** | .219** | 1.0 | | | | | | | | | |
| 6 Respect | .039 | .008 | .097 | .131***** | .040 | 1.0 | | | | | | | | |
| 7 Warmth | .032 | .029 | .076 | .087 | -.016 | .295** | 1.0 | | | | | | | |
| 8 Competence | .127* | .091 | .021 | .006 | .035 | .136 | .594** | 1.0 | | | | | | |
| 9 Socialization | .042 | .272** | .226** | .154** | .332* | .159** | -.056 | .029 | 1.0 | | | | | |
| 10 Adapt | .075 | .112* | .144* | .072 | .245** | .084 | -.001 | .001 | .398** | 1.0 | | | | |
| 11 Avoid | -.075 | -.010 | -.232** | -.155** | -.105 | -.176** | -.031 | .007 | -.053 | .041 | 1.0 | | | |
| 12 Attack self | -.060 | -.090 | -.151** | -.356** | -.131* | -.192** | .001 | .043 | -.168** | -.030 | .337** | 1.0 | | |
| 13 Withdrawal | -.015 | -.289** | -.132* | -.317** | -.174** | -.257** | -.043 | .016 | -.254** | -.159** | .341** | .740** | 1.0 | |
| 14 Attack other | -.233** | -.011 | -.210** | -.299** | -.110 | -.202** | -.089 | -.028 | -.151** | -.131* | .366** | .433** | .443** | 1.0 |

Note: Indicates correlation is statistically significant at the $*p<0.05$ level and $**$ $p<0.01$ level

### 4.10 Inferential Analysis

Two research questions support this study. Each will be addressed below.

#### *4 10.1 Research Question 1*

Do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' socialization into their healthcare teams?

To address this research question seven hypothesis ($H_1$ to $H_7$) were analyzed.

Initially, correlations were assessed using Pearson Product-Moment in SPSS between variables in the hypothesized relationships. Correlations determined the degree to which two variables moved in coordination with one another between *warmth* and *respect, competence* and *respect, competence* and *agreeableness, warmth* and *agreeableness, warmth* and *competence,* and *respect* and *socialization*.

Regression was used between each of the independent and dependent variables to describe the relationship between two variables in addressing H1 to H7. The path estimate magnitude was analyzed using Cohen's (1988) criteria to determine small ($d < .30$), medium ($d = .30 - .50$) and large ($d > .50$) effect sizes.

$H_1$ proposed that health professionals who display *warmth* are more likely to receive a high level of *respect* from team members. The standardized regression path for *warmth* on *respect s*howed statistical significance ($\beta = .334$, $p < .001$) with a low to medium effect size. This result supported $H_1$ that health professionals who display *warmth* are more likely to receive *respect* from team members.

$H_2$ proposed that health professionals who display *competence* are more likely to receive high levels of *respect* from team members. The standardized regression path for *competence* on *respect* showed no statistical significance ($\beta = -.068$, $p = .317$) with a low to medium effect size. Although, *competence* showed a small significant positive correlation with *respect* ($r = .136$), the standardized regression path result did not support $H_2$, therefore health professionals who display *competence* are not more likely to receive *respect* from team members.

$H_3$ proposed that health professionals with the personality trait of *agreeableness* are more likely to receive high levels of *respect* from team members. The standardized regression path for *agreeableness* on *respect s*howed no statistical significance ($\beta = .037$, $p = .495$) with a medium to

large effect size. This result did not support $H_3$ therefore health professionals with the personality trait of *agreeableness* are not more likely to receive *respect* from team members.

$H_4$ proposed that after controlling for *warmth*, health professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members. The standardized regression path for *competence* on *agreeableness* showed statistical significance ($\beta$= .166, $p$ = .003) with a small effect size. This result did support $H_4$ that after controlling for *warmth*, health professionals who display *competence* are more likely to receive *agreeableness* from team members.

$H_5$ proposed that after controlling for *competence*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *agreeableness* from team members. The standardized regression path for warmth on *agreeableness* showed no statistical significance ($\beta$= -.067, $p$ = .228) with a small effect size. This result did not support $H_5$. Therefore, after controlling for *competence*, health professionals who display *warmth* are not more likely to receive *agreeableness* from team members.

$H_6$ proposed that after controlling for *agreeableness*, health professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members. The standardized regression path for *warmth* on *competence* showed statistical significance ($\beta$= .592, p <.001) with a large effect size. This result did support $H_6$ that after controlling for *agreeableness*, health professionals who display *warmth* are more likely to receive *competenc*e from team members.

$H_7$ proposed that health professionals who received high levels of *respect* in their teams are more likely to be strongly *socialized* in their teams. The standardized regression path for *respect* on *socialization* showed no statistical significance ($\beta$= .084, $p$ = .112) with a small effect

size. Although *respect* showed a small significant positive correlation with *socialization* (*r* = .159), the standardized regression path result did not support $H_7$. Therefore, health professionals who display *respect* are not directly being *socialized* in their teams.

In summary, research question one asked do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' *socialization* into their healthcare teams? It was found in the regression analyses that relationships do exist between health professionals who display warmth to be more likely to receive high levels of respect from team members, but not with the variable of competence or agreeableness. However, health professionals who display high degrees of competence are more likely to receive high levels of agreeableness from team members, and health professionals who display high degrees of warmth are more likely to receive high levels of competence from team members. Finally, the standardized regression path result did not support high levels of respect being strongly linked to socialization on teams despite these variables being correlated (see table 4.10.2.1).

Table 4.10.2.1 Standardized Regression Weights for Research Question 1 ($H_1$ to $H_7$)

| **Hypothesis** | **Direct Paths** | ***β*** | ***SE*** | ***Z*** | ***p*** |
|---|---|---|---|---|---|
| $H_1$ | Warmth → Respect | .334 | .115 | 4.99 | <.001* |
| $H_2$ | Competence → Respect | -.068 | .120 | -1.00 | .317 |
| $H_3$ | Agreeableness → Respect | .037 | .134 | .683 | .495 |
| $H_4$ | Competence → Agreeableness | .166 | .040 | 2.99 | .003* |
| $H_5$ | Warmth →Agreeableness | -.067 | .039 | -1.20 | .228 |
| $H_6$ | Warmth → Competence | .592 | .043 | 13.12 | <.001* |
| $H_7$ | Respect → Socialization | .084 | .067 | 1.59 | .112 |

## 4.11 Research Question 2 Moderation and Mediation

### *4.11.1 Moderation*

To address research Question 2 of this study, assessment of moderation between *respect* and *socialization* into teams by *shaming* experiences was first undertaken. $H_8$ proposed that *shaming* experience responses (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals moderated the relationships between *respect* and *socialization* in teams. The independent variable was *respect,* and the outcome variable was *socialization,* with the moderation variable pertaining to *shaming* experience responses (*attack self, withdrawal, attack other, avoid* and *adapt*).

In moderation, it was proposed that a relationship between *respect* and *socialization* will change depending on what level of *shame* healthcare professionals are experiencing. To achieve moderation, the latent variable *respect* and the moderating variables of *attack self, withdrawal, attack other, avoid and adapt* were created into standardized observed variables. Next, interaction terms were created by multiplying the standardized scores of the five *shame* variables by the standardized score of *respect* and shown as Z scores. These were created and then added to the existing SEM model to investigate if moderation was occurring using regression coefficients, $\rho$ values, model fit, and interaction terms.

The standardized regression weights for the moderation effects were as follows: ZRespect x ZAttack Self → Socialization ($\beta$ = .027, $p$ = .588), ZRespect x ZWithdrawal → Socialization ($\beta$= .018, $p$ = .717), ZRespect x ZAttack Other → Socialization ($\beta$= .006, $p$ = .909), ZRespect x ZAvoid → Socialization ($\beta$= -.036, $p$ = .482) and ZRespect x ZAdapt → Socialization ($\beta$= .047, $p$ = .355) (see table 4.11.1.1).

Table 4.11.1.1 Standardized Regression Weights for the Proposed Moderation Effects

| Hypothesis | Direct Paths | *β* | *SE* | *Z* | *p* |
|---|---|---|---|---|---|
| $H_8$ | ZRespect x ZAttack Self → Socialization | -.027 | .277 | -.542 | .588 |
| | ZRespect x ZWithdrawal → Socialization | .018 | .280 | .362 | .717 |
| | ZRespect x ZAttack Other → Socialization | .006 | .262 | .115 | .909 |
| | ZRespect x ZAvoid → Socialization | -.036 | .298 | -.703 | .482 |
| | ZRespect x ZAdapt → Socialization | .047 | .333 | .929 | .355 |

The model was overidentified ($X^2$ (*df*) = 665.97/78 = 8.53, *p* = <.000, NFI = .496, IFI = .527, TLI = .350, CFI = .517, AGFI = .638, RMSEA = .155, SRMR = .143) with a *df* =78 indicating more known values than values being estimated (Byrne, 2016). Hence, an unacceptable model fit occurred (Kline, 2016) (see table 4.11.1.2).

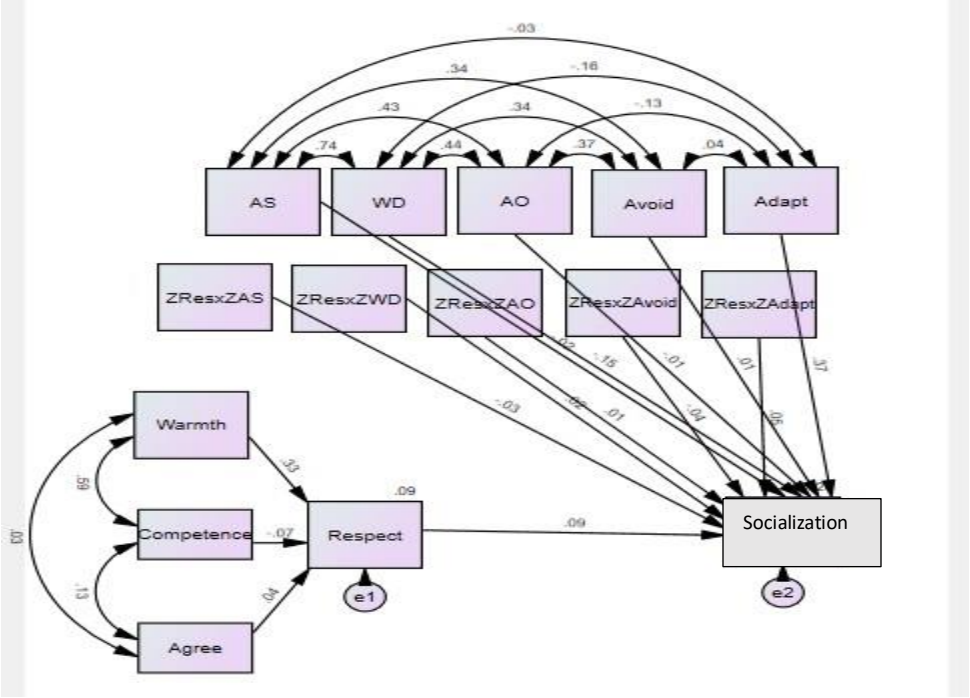
Table 4.11.1.2 Model Fit Statistics for the Proposed Moderation Model

| SEM | | $X^2$ | *df* | *p* | *NFI* | *IFI* | *TLI* | *CFI* | *AGFI* | *SRMR* | *RMSEA* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Model Fit** | . | 665.97 | 78 | <.000 | .496 | .527 | .350 | .517 | .638 | .143 | .155 |

Modification indices were examined but no suggestions collaborated with theoretical evidence. Therefore, the results found no significant interaction terms indicating moderation was not occurring. See the proposed moderation model path diagram with the standardized loadings in figure 5.

**Figure 5**

*Proposed Moderation Model Path Diagram with Standardized Loadings*

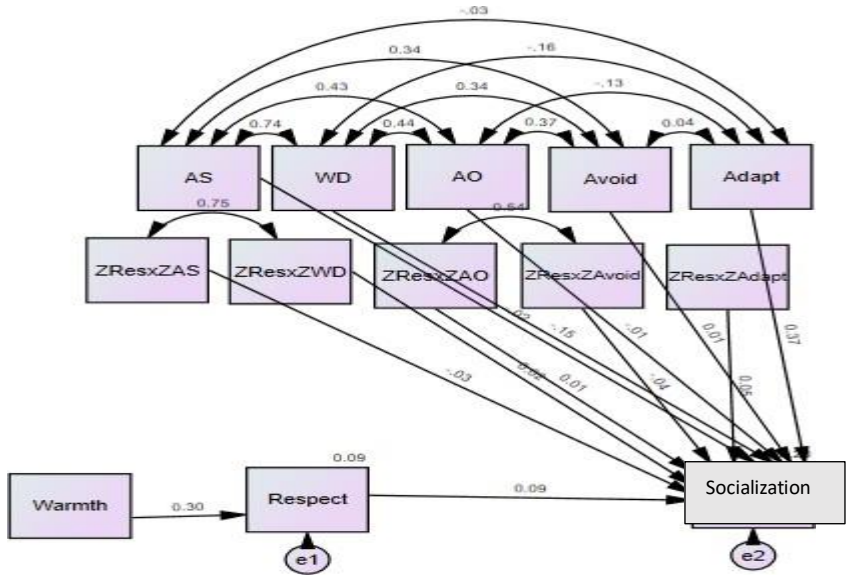



Therefore, *shaming* experience responses (*attack self, withdrawal, attack other, avoid* and *adapt*) within healthcare professionals do not moderate relationships between *respect* and *socialization* in teams; therefore, $H_8$ was not supported as true.

The model was then run removing the variables of *agreeableness* and *competence* (see figure 6).

**Figure 6**

*Final Moderation Model Path Diagram with Standardized Loadings*




The standardized regression weights for the final moderation effects were as follows: ZRespect x ZAttack Self → Socialization ($\beta$ = -.027, $p$ = .722), ZRespect x ZWithdrawal → Socialization ($\beta$= .018, $p$ = .812), ZRespect x ZAttack Other → Socialization ($\beta$= .006, $p$ = .923), ZRespect x ZAvoid → Socialization ($\beta$= -.036, $p$ = .554) and ZRespect x ZAdapt → Socialization ($\beta$= .084, $p$ = .355) (see table 4.11.1.3).

Table 4.11.1.3 Standardized Regression Weights for the Final Moderation Effects

| **Hypothesis** | **Direct Paths** | ***β*** | ***SE*** | ***Z*** | ***p*** |
|---|---|---|---|---|---|
| $H_8$ | ZRespect x ZAttack Self → Socialization | -.027 | .422 | -.356 | .722 |
| | ZRespect x ZWithdrawal → Socialization | .018 | .426 | .238 | .812 |
| | ZRespect x ZAttack Other → Socialization | .006 | .312 | .096 | .923 |
| | ZRespect x ZAvoid → Socialization | -.036 | .354 | -.592 | .554 |
| | ZRespect x ZAdapt → Socialization | .047 | .333 | .926 | .355 |

The model was overidentified ($X^2$ (*df*) = 258.49/54 = 4.78, *p* = <.000, NFI = .774, IFI = .812, TLI = .722, CFI = .808, AGFI = .825, RMSEA = .110, SRMR = .128) with a *df* =54 indicating there were more known values than those being estimated (Byrne, 2016). These findings reveal that an unacceptable model fit occurred (Kline, 2016) (see table 4.11.1.4).

Table 4.11.1.4 Model Fit Statistics for the Final Moderation Model

| SEM | $X^2$ | *df* | *p* | *NFI* | *IFI* | *TLI* | *CFI* | *AGFI* | *SRMR* | *RMSEA* |
|---|---|---|---|---|---|---|---|---|---|---|
| **Model Fit** | 258.49 | 54 | <.000 | .774 | .812 | .722 | .808 | .825 | .128 | .110 |

Therefore, in the final model shaming experience responses (attack self, withdrawal, attack other, avoid and adapt) do not moderate relationships between respect and socialization in teams; therefore, $H_8$ was not supported as true.

### *4.11.2 Mediation*

**4.11.2.1 Mediation Full Model.** To also address research Question 2, mediation was undertaken. $H_9$ proposed that *shaming* experience responses (*attack self, withdrawal, attack other, avoid, adapt*) within health professionals mediated relationships between *respect* and *socialization* into healthcare teams (see figure 7). To test this hypothesis, direct paths from *respect* to each of the *shame* response variables (*attack self, withdrawal, attack other, avoid* and *adapt*) were added to the model. Next, bootstrapping to include 2000 samples and a bias-corrected 95% confidence intervals was performed (Brownlee, 2019). Direct and indirect effects, confidence intervals, model fit summary and information criteria were examined to determine if mediation was occurring.

In order to determine if mediation occurred the indirect effect (two-tailed significance of *respect* on *socialization)* through shame response mediators was tested to determine if there was

significant mediation occurring ($p$ = .006) (see table 4.11.2.3) through the *shame* response mediators (see table 4.11.2.2). The regression weight in the direct path from respect on *socialization* was found to be nonsignificant, the indirect effect of *respect* on *socialization* through the *shame* response mediators was then believed to be diminishing the direct effect ($\beta$= .084, $p$ = .112) (see table 4.11.2.2).

Other significant findings in the mediation model included the path for the *shame* response variable of *adapt* on *socialization* ($\beta$ = .364, $p$ = <.001*) which indicated when team members behave in adaptive ways socialization on the team may occur. Further, *respect* on the shame response variable *of attack self* ($\beta$ = -.192, $p$ = <.001*) indicated when *respect* was low team members may use either this shame response, or *withdrawal* from one another ($\beta$ = -.257, $p$ = <.001*) or the shame response variable of *attack other* ($\beta = -.202, p =< .001*$). When *respect* is low team members may use the shame response of *avoid*, to elevate themselves above others ($\beta$ =-.176, $p$ = .002*) (see table 4.11.2.2).

Table 4.11.2.2 Standardized Regression Weights for the Final Mediation Effects

| **Hypothesis** | **Direct Paths** | $\beta$ | ***SE*** | ***Z*** | ***p*** |
|---|---|---|---|---|---|
| $H_9$ | Attack Self → Socialization | - .026 | .061 | -.343 | .732 |
| | Withdrawal → Socialization | -.154 | .069 | -1.94 | .052 |
| | Attack Other → Socialization | -.012 | .067 | -.198 | .843 |
| | Adapt → Socialization | .364 | .067 | 6.97 | <.001* |
| | Avoid → Socialization | .013 | .076 | .228 | .820 |
| | Respect → Socialization | .084 | .067 | 1.59 | .112 |
| | Respect → Attack Self | -.192 | .088 | -3.46 | <.001* |
| | Respect → Withdrawal | -.257 | .079 | -4.71 | <.001* |
| | Respect → Attack Other | -.202 | .062 | -3.65 | <.001* |
| | Respect → Avoid | -.176 | .052 | -3.16 | .002* |
| | Respect → Adapt | .084 | .056 | 1.49 | .136 |

As expected, the indirect effect of *respect* on *socialization* was significant indicating that mediation is occurring as *respect* is acting through the *shame* response variables to in turn affect socialization (see table 4.11.2.3).

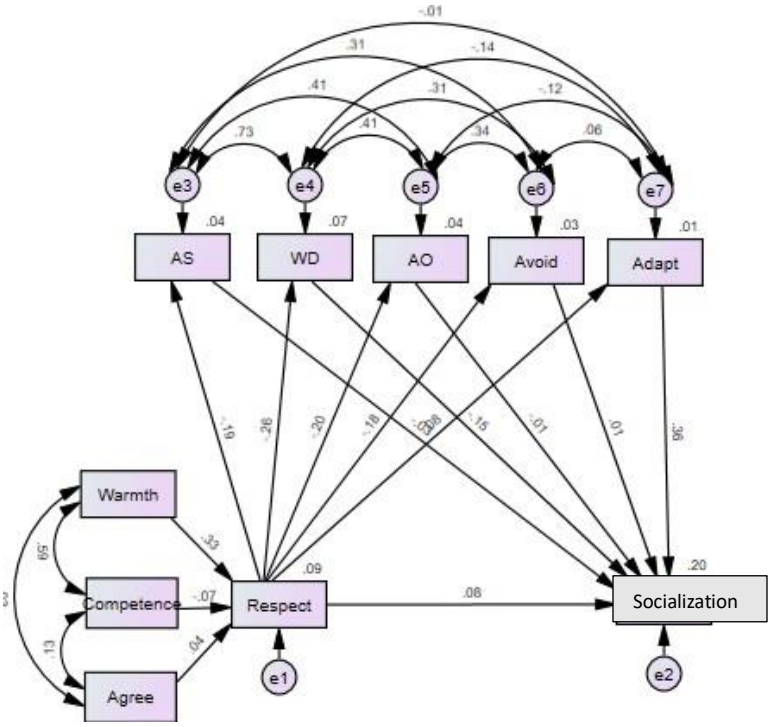
Table 4.11.2.3 Indirect Effects of Respect on Socialization

| **Hypothesis** | | Respect |
|---|---|---|
| $H_9$ | Socialization | .006 |

However, despite the indication of significant mediation occurring, when the theorized model was run together, the regression weights did not reflect a traditional mediation model due to multiple mediators (see figure 7).

**Figure 7**

*Proposed Mediation Model Path Diagram with Standardized Loadings*

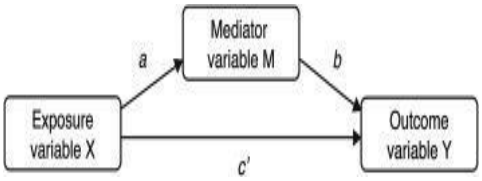


**4.11.2.2 Mediation Single Models.** To further interpret the results, mediation was performed individually on each of the proposed mediation paths to diagnose each path's contribution to the outcome of socialization.

In mediation, both direct and indirect paths were examined to assess if full or partial mediation was occurring. Full mediation is indicated if the direct effect is not "c" significant, but the indirect effect "a×b" is significant. Partial mediation is indicated if the direct effect "c" is significant and the indirect effect "a×b" is also significant (Carrión et al., 2017, pg 175) (see figure 8 cause effect relationship below).

**Figure 8**

*Cause Effect Relationship*




Therefore, a partial mediation model occurs when there is a significant direct effect between respect and socialization, and also between respect and the shame response as mediator and the shame response mediator and socialization as the outcome. A full mediation model occurs when there is not a significant direct effect between respect and socialization because the shame response mediator is diminishing this direct effect, yet significance is maintained between respect and the shame response mediator and socialization as the outcome.

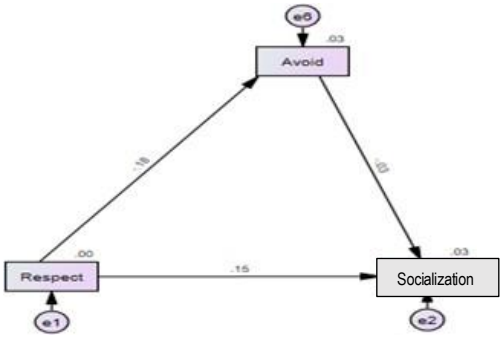
The following five models were implemented, and the analysis is presented below: *Respect to Avoid to Socialization*, *Respect to Adapt to Socialization*, *Respect to Attack Other to*

*Socialization, Respect to Attack Self to Socialization* and *Respect to Withdrawal to Socialization* were examined.

Mediation was executed on the indirect path of *Respect to Avoid* ($\beta$= -.18, $p$ = .002), the indirect path of *Avoid to Socialization* ($\beta$ = -.03, $p$ = .655) and the direct path of *Respect to Socialization* ($\beta$ =.15, $p$ =112). It was found that this was not a mediated pathway because the indirect path from *Avoid to Socialization* was not significant ($\beta$ .15, $p$ = .112) (see figure 9).

**Figure 9**

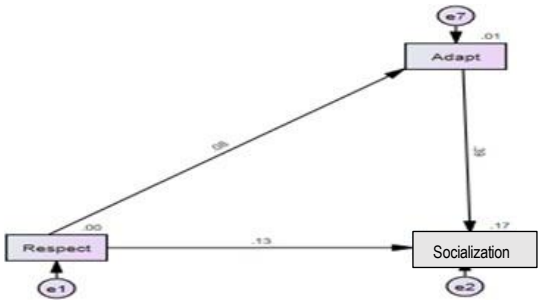
*Standardized Regression Weights: Respect → Avoid → Socialization and Respect → Socialization*




Next, mediation was performed on the indirect path of *Respect to Adapt* ($\beta$ = .08. $p$ = .136), the indirect path of *Adapt to Socialization* ($\beta$ = .39, $p$ = <.001) and the direct path of *Respect to Socialization* ($\beta$ =.13, $p$ = .014). It was found that this was not a mediated pathway because the indirect path from *Respect to Adapt* was not significant (see figure 10).

**Figure 10**

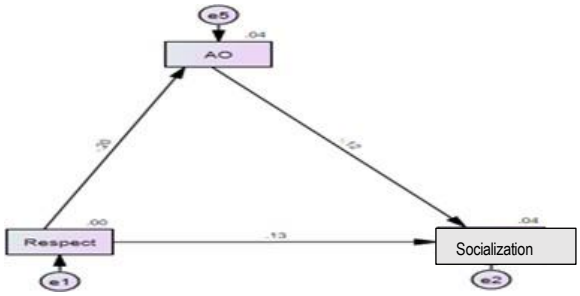
*Standardized Regression Weights: Respect → Adapt → Socialization and Respect → Socialization*




Then, mediation was performed on the indirect path of *Respect to Attack Other* ($\beta$ = -.20, $p$ = <.001), the indirect path of *Attack Other to Socialization* ($\beta$ =.12, $p$ = -.028) and the direct path of *Respect to Socialization* ($\beta$ =.13, $p$ = .018). This was a partially mediated pathway because there was significance in the direct path from *Respect to Socialization,* and also in the indirect paths from *Respect to Attack Other* and *Attack Other to Socialization* (see figure 11)

**Figure 11**

*Standardized Regression Weights: Respect → Attack Other → Socialization and Respect → Socialization*

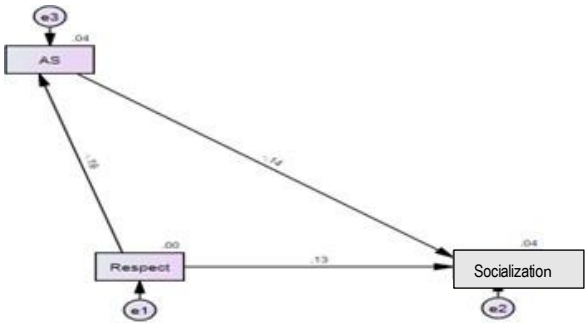



Next, mediation was done on the indirect path of *Respect to Attack Self* ($\beta$ = -.19, $p$ = <.001), and the indirect path of *Attack Self to Socialization* ($\beta$ = -.14, $p$ = .011) and the direct path of *Respect to Socialization* ($\beta$ = .13, $p$ = .019). This was also a partially mediated pathway because there was significance in the direct path between *Respect and Socialization* and also

significance in the indirect paths from *Respect to Attack Self* and *Attack Self to Socialization* (see figure 12).

**Figure 12**

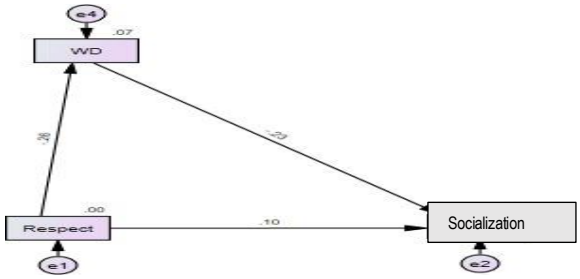
*Standardized Regression Weights: Respect → Attack Self→ Socialization and Respect → Socialization*




In addition, mediation was performed on the indirect path of *Respect to Withdrawal* ($\beta$ = -.26, $p$ = <.001), and the indirect path of *Withdrawal to Socialization* ($\beta$ = -.23, $p$ = <.001) and the direct path of *Respect to Socialization* ($\beta$ = .10, $p$ = .074). This was found to be a fully mediated pathway because the direct effect between *Respect and Socialization* was not significant yet the indirect effect between *Respect and Withdrawal* and *Withdrawal and Socialization* was significant thereby diminishing the direct effect (see figure 13).

**Figure 13**

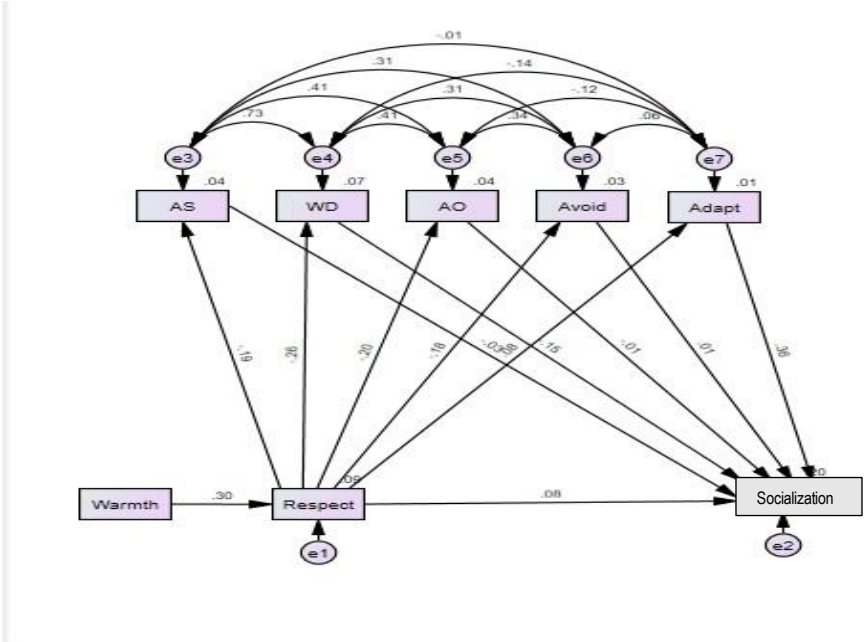
*Standardized Regression Weights: Respect → Withdrawal→ Socialization and Respect → Socialization*




However, in the regression analyses (see table 4.10.2.1) it was found that relationships do exist between warmth and respect, but not with the variable of competence or agreeableness. Therefore, the model was run removing these variables (competence and agreeableness) (see figure 14).

**Figure 14**

*Final Path Model of Influence using Mediation between Latent Variables*



An evaluation of the model fit summary was undertaken. The model fit was ($X^2$ (df) = (6.35/6) = 1.76, $p$ = .385, NFI = .988, IFI = .999, CFI = .999, AGFI = .970, RMSEA = .014 and SRMR = .021 indicating a good model fit (see table 4.11.2.4).

Table 4.11.2.4 *Model Fit Statistics for the Final Mediation Model*

| SEM | $X^2$ | *df* | *p* | *NFI* | *IFI* | *CFI* | *AGFI* | *SRMR* | *RMSEA* |
|---|---|---|---|---|---|---|---|---|---|
| **Model Fit Statistics** | 6.35 | 6 | .385 | .988 | .999 | .999 | .970 | .021 | .014 |

Another analysis was carried out to substantiate mediation as the chain of influence occurring in this study using confidence interval (CI). The CIs were examined for standardized indirect effects of *respect* on *socialization*. The lower and upper bounds were examined and determined to have a CI of .020 - .133. If the CI does not include the value of zero, it can be assumed that there is a statistically significant result (Alkalh, 2021). This indicates there is a 95% level of confidence of the indirect effect being significant, offering another indicator that mediation was occurring in this study.

The criteria indices indicators in the mediation model (*AIC* = 66.35, *BCC* =68.12, *BIC*= 178.92, *CAIC* = 208.92) when compared to the moderation model (*AIC* – 332.49, *BCC* = 335.94, *BIC*= 471.33, *CAIC* = 508.33), found that mediation is occurring because the numbers are lower in comparison (Byrne, 2016; Hooper et al., 2008) (see table 4.11.2.5).

Table 4.11.2.5 Information Criteria Indices Comparing the Moderation and Mediation Model

| Information Criteria Indices | *AIC* | *BCC* | *BIC* | *CAIC* |
|---|---|---|---|---|
| Moderation | 332.49 | 335.94 | 471.33 | 508.33 |
| Mediation | 66.35 | 68.12 | 178.92 | 208.92 |

### 4.12 Post Hoc Analysis

A one-way Manova was conducted to determine whether there was a significant difference between the three professional groups of RPNs, RNs and Physicians in relation to the study variables. Results indicated that there was a significant difference in the variables based on profession: F(16,610) = 1.95, $p$ = .014; Wilks' Lamba = .905, Partial ETA Squared = .049 (Online SPSS, 2023).

Tests of between-subjects effects was then conducted to see if there was a significant difference between the professional groups of RPNs, RNs and Physicians on each of the study variables. It was determined that there was a significant difference related to the specific variables of warmth and respect. Warmth based on profession F(2,312) = 3.768, $p$ = .024, Partial ETA Squared = .024 demonstrated a statistically significant difference. Respect based on profession F(2,312) = 5.369, $p$ = .005, Partial ETA Squared = .033 demonstrated a significant difference. This illustrates that there is a statistically significant difference between the professions of RPNs, RNs and Physicians in relation to the variables of warmth and respect (Online SPSS, 2023).

Finally, multiple comparisons were undertaken using the post hoc Tukey HSD test. Results indicated that when it comes to the warmth variable, RNs and RPNs were not significantly different from each other ($p$ = .206) when perceiving themselves as demonstrating warmth. Moreover, RNs were not significantly different from Physicians ($p$ = .153) when perceiving themselves as demonstrating warmth. However, RPNs are statistically significantly different from the Physicians when perceiving themselves as demonstrating warmth ($p$ = .019).

Further, when it comes to the respect variable, RNs and RPNs were not significantly different from each other ($p$ = .916) when perceiving themselves as being respected by others.

However, RPNS are significantly different from the Physicians, ($p$ = .027). Also, RNs are significantly different from the Physicians, ($p$ = .003) when perceiving themselves as being respected by others. Therefore, both groups of nurses (RNs and RPNs) are statistically significantly different from Physicians in their perception of respect from others.

**4.13 Summary**

In summary, after evaluating the direct and indirect outcomes of five paths that included *Respect to Avoid to Socialization, Respect to Adapt to Socialization, Respect to Attack Other to Socialization, Respect to Attack Self to Socialization* and *Respect to Withdrawal to Socialization* as well as confidence intervals, the model fit summary and information criteria, mediation did occur. Partial mediation occurred between *Respect to Attack Other to Socialization* and *Respect to Attack Self to Socialization*. A chain of influence was established whereby respect acted through shame variables which in turn negatively influenced socialization. Shame experience responses of *attack other, attack self* and *withdrawal* are therefore negative to socialization on IP teams. These findings all indicate that mediation was occurring. Therefore, these results support $H_9$ as true. Research question 2 was met as *respect* was being mediated through *shame* responses leading to negative *socialization* in teams. Research question 1 was partially met with the exclusion of the variables of *competence and agreeableness* in the theorized conceptual model.

**4.14 Discussion**

This study used a theoretically derived model to test two research questions that consisted of eight hypotheses using structural equation modeling. Correlation and regression were executed on seven hypotheses in research question one. Moderation and mediation were proposed for the eighth and nineth hypotheses related to research question 2. After analysis of the data, mediation produced a superior explanation with a good model fit, confidence interval and information criteria.

Research question 1 asked do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' *socialization* into their healthcare teams. In the study results, *warmth* showed a small significant positive correlation with *respect* with (r = .295) meaning *warmth* and *respect* have a mutual relationship with one another. The standardized regression estimate for *warmth on respect* showed statistical significance ($\beta$ = .334, $p$ <.001) with a low to medium effect size accounting for 33% of the variance in this path. Therefore, $H_1$ was supported in demonstrating that healthcare professionals who displayed warmth are more likely receiving high levels of respect from team members.

$H_2$ theorized that healthcare professionals who display *competence* are more likely to receive high levels of *respect* from team members. In the study, *competence* showed a small significant positive correlation with *respect* (r = .136) demonstrating a mutual relationship between competence and respect. However, standardized regression estimates for *competence* on *respect* showed no statistical significance with a low to medium effect size and a small negative variance of -6% ($\beta$ = -.068, $p$ = .317). Therefore, $H_2$ was not supported. Although there is a correlation between these two variables, regression demonstrated that healthcare professionals who displayed *competence* are not more likely receiving high levels of *respect* from team members.

$H_3$ theorized that healthcare professionals with the personality trait of *agreeableness* are more likely to receive high levels of respect from team members. In the study, *agreeableness* showed a nonsignificant positive correlation with *respect* ($r$ = .039) demonstrating no mutual relationship. The standardized regression estimates for *agreeableness* on *respect* showed no statistical significance with a medium to large effect size with a small variance of 3% ($\beta$= .037, $p$

= .495). Therefore, $H_3$ was not supported. This demonstrated that healthcare professionals who displayed *agreeableness* are no more likely to receive high levels of *respect* from team members.

$H_4$ theorized that after controlling for *warmth*, healthcare professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members. In the study, *competence* showed a small significant positive correlation with *agreeableness* (r = .127). After controlling for warmth, standardized regression estimates for *competence* on *agreeableness* showed statistical significance with a small effect size accounting for 16% of the variance in this path ($\beta$ = .166, p = .003). This demonstrated that after controlling for *warmth*, healthcare professionals who displayed high degrees of *competence*, more likely received high levels of *agreeableness* from team members, therefore supporting $H_4$.

$H_5$ theorized that after controlling for *competence* healthcare professionals who display high degrees of *warmth* are more likely to receive high levels of *agreeableness* from team members. In the study, *warmth* showed a nonsignificant positive correlation with *agreeableness* (r = .032) so did not show a mutual relationship. After controlling for *competence*, standardized regression estimates for *warmth* on *agreeableness* also showed no statistical significance with a small effect size and a small negative variance of -6% ($\beta$= -.067, $p$ = .228). This demonstrated that after controlling for *competence,* healthcare professionals who displayed high degrees of *warmth* are no more likely to receive high levels of *agreeableness* from team members. Therefore, $H_5$ was not supported.

$H_6$ theorized that after controlling for *agreeableness*, healthcare professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members. In the study, *warmth* showed a large significant positive correlation with *competence* ($r$ = .594) demonstrating a mutual relationship between *warmth* and *competence.* After

controlling for *agreeableness*, standardized regression estimates for *warmth* on *competence* showed statistical significance with a large effect size accounting for 59% of the variance in this path ($\beta$= .592, p <.001). This demonstrated that after controlling for *agreeableness,* healthcare professionals who displayed high degrees of *warmth*, more likely received high levels of *competence* from team members, therefore supporting $H_6$.

$H_7$ theorized that healthcare professionals who received high levels of *respect* in their teams are more likely to be strongly *socialized* in their teams. In the study, r*espect* showed a small significant positive correlation with *socialization* ($r$ = .159) demonstrating a mutual relationship between *respect* and *socialization*. Standardized regression estimates for *respect on socialization* showed no statistical significance with a small effect size accounting for 8% of the variance in this path ($\beta$= .084, $p$ = .112). Therefore, $H_7$ was not supported. Therefore, health professionals who display high degrees of *respect* are no more likely to be directly *socialized* into their healthcare teams.

In summary research question 1 asked do the relational factors of *warmth* and *competence* judgements as well as *agreeableness* associated with *respect* lead to team members' *socialization* into their healthcare teams? It was found that only the relational factor of *warmth* was associated with *respect*. However, healthcare professionals who display high degrees of *competence* are more likely to receive high levels of *agreeableness* from team members, and healthcare professionals who display high degrees of *warmth* are more likely to receive high levels of *competence* from team members. However, *competence* and *agreeableness* do not then influence *respect*. Finally, the standardized regression path result did not support high levels of *respect* being strongly linked to *socialization* in teams. It was expected there would be no statistical significance ($p$ = .112, see table 4.11.1) because the indirect effect of *respect* on

*socialization* through *shame* response variables was minimizing the direct effect of *respect* on *socialization*. In research question 2 during mediation, this was analyzed. These hypotheses alter the theorized model with only the variable of *warmth* being associated with *respect* leading to *socialization* in healthcare teams and not influenced by either *competence* or *agreeableness* (see figure 15).

Research question 2 asked, does a shaming experience *(*related to *attack self, withdrawal, attack other, avoid, adapt)* within healthcare professionals moderate or mediate the relationship between *respect and socialization* into healthcare teams and consisted of two hypotheses ($H_8$, $H_9$) to address the question (see table 4.10.3 and table 4.11.1). $H_8$ theorized whether shaming experience responses *(attack self, withdrawal, attack other, avoid, adapt*) within healthcare professionals moderated or mediated the relationships between *respect* and *socialization* into healthcare teams. Moderation was undertaken by selecting the latent variable of *respect* and shame variables of *attack self, withdrawal, attack other, avoid and adapt* and saving them as standardized values. In the study, none of the interaction terms showed significant moderating effects. Therefore, $H_8$ was not supported.

However, mediation was then undertaken ($H_9$) to investigate if this was a better explanation for the data. It was theorized that shaming experience responses (*attack self, withdrawal, attack other, avoid, adapt*) within healthcare professionals mediated the relationships between *respect* and *socialization* into healthcare teams. In this analysis, results indicated that partial mediation occurred between the indirect paths of *Respect to Attack Other to Socialization* and *Respect to Attack Self to Socialization*. Partially mediated significant results indicated that the shame experience responses of *attack other* and *attack self* are negative to *socialization* on the team. Results indicated that full mediation occurred between the indirect

path of *Respect to Withdrawal to Socialization*. Fully mediated significant results indicated that the shame experience response of *withdrawal* is also negative to *socialization* on the team therefore, $H_9$ was supported as true.

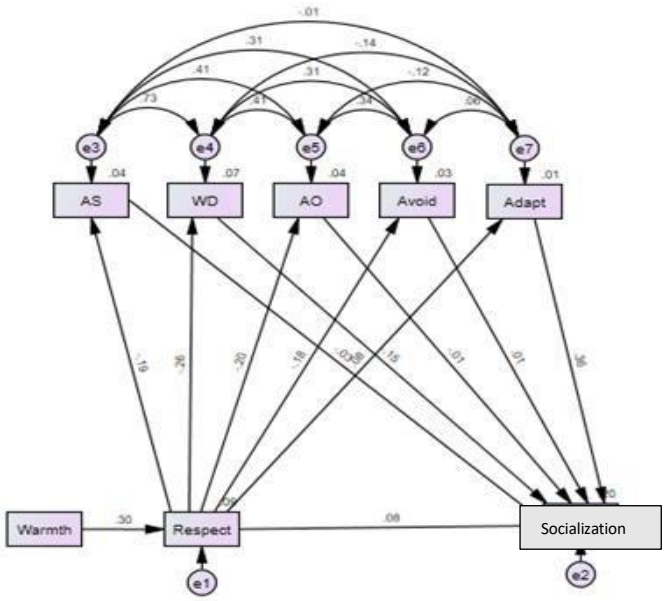
These findings alter the theorized model as the chain of influence was not moderated with any of the interaction terms. The relationship between *respect* and *socialization* does not change depending on what shame experience a healthcare professional might have had in relation to *attack self, withdrawal, attack other, avoid and adapt*. Instead, mediation occurred when *respect* influenced *shame* which in turn influenced *socialization* in teams. All of the values between *respect* and the four shame variables *of attack self, withdrawal, attack other and avoid* show a negative relationship which illustrates the author's assertions regarding the impact of low *respect* that may lead to the presence of *shame* responses. An expected finding was with *adapt* (the last shame variable) showed a positive relationship with *respect*. When team members were *adaptive* in their shame response, greater *socialization* in their healthcare teams was reported.

Respondents were asked while working in your clinical area how often do you feel comfortable interacting with other healthcare professionals? Levels of comfort in clinical settings varied between the respondents. RNs felt 25% of the time, RPNS felt 27% of the time while Physicians felt 40% of the time, they sensed feelings of comfortableness. A further question asked, while working in your clinical area, how often do you feel included as part of the team? Both RNs and RPNs answered 55% of the time while Physicians reported 73% of the time, they feel most included as part of the team. This is in line with previous research that found physicians have a more positive perception when rating their relationship with other professions (Mischo-Kelling et al., 2021) while other professions rate physicians more negatively (Wieser et al., 2019; Zwarenstein et al., 2013).

The final revised model deleted two variables – agreeableness and competence from the previously theorized model. A further path analysis was carried out on the revised model ($X^2$ (df), $p$ = .385, *NFI*= .988, *IFI*= .999, *CFI*= .999 *AGFI* = .970, *SRMR*= .021 *RMSEA* =.014). A good model fit was found. Therefore, this study provides a fit between these relational variables and IPC socialization (see figure 15).

**Figure 15**

*Final Path Model of Influence using Mediation between Latent Variables*




The findings from this study provide many contributions to the study of IPC healthcare team socialization. First, healthcare professionals who display warmth are more likely to receive a high level of respect from team members. This concurs with research that indicated warmth assists in creating social capital and maintaining interprofessional relationships that influence affective and behavioural responses. A lack of respect between interprofessional disciplines, has been reported as a perceptual barrier preventing collaborative exchanges (Kirby et al., 2019). This finding affirms that a sense of warmth (Abele & Wojciszke, 2018) made by members of the

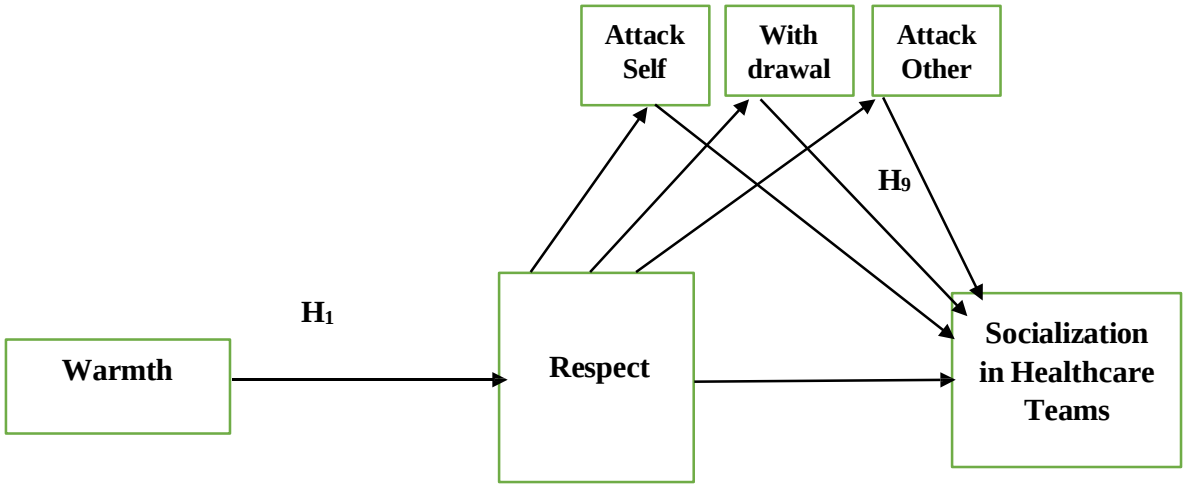
healthcare team may signal that colleagues are cooperative and trusting therefore more likely worthy of their respect and in turn create a climate where performance is enhanced. Second, while it was theorized that agreeableness and competence would be important variables to influence socialization into interprofessional healthcare teams, these were not found to be significant in this study. Third, shaming experience responses within healthcare professionals did not moderate the relationship between respect and socialization into healthcare teams. Fourth, shaming experience responses (attack self, withdrawal, attack other) within healthcare professionals did fully or partially mediate the negative relationship between respect and socialization in healthcare teams. While the direct effect was insignificant for respect on socialization indirect effects from respect through the shame response variables to socialization were significant. One would expect this result because this direct effect was being diminished by the indirect effects through these three shame response variables. Fifth, in this study, the shaming experience response of attack other occurred when a person felt their knowledge or skill was under scrutiny. The target becomes other team members as the shame is externalized attempting to make others feel worse (Partridge & Wann, 2015) carried out through bullying (Fast, 2016), humiliation, ridicule, contempt or discrediting another's reputation (Felblinger, 2008). This behaviour can then be directed onto patients with adverse consequences that precede unsafe care (Felblinger, 2008). In this study, when respect was low it acted through the shame experience of attack other which negatively impacted healthcare professionals' socialization onto the team. This relationship was partially mediated indicating that the shame response of attack other accounted for some, but not all of the relationship between low respect and poor socialization. Sixth, when respect was low it acted through the shame experience response of attack self which negatively impacted healthcare professionals' socialization in the team. This relationship was

partially mediated indicating that the shame response of attack self accounted for some, but not all the relationship between low respect and poor socialization. This reflects Partridge and Wann's (2015) belief that the shaming experience of attack self occurred when the negative experience was recognized consciously causing an internalization that the person was inadequate. Ferriera et al., (2020) suggested this shame management response is expected when a person receives self-deprecating remarks, causing feelings of inadequacy and inferiority that are focused on their weaknesses. In addition, one's ideals may be sacrificed to maintain relationships with others (Partridge & Wann, 2015). Seventh, in this study, when respect was low it acted through the shame experience of withdrawal which also negatively impacted healthcare professionals' socialization onto their team. This relationship was fully mediated indicating that the response of withdrawal may account for the relationship between low respect and poor socialization. Withdrawal by a team member may occur when the person attempts to withdraw or hide themselves from a shameful experience (Gu & Hyun, 2021). Like attack self, withdrawal is an internalization of the message that the person has weaknesses. It is reported to cause colleagues to pull away from one another to reduce their discomfort from shame experiences (Partridge & Wann, 2015). When colleagues employ withdrawal as a form of self-protection, it has the potential of being detrimental to collaborative teamwork in delivering safe patient care (Freeth, 2001). The shame responses of withdrawal and attack self are reported to share the internalization of shame messages that the individual is lacking in some way (Nathanson, 1992). In line with previous research, these two experiences are the most highly correlated among the five shame management strategies and have shown strong associations with the internalizing symptoms of anxiety and depression (Elison, 2019). The individual experiencing attack self and withdrawal is reported to be unable to reassure themselves. This may indicate that these shame

messages are harmful causing difficulty in integrating self compassion during stressful situational events (Capinha et al., 2021). Eighth, another significant finding included the direct path for respect on the shame variable of avoid (see table 4.11.2.2). In avoidance, the person remains neutral and replaces the experience by distraction from the incident and any associated emotions (Nathanson, 1992). Due to the denial of a shaming event, awareness does not occur (Capinha et al., 2021). In this study, when respect was low, it acted through the shame response of avoid. Ninth, a further significant finding included the direct path for the shame variable of adapt on socialization (see table 4.11.2.2). When shame was experienced, the individual likely identified the emotion then adapted to the situation. This may occur when the distressed individual is able to view themselves with more compassion (Capinha et al., 2021). In this study, when team members were adaptive in their shame response, greater socialization on their healthcare teams was reported.

**Figure 16**

*Revised Theorized Model Findings with $H_1$ and $H_9$*



Interprofessional collaboration is “to provide health system users with improved health outcomes. Interprofessional collaboration occurs when learners/practitioners, patients/clients/families and communities develop and maintain interprofessional working relationships that enable optimal health outcomes” (Orchard & Bainbridge, 2010, p6). During setbacks in team collaboration, the ability to respond adaptively in a coherent, direct, respectful manner may provide a means to enhance teamwork. This study provides further understanding related to relational variables associated with healthcare professionals’ socialization into their collaborative teams.

**4.15 Limitations**

This section addresses several limitations in this study. First, the non-experimental survey design precludes causal interpretations of the data. The greatest number of participants worked in large hospitals of over 500 beds (52.7%), followed by small hospitals of 50 to 100 beds (18.4%) then medium sized hospitals over 200 beds (12.1%) from a small proportion of Ontario. This may have limited representativeness of healthcare professionals and could have resulted in response bias. In addition, the response rate for Physicians was low and may have resulted in nonresponse bias (Dykema et al., 2020). Second, this study was related to relational factors such as shame which may have been a sensitive topic for some participants. Therefore, selection bias could have occurred. Third, limitations pertaining to some of the instruments used in this study are also noted. For instance, the author of the TIPI indicated that it is almost impossible to achieve acceptable alphas and good fit indices with this instrument due to the wide domains it is designed to measure using only two items for each dimension at both the positive and negative poles (Goz Lab, n.d.). Furthermore, the shame management response of avoid is an unconscious experience to the self and therefore difficult to measure. Fourth, the study relied on self-reports

after participants recalled a recent negative situation experienced with another team member while working in their clinical area. These encounters were not observed by the researcher and as such possible response biases may have occurred when participants reflected on their reaction to the recalled negative situation. The combination of these limitations may have influenced the findings in this research study.

## 4.16 Conclusion

This paper presented detailed results for testing a theoretically driven model that linked relational variables (warmth, competence, agreeableness, respect and shame – attack self, withdrawal, attack other, avoid adapt) to socialization in the healthcare team. Although many studies have investigated diverse issues related to IPC such as attitudes, behaviours and experiences (Ansa et al., 2020), research focusing on behaviours indicating collaborative success or difficulty are limited. This study assisted in filling some of this gap by focusing on selected relational variables that may explain part of the dynamics occurring within healthcare teams. The final revised model deleted two variables – agreeableness and competence from the previously theorized model. The fully mediated significant finding related to low respect acting through the shame response variable of withdrawal to impact healthcare professionals' socialization into their teams, may provide one explanation regarding poor team functioning.

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# Chapter 5- Relational Variables Impacting the Healthcare Team Summary of Key Findings, Implications and Conclusion

## 5.1 Abstract

This chapter summarizes the key findings of this dissertation study. The findings associated with relational variables studied and their implications to healthcare professionals' practice are then presented and summarized. Areas discussed relate to healthcare organizations, nursing policy, nursing and postsecondary education and nursing research. In each section, the recommended action items that need to be addressed will be outlined. Finally, study conclusions will be provided.

*Keywords*: key findings, implications, conclusion

## 5.2 Introduction

The overall aim of this study was to examine relational variables that impact the healthcare team's socialization for collaborative practice. To study these factors, the variables of warmth, competence, agreeableness, respect, and five shame responses of attack self, attack other, withdrawal, avoid and adapt were proposed to influence socialization in the healthcare team. These were provided in a proposed theorized model. Structural equation modelling linking the variables was conducted and then moderation and mediation between the variables was undertaken.

The purpose of this chapter is to detail findings and implications that resulted from this study. The initial significant findings were that when healthcare professionals display high degrees of competence, they are more likely to receive high levels of agreeableness from fellow team members. Further, when healthcare professionals display high degrees of warmth, they are more likely to receive high levels of competence from fellow team members. When health professionals display warmth, they are more likely to receive high levels of respect from team members.

Socialization into healthcare teams has been reported to be associated with overcoming out-group feelings experienced by team members. This may occur among those team members who perceive themselves as out-group members from differing professions. For example, significant findings found RNs and RPNs may feel less included on the healthcare team as an out-group member than their Physician counterparts. RNs and RPNs may also feel less comfortable interacting in healthcare teams than Physicians.

In this study, it was proposed that when healthcare professionals had experienced shame in response to being challenged by another healthcare professional this may impact their feelings of socialization because of their choice of shame coping means. Of significance, when low levels of

respect were experienced, it acted through the shame coping strategies of attach other, attack self or withdrawal leading to poorer team socialization. This may indicate that these shame responses may account for the relationship between low respect and poor socialization.

Thus, the findings support the previous assertion that negative coping responses to shame impact on healthcare professionals' socialization into their interprofessional teams.

These findings address the need for changes to increase awareness regarding how one's interaction in teams are judged by colleagues. First impressions do matter in managing one's own encounters in the healthcare team. Provision is needed for healthcare professionals to discuss unconscious biases towards peers within safe forums. One means can be through development of shame management scripts to help healthcare professionals who have experienced or may experience such negative encounters. Addressing the findings from this study may assist in reducing the growing research reporting high levels of stress, burnout, and staff turnover currently present within healthcare systems in Canada.

### 5.3 Summary of Key Findings

This study produced a number of novel, significant findings that contribute to the literature on interprofessional collaboration. In answer to research question 1, "do the relational factors of warmth, competence, agreeableness and respect predict socialization in the healthcare team in various practice settings", 3 of the 7 hypotheses were significant. First, healthcare professionals in this study who displayed high degrees of competence were more likely to have high levels of agreeableness from their team members. This can be interpreted that when professionals are surrounded by competent team members, the demeanor of agreeableness could occur in those who possess this personality trait. Working with competent professionals may create highly supportive workplaces where information sharing, and patient centered care is supported. Agreeable individuals are suggested to have a preferred norm for positive interpersonal

relationships by supporting friendly compliance with team members. This is made more feasible when they are able to trust the skills of their teammates. Having competence within the team may also leave time for agreeable professionals to display their empathy and care towards their patient population. They may be able to transfer their concern away from managing any team members' lack of competence, to their patients' needs for care.

Second, a significant finding related to healthcare professionals who displayed high degrees of warmth were more likely to receive high levels of competence from their team members. Individuals in interactions may first assess their impression of another's warmth to determine that person's intention for good. If a healthcare colleague senses a team member's warmth from their friendliness, helpfulness, and sincerity it may lead to a greater state of calm within the team. In turn, this could contribute to a member's confidence, skill and efficacy in feeling competent to practice.

Third, of significance those who displayed warmth were more likely to receive a high level of respect from their team members. Perceptions seem to occur within seconds of meeting a colleague that results in making a social judgement. If that judgement confirms the person's warmth, it may lead to a positive impression facilitating respect of each other and build teamwork. Each encounter is then important between healthcare professionals because these judgements impact on each other's intentions for good. It is suggested that these impressions are difficult to change, if a healthcare professional is observing disrespectful encounters between other team members. Hence, it appears first impressions in all interactions with a colleague are critical to teamwork.

In answer to research question 2, "does a shaming experience (related to attack self, withdrawal, attack other, avoid, adapt) within health professionals moderate or mediate the

relationship between respect and socialization into healthcare teams" it was found that the relationship is mediated. Therefore, the fourth significant finding was when respect was low between team members it acted through the shame response of attack others, leading to poor socialization within interprofessional teams. When healthcare professionals adopted attack other, they deal with their shame by discharging it onto others through incivility or bullying behaviours as their coping mechanism. When a team member is the target of blame, they may experience harsh conversation, rolled eyes, or humiliation. This may occur either alone or in the presence of patients or other healthcare staff. Either way, they are likely to feel victimized. Fear and anxiety arising in the victimized individual may lead to them engaging in demeaning dialogue regarding another person with other trusted colleagues. This in turn may lead to fragmentation among team members when alliances are built between some team members at the expense of other colleagues. Thus, the initial victim could discharge shame by transferring the attack onto other team members or onto patients. This behaviour has the potential to undermine a team member's credibility as others within the dysfunctional team focus on scrutinizing and criticizing the new victim. This new victim could be ostracized and avoided by the rest of the team, thereby losing their previously valued input and expertise. Patient care safety could be compromised due to a chosen lack of communication and clarification when team members do not want to approach their victimized colleague. Further, damaged therapeutic relationships between team members and their patients may occur. Therefore, attacking others may create a dysfunctional, toxic work environment. An environment where healthcare professionals resign, as is currently being reported across Canada due to reported 'burnout' may also cause patients to feel insecure in voicing their questions and concerns.

Fifth, of further significance when respect was low between team members, it acted through the shame response of attack self, leading to poor socialization in interprofessional teams. When healthcare professionals use attack self as a shame management strategy, functioning at their highest potential may be affected. Diminished self-esteem may cause team members to lose confidence creating doubt in their assessment skills, critical thinking and decision-making capacity. This may challenge their own self efficacy, which may further undermine their sense of worthiness and perceived skill mastery. Their ability to provide team leadership may be reduced as they wait for others to act. Their sense of inability may lead to individual low morale that may spread throughout the team. Each team members' self-esteem may impact job satisfaction and retention of staff, who find it challenging to stay in a work environment that lacks strong mentorship.

Finally, in research question 2 the sixth significant finding, when respect was low between team members it acted through the shame response of withdrawal leading to poor socialization on the interprofessional team. This shame response may lead nurses and physicians to withdraw from one another in order to escape emotional discomfort. When team members behave in this manner, communication may be impacted, and errors in judgement could be made that may affect patients' safety. The use of negative coping to shaming experiences has the potential to impact job satisfaction and the retention of staff. When a workforce is predominantly those who identify as women (such as in nursing) who have suffered under patriarchy, and historically been subservient to medicine, their socialization in teamwork may lead to blaming difficult incidents on their own personal inadequacies. Thus, they may see themselves more frequently as 'victims'. Recognition of this gendered response is important for members of the team as it may be counteractive to effective interprofessional collaborative teamwork. Further, patient care could

be at risk when team members who have withdrawn refuse to reengage with one another after a disrespectful encounter. For example, if at 3 a.m. a patient's condition is deteriorating and an RN or RPN waits to notify the Physician due to a prior difficult encounter, the patient may become the victim of this professional relational dysfunction.

Seventh, of significance, nurses may feel less included on the healthcare team as an out-group member than their physician counterparts. Unless they are able to gain intergroup status, they may be less likely to contribute their expertise and knowledge. They could feel undervalued and not required which may trigger the shame responses noted above inhibiting engagement with their colleagues. Their capacity for professional growth may be minimized as they limit question asking. For example, physician colleagues, may limit nurses' own learning during patient case discussions by focusing attention on the input of other physician in-group members. This may further distance a nurse due to the nurse's perception of self as being less valued on the team.

Eighth, of significance, nurses may feel less comfortable interacting within healthcare teams than their physician or other healthcare professional counterparts. Nurses then may distance themselves from team members and intentionally avoid communication exchanges. Thus, feelings of shame and coping responses may be initiated. Its impact on interprofessional collaborative team socialization then may be undermined if their choice of shame response creates feelings of victimization. However, if that response to shame is adaptive, they may choose a more positive means to address such experiences because when team members are adaptive in their shame response during setbacks in collaboration, greater socialization on the healthcare team occurred.

In addition, post hoc analysis revealed significant differences among the professions in relation to the specific variables of warmth and respect. RNs and RPNs were not significantly

different from each other when perceiving themselves as demonstrating warmth. RNs were not significantly different from Physicians when perceiving themselves as demonstrating warmth. However, RPNs are significantly different from the Physicians when perceiving themselves as demonstrating warmth. One explanation along with not feeling included or comfortable may be that RPNs in this study may feel their voices are silenced as unequal participants in patient care decisions leading them to perceive themselves as demonstrating less warmth. Further, when it came to the respect variable, RNs and RPNs were not significantly different from each other when perceiving themselves as being respected by others. However, both RNs and RPNS are significantly different from the Physicians, when perceiving themselves as being respected by others. One explanation may be that nurses in this study perceived that physicians respected other physicians more than they respected nurses.

## 5.4 Implications

### 5.4.1 Healthcare Professionals Practice

The relationship between nursing and medicine is of critical importance to clinical democracy (Fox et al., 2021). In this study, one must then ask why RNs and RPNs rate both their comfort interacting with and their feelings of being included as part of the healthcare team, 25% lower than their Physician colleagues? Also, why do RNs and RPNs perceive themselves to be less respected than Physicians? This study has exposed a perceived distance between nurses and physicians and how they feel within their teams. These findings fit with previous studies and suggests disparity that may impact patients' quality of care received (Mischo-Kelling et al., 2021). These findings may also provide potential impediments to improving collaboration between these professional groups (Reeves et al., 2010; Zwarenstein et al., 2013). Therefore, this study supports previous research findings that the allegiance to ones' profession and the presence of power and status imbalances between team members create and reinforce impressions of

superiority/inferiority (Price, 2021) that silence non-physician voices (Fox et al., 2021). It is hoped that an outcome of this study will be for physicians to be aware that nurses may experience less respect, be uncomfortable and feel excluded from discussions about patients' care. This discomfort may lead to feelings of frustration and cause a passive relationship in interactions with physicians to occur. Hence, the importance of health professionals focusing on their first impressions with each other in professional interactions is reinforced as important towards establishing a level of respect and valuing of each other.

It has also been determined that impressions of team members are strongly influenced first by another's expression of warmth towards each other and that these judgements can be negative when a lack of warmth is shown to other members (Abele & Wojciszke, 2014). According to Fiske et al. (2007) when females are members of a team, they seem to show a stronger priority for detecting warmth in others. Thus, when individuals show warmth to each other there is a greater likelihood of receiving a high level of respect from their team members. However, the presence of power inequality in the team may lead to an enhanced interest in others who demonstrate a high level of competence over other members (Cislak, 2013). These social evaluations in clinical settings are one area that has the potential to fuel polarization between healthcare professions represented by team members (Abele et al., 2021). RPNs in this study perceived themselves as demonstrating less warmth. It is hoped that an outcome of this research will be for RPNs, RNs and Physicians to understand the significance of these first impressions on each other and pay attention to their expressions of warmth, in getting along. However, recognition of the complexity in getting along interprofessionally has been noted in other research (Sukhera, et al., 2021; Wei et al., 2022) causing barriers to IPC. Therefore, health professionals need to focus on how they individually may contribute to influencing their positive

team dynamics. Despite such a desire, professionals may unintentionally impact negatively on their team's functioning (Sukhera, et al., 2021). Therefore, biases such as those held against other professions, age, ethnicity and gender are areas to attend to in their learning to socialize effectively into their collaborative teams. Finally, it is important to create safe forums to allow individual healthcare professionals to discuss their beliefs and potential biases. Developing such awareness, may lead to acceptance of one's own responsibility to influence socialization in their collaborative team practice.

### 5.4.2 Healthcare Organizations

Without addressing disrespectful behaviour, it is not enough for healthcare organizations to focus their attention on quality assurance systems alone. Achieving safe patient care requires both well-designed systems and well-functioning interprofessional teams (Atkinson, 2017). It is hoped that an outcome of this study will be for a conscious, deliberate effort in recognizing the underlying dynamics that are occurring between professionals.

Healthcare organizations are encouraged to recognize that the use of withdrawal by members in a collaborative team as a coping mechanism among healthcare professionals has an impact on the organization and its patients. Creating continuing education programs, mentorship and guidance around adopting better coping mechanisms when faced with disrespectful encounters is recommended to produce safer workplaces and greater resilience to overcome shaming experiences (Bond, 2009; Westbrook et al., 2018).

There is an urgent need for organizations/institutions to create safe workplaces by adopting practices whereby employees learn to be respectful and direct in their encounters with each other. Healthcare managers need to investigate the presence of shame encounters and learn about strategies they may use against disrespectful behaviours. All new staff during their

orientation should receive education around approaches for creating safe workplaces and how to use strategies when bullying is experienced in their practice. All staff should be provided with supportive resources for addressing bullying and receive continuing education on established reporting mechanisms including privacy assurances for reporting this behaviour. Ongoing continuing education should be provided by healthcare organizations on key relational behaviours that enhance client-centred interprofessional collaborative team practice.

Healthcare institution administrators need to identify existing embedded patriarchal systems and develop steps to challenge the same using a feminist lens. It is recommended that organizations include the word ‘shame’ into healthy workplace policies. Professional colleges should also incorporate behavioural statements related to their members’ experiencing victimization in their workplaces and provide a means of reporting the same for investigation when not being provided by employers.

Healthcare organizations are encouraged to consider the importance of stressing warmth and competence among all employees as a means to support these key relational behaviours to enhance client-centred interprofessional collaborative team practice (Felgen, 2007). Furthermore, to enact these values, attention is needed to recognize where oppressive patriarchal systems embedded within their healthcare organization need to be identified and acted upon (Sharma, 2019; Wear, 2004).

Healthcare organizations could promote staff learning to use self-reflexivity in understanding the use of introspection to focus on their own position and place of power in the organization. It is suggested that such understanding of their own and other healthcare professionals’ position could lead to gaining insight by both medicine and other professions to the patriarchal foundation of medicine. The overall goal from such an outcome is for a more

equitable approach to effective socialization into interprofessional patient-centred collaborative practice.

In summary, it is recommended that healthcare organizations implement exit interviews to investigate if shame was an underlying factor in healthcare professionals' decisions to leave the organization. Prospectively, during orientation sessions, new staff should be briefed on educational training and other supportive resources they can access to counter disrespectful behaviour between professionals. Care is also needed to develop reporting mechanisms and privacy assurances to prevent retribution by other staff members. The need to foster socialization where there is warmth and respect could further an environment that is safe from victimization.

### 5.4.3 Nursing policy

It is hoped that an outcome of this study will be that the word "shame" is embedded into nursing policy; to name the concept and make it visible. The impact on patient safety needs to be stated to overcome this unknown variable. It is also hoped that regulatory bodies such as the College of Physician and Surgeons of Ontario and the College of Nurses of Ontario identify shame by expressing positive versus negative coping responses into practice standards. For example, the Royal College of Physicians and Surgeons of Canada could add, "effective management of shame responses" as a key concept in the CanMEDS (2015) framework under the role of Collaborator. The College of Nurses of Ontario could add this requirement as an entry to practice competency for RNs and RPNs. The Registered Nurses Association of Ontario and the Registered Practical Nurses Association of Ontario could create Best Practice Guidelines specifically related to shame responses during disrespectful encounters within interprofessional teams. Furthermore, the Canadian Nurses Association (CNA) could augment its Code of Ethics (2017) document to include the word shame as a descriptor to disrespectful behaviour. Also, the

CNA could advocate by engaging in political processes that influence policy and practice regarding healthcare professional's behavioural accountability for interprofessional respect and patient safety. Finally, consultation and collaboration with other health disciplines in education should occur to overcome and develop strategies for dealing with shaming experiences.

### 5.4.4 Nursing and Post-Secondary Education

A finding in this study was that the shame response of attack self and attack other accounted for some of the relationship between low respect and poor socialization on the interprofessional team. When shame is present it has the potential to interfere with this socialization process (Bond, 2009). It is hoped that an outcome of this study will lead post-secondary institutions to adopt approaches for students reporting shaming experiences in their program to a neutral person that provides confidentiality and action. Nursing programs should also have a code of conduct that has a zero-tolerance policy directed to educators, clinical instructors and preceptors who are disrespectful in their behaviours toward students. Students feeling shame in their clinical practice are placed at risk for errors in clinical judgements. Therefore, shame theory awareness must be put in place by the educational institutions as orientation training for nurses and physicians regarding their expected respectful relationships with students. This training should be made available for other professionals in placement locations who supervise students. Regular evaluation of students' learning, and placement experiences should be researched by nurses and physicians to ensure monitoring for shame encounters occurs. Otherwise, behaviours that cause feelings of shame in students will persist unchallenged (Sukhera et al., 2021).

Interprofessional education must be instituted in the education of pre-service workers. Exposure and knowledge regarding roles and responsibilities of healthcare colleagues has been

proven to enhance IPC. When students are not educated interprofessionally a strong focus on one's own profession is likely to occur limiting their experience in working together collaboratively (Khalili & Orchard, 2020). In particular, if RPN and RN students could have pre-service exposure during their education and clinical experiences, their transition to working intraprofessionally may translate into improved relational skills.

It is recommended that changes to curriculum should be delivered to pre-service health professional students using a feminist perspective to understand how power operates both in nurses and physicians' education and in its translation to practice settings. Critical appraisal of what is taught as well as how it is delivered and by whom could transform socialization of health professionals to fit with the findings of this study.

Furthermore, curricula pertaining to relational practice among interprofessional teams needs to be implemented as part of preservice training for students. Topics recommended could pertain to historical structural issues within nursing, communication strategies during conflictual encounters, recognition of shame, management scripts and adaptive responses to disrespectful encounters, cognitive rehearsal, resiliency, gratitude, happiness, and self-reflection. Readying new graduates for what they will encounter is essential to their mental health and career future as nurses and physicians, but this must be implemented first during pre-service training. If safe forums are established upon graduation that support pre-service education, healthier interprofessional collaborative practices are more likely to occur leading to enhanced patient care. These forums could provide spaces where beliefs and biases can be discussed. We must learn to work respectfully together within our own professions and between our professions without the assumption that IPC will organically occur without critical thought during the pre-service years.

### 5.4.5 Nursing research

This study is one of a paucity of research investigating shame in the nursing profession (Malouf & West, 2011). Further nursing research is recommended using both qualitative and quantitative methodologies (Shaughnessy, 2018). These studies are recommended to explore shame as a root cause of bullying and incivility. Other studies are recommended to focus on the use of cognitive rehearsal as an intervention strategy to prepare nurses and physicians to address bullying and incivility in themselves and others (Griffin & Clark, 2014; Smith 2011). Further nursing studies are recommended to empirically establish shame theory relationships and understand the social context of disrespectful interprofessional interactions.

Replication studies are also recommended in Canada, based on the study currently being carried out in Australia to study adaptive response strategies. Other intervention studies are recommended to focus on strategies targeting shame and also the means to overcome undermining disrespectful interprofessional interactions specifically between RPNs, RNs and Physicians (Westbrook et al., 2018; Atkinson, 2017).

## 5.5 Conclusion

In conclusion, in this study understanding relational variables that impact IPC was investigated. A revised theorized model was identified in which relationships between the contributing variables of warmth, respect, and shame management approaches of attack self, withdrawal, attack other were found to influence socialization in healthcare teams.

Eight findings were found to be significant in these variable relationships. These include healthcare professionals who display warmth are more likely to receive a high level of respect from team members. When high levels of warmth are present healthcare professionals are also more likely to receive high levels of competence from team members. When high degrees of competence are displayed, healthcare professionals are more likely to have high levels of

agreeableness from team members. The shame response of attack self accounted for some of the relationship between low respect and poor socialization through partial mediation. The shame response of attack other accounted for some of the relationship between low respect and poor socialization through partial mediation. The shame response of withdrawal accounted for the significant relationship between low respect and poor socialization through full mediation. RNs and RPNs feel less comfortable interacting with Physicians and feel less included as part of the team. These findings have implications for healthcare professionals, healthcare organizations, nursing policy, nursing post-secondary education and nursing research. A number of recommendations for these have been provided.

During this time of extreme hardship in the world the pandemic has revealed how very fragile our human relationships are with one another. Providing further nursing research that demonstrates the power of sharing shame experiences could lead healthcare professionals back to one another as the ultimate adaptive response to shame.

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# Appendix A Research Ethics Board Letter of Approval

Western Research

**Date:** 12 September 2018

**To:** Dr. Carole Orchard

**Project ID:** 112176

**Study Title:** Relational Variables Impacting Socialization in the Healthcare Team

**Application Type:** HSREB Initial Application

**Review Type:** Delegated

**Meeting Date / Full Board Reporting Date:** 02/Oct/2018

**Date Approval Issued:** 12/Sep/2018

**REB Approval Expiry Date:** 12/Sep/2019

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Dear Dr. Carole Orchard

The Western University Health Science Research Ethics Board (HSREB) has reviewed and approved the above mentioned study as described in the WREM application form, as of the HSREB Initial Approval Date noted above. This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

**Documents Approved:**

| Document Name | Document Type | Document Date | Document Version |
|---|---|---|---|
| Letter of Information C V1.4 112176 Aug 13 2018 | Written Consent/Assent | | |
| postcard FINAL C 112176 V1.5 Aug 27 2018 | Other Data Collection Instruments | 27/Aug/2018 | V1.5 |
| postcard FIRST REMINDER C 112176 V1.5 Aug 27 2018 | Other Data Collection Instruments | 27/Aug/2018 | V1.5 |
| postcard INITIAL C 112176 V1.5 Aug 27 1018 | Other Data Collection Instruments | 27/Aug/2018 | V1.5 |
| postcard SECOND REMINDER C 112176 V1.5 Aug 27 2018 | Other Data Collection Instruments | 27/Aug/2018 | V1.5 |
| Qualtrics Incentive Draw V1.2 | Online Survey | | |
| Qualtrics Questionnaire V1.2 | Online Survey | | |

**Documents Acknowledged:**

| Document Name | Document Type |
|---|---|
| Background and Rationale for the Study Reference List V1.2 | References |

No deviations from, or changes to, the protocol or WREM application should be initiated without prior written approval of an appropriate amendment from Western HSREB , except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000940.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Patricia Sargeant, Ethics Officer on behalf of Dr. Joseph Gilbert, HSREB Chair

***Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).***

## Appendix B Qualtrics Questionnaire

Participants' Profession: Physician

Registered Nurse

Registered Practical Nurse

Age:_____

Gender:_____

Number of years since the participant obtained their professional designation: _____

Educational preparation:_____

Number of years the participant has worked with other professionals such as Physicians, Registered Nurses or Registered Practical Nurses in a team:_____

While working on your clinical area with the Physician, Registered Nurse or Registered Practical Nurse, how often do you feel comfortable during these interactions?

| | | | | |
|---|---|---|---|---|
| Very Frequently | Occasionally | Rarely | Never | |

While working in your clinical area how often do you feel part of the team?

| | | | | |
|---|---|---|---|---|
| Very Frequently | Occasionally | Rarely | Never | |

Survey Package

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly = 1

Disagree moderately = 2

Disagree a little = 3

Neither agree nor disagree = 4

Agree a little = 5

Agree moderately = 6

Agree strongly = 7

I see myself as:

____ Extraverted, enthusiastic.

____ Critical, quarrelsome.

____ Dependable, self-disciplined.

____ Anxious, easily upset.

____ Open to new experiences, complex.

____ Reserved, quiet.

____ Sympathetic, warm.

____ Disorganized, careless.

____ Calm, emotionally stable.

____ Conventional, uncreative.

Think of a recent negative situation that you have experienced with another team member (Registered Practical Nurse, Licensed Practical Nurse, Registered Nurse, Physician) while working in your clinical area. Consider your feelings about that team member as you read and rate each of the following statements.

Please select (1) if you definitely disagree (3) if it's hard to say and (5) if you definitely agree

| | | | |
|---|---|---|---|
| She/he is a competent member of the healthcare team | 1 | 3 | 5 |
| She/he is an efficient member of the healthcare team | 1 | 3 | 5 |
| She/he is a clever member of the healthcare team | 1 | 3 | 5 |
| She/he is full of energy as a member of the healthcare team | 1 | 3 | 5 |
| She/he is a well-organized member of the healthcare team | 1 | 3 | 5 |
| She/he is a sincere member of the healthcare team | 1 | 3 | 5 |
| I think she/he is an honest person on the healthcare team | 1 | 3 | 5 |
| She/he is fair towards other members of the healthcare team | 1 | 3 | 5 |
| She/he is a loyal sort of person on the healthcare team | 1 | 3 | 5 |
| She/he is selfless as a member of the healthcare team | 1 | 3 | 5 |

Please continue to reflect on the same recent negative situation (as above) that you have experienced with another team member (Registered Practical Nurse, Licensed Practical Nurse,

Registered Nurse, Physician) while working in your clinical area, as you read each of the following statements.

Please select (1) if you definitely disagree (3) if it's hard to say and (5) if you definitely agree

Members of the healthcare team:

| | | | |
|---|---|---|---|
| Trust my ability to independently and self-reliantly perform well | 1 | 3 | 5 |
| Express criticism in an objective and constructive way | 1 | 3 | 5 |
| Recognize me as a full-fledged counterpart | 1 | 3 | 5 |
| Recognize my work | 1 | 3 | 5 |
| Show a genuine interest in my opinions and assessments | 1 | 3 | 5 |
| Do not try to hold me responsible for his/her own mistakes | 1 | 3 | 5 |
| Unequivocally stand up for me and my work against third parties | 1 | 3 | 5 |
| Treat me in a polite manner | 1 | 3 | 5 |
| Provide me with any information that is relevant to me | 1 | 3 | 5 |
| Take me and my work seriously | 1 | 3 | 5 |
| Interact in an open and honest way with me | 1 | 3 | 5 |
| Treat me in a fair way | 1 | 3 | 5 |

In the next set of questions, you are asked to select the rating that best reflects on an everyday experience you have with another team member (Registered Practical Nurse, Licensed Practical Nurse, Registered Nurse, Physician) while working in your clinical area.

Select the item in each statement that indicates the frequency with which you find yourself reacting.

Directions: Below is a list of statements describing situations you may experience from time to time. Following each situation are four statements describing possible reactions to the situation. Read each statement carefully and circle the number to the left of the item that indicates the frequency with which you find yourself reacting in that way. Use the scale below. Please respond to all four items for each situation.

**SCALE**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **NEVER** | **SELDOM** | **SOMETIMES** | **OFTEN** | **ALMOST ALWAYS** |

A. When an activity makes me feel like my strength or skill is inferior:

1 2 3 4 5 I don't let it bother me.

1 2 3 4 5 I get mad at myself for not being good enough.

1 2 3 4 5 I withdraw from the activity.

1 2 3 4 5 I get irritated with other people.

B. In competitive situations where I compare myself with others:

1 2 3 4 5 I criticize myself.

1 2 3 4 5 I try not to be noticed.

1 2 3 4 5 I feel ill will toward the others.

1 2 3 4 5 I ignore my mistakes.

C. In situations where I feel insecure or doubt myself:

1 2 3 4 5 I shrink away from others.

1 2 3 4 5 I blame other people for the situation.

1 2 3 4 5 I act more confident than I am.

1 2 3 4 5 I feel irritated with myself.

D. At times when I am unhappy with how I look:

1 2 3 4 5 I take it out on other people.

1 2 3 4 5 I pretend I don't care.

1 2 3 4 5 I feel annoyed at myself.

1 2 3 4 5 I keep away from other people.

E. When I make an embarrassing mistake in public:

1 2 3 4 5 I hide my embarrassment with a joke.

1 2 3 4 5 I blame myself for not being more careful.

1 2 3 4 5 I wish I could avoid being noticed.

1 2 3 4 5 I get mad at whoever embarrassed me.

F. When I feel lonely or left out:

1 2 3 4 5 I put myself down.

1 2 3 4 5 I pull away from others.

1 2 3 4 5 I blame other people for excluding me.

1 2 3 4 5 I don’t let it show.

G. When I feel others think poorly of me:

1 2 3 4 5 I feel like being by myself.

1 2 3 4 5 I want to point out their faults.

1 2 3 4 5 I deny there is any reason for me to feel bad.

1 2 3 4 5 I am aggravated by my mistakes.

H. When I think I have disappointed other people:

1 2 3 4 5 I get mad at them for expecting so much.

1 2 3 4 5 I cover my feelings with a joke.

1 2 3 4 5 I get down on myself.

1 2 3 4 5 I remove myself from the situation.

I. When I feel rejected by someone:

1 2 3 4 5 I soothe myself with distractions.

1 2 3 4 5 I repeatedly think about my imperfections.

1 2 3 4 5 I withdraw from the situation.

1 2 3 4 5 I get angry with them.

J. When other people point out my faults:

1 2 3 4 5 I get frustrated with myself for having them.

1 2 3 4 5 I feel like I'm shrinking.

1 2 3 4 5 I point out their faults.

1 2 3 4 5 I try not to feel bad.

K. When I feel humiliated:

1 2 3 4 5 I isolate myself from other people.

1 2 3 4 5 I get mad at people for making me feel this way.

1 2 3 4 5 I cover up the humiliation by keeping busy.

1 2 3 4 5 I get angry with myself.

L. When I feel guilty:

1 2 3 4 5 I push the feeling back on those who make me feel this way.

1 2 3 4 5 I disown the feeling.

1 2 3 4 5 I feel unworthy of being around other people.

1 2 3 4 5 I want to be alone.

Using the same scale please answer the statements below:

1 2 3 4 5 When an activity makes me feel like my strength or skill is inferior, I think of ways to improve myself in that area.

1 2 3 4 5 In situations where I feel insecure or doubt myself, I try to evaluate my abilities realistically.

1 2 3 4 5 When I make an embarrassing mistake in public, I remind myself that everyone makes mistakes.

1 2 3 4 5 When I feel lonely or left out, I talk to a friend.

1 2 3 4 5 When I feel others think poorly of me, I try to understand why they may think that way.

1 2 3 4 5 When I think I have disappointed other people, I consider whether there is something I should do to make things right.

1 2 3 4 5 When I feel rejected by someone, I spend time with other friends.

1 2 3 4 5 When other people point out my faults, I think about how I might change.

1 2 3 4 5 When I feel humiliated, I think about what I can do to change the situation.

1 2 3 4 5 When I feel guilty, I try to make amends.

Please indicate the degree to which you hold or display each of the beliefs, behaviours and attitudes that best fit your experience at this point in time.

You are asked to respond to each statement using a 7-point scale with 1 meaning "Not at All" and 7 meaning "To a Very Great Extent". Please respond by circling the one number that you feel best fits your experience. If you feel the statement does not apply to you, please use the zero value (0).

At this point in time, based on my participation in interprofessional clinical practice:

I am able to share and exchange ideas in a team discussion

7 6 5 4 3 2 1 0

I have gained an enhanced perception of myself as someone who engages in interprofessional practice

7 6 5 4 3 2 1 0

I feel comfortable in speaking out within the team when others are not keeping the best interests of the client in mind

7 6 5 4 3 2 1 0

I believe that the best decisions are made when members openly share their views and ideas

7 6 5 4 3 2 1 0

I feel comfortable in describing my professional role to another team member

7 6 5 4 3 2 1 0

I have gained an enhanced awareness of roles of other professionals on a team

7 6 5 4 3 2 1 0

I have gained an appreciation for the importance of having the client and family as members of a team

7 6 5 4 3 2 1 0

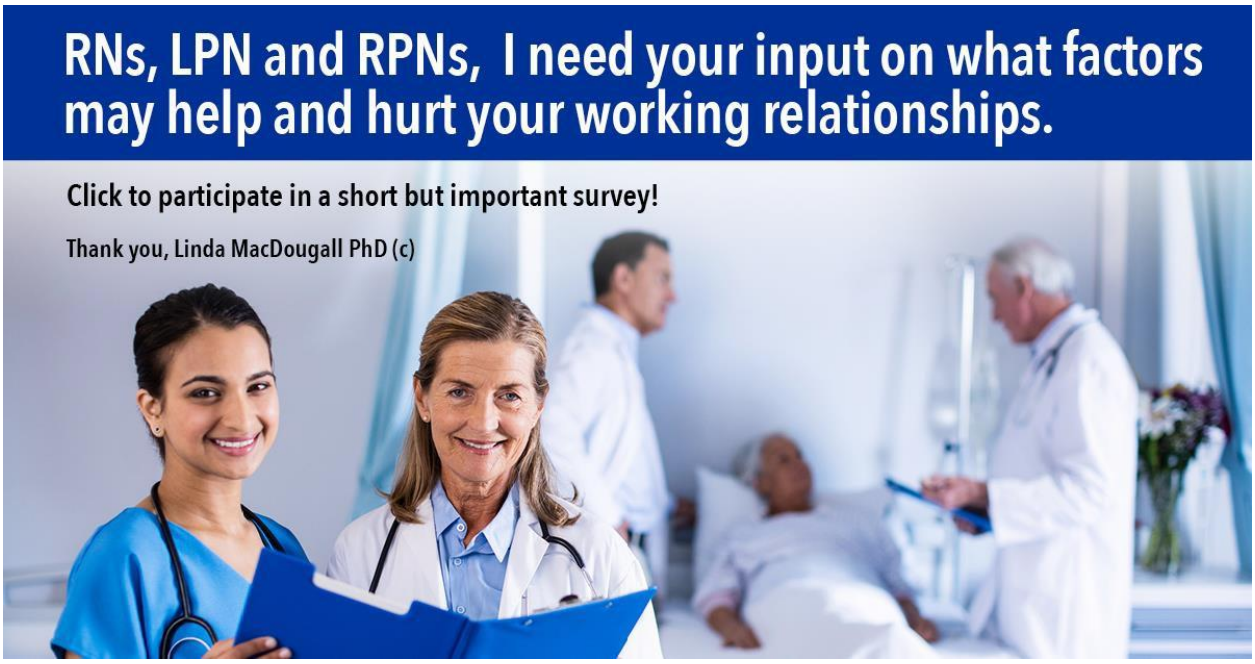
I am comfortable engaging in shared decision making with clients

7 6 5 4 3 2 1 0

I feel comfortable in accepting responsibility delegated to me within a team

7 6 5 4 3 2 1 0

**Appendix C LinkedIn Advertisement for Nurses**

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**Appendix D LinkedIn Advertisement for Physicians**

## Appendix E Email Message to Hospitals

Subject Line: Assistance required to share a link to an important interprofessional study

Hello,
I have been working on my PhD in Nursing at Western University to launch my study "Relational Variables that Impact Socialization in the Healthcare Team".

Is it possible that the url to my study could be given to hospital leaders in order for it to be forwarded to the email addresses of MD's, RN's and RPN's. If staff wanted to participate they would click on the embedded link within the email. The survey is anonymous. I would not have access to their email addresses.

I am interested in the factors that assist and impede working relationships between MDs, RNs and RPNs. I believe that interprofessional collaboration is essential to the retention of professional talent, the wellbeing of that talent as well as patient safety.

I attach my Western Research Ethics Board approval letter and a 1-page synopsis of my study.

I look forward to hearing back from you related to implementing this important research study.

Sincerely,
Linda MacDougall PhD (c)

## Appendix F Email Message for Nurses in Hospitals

Subject Line: What factors may help and hurt your working relationships?

Hello,

I am a PhD candidate writing to ask you to consider voluntarily participating in a research study.

This study aims to understand the factors that facilitate and disrupt working relationships between RN's, RPN's and MD's. How we get along may be key to our own and to patients' well-being.

The survey will take approximately 20 minutes to complete and is anonymous. Participants who complete the survey will be entered into a draw.

Please click on the following link if you would like to participate in this study:

https://tinyurl.com/y8np6p5f

Thank you in advance for considering this request.

Linda MacDougall PhD (c)

## Appendix G Email Message for Physicians in Hospitals

Subject Line: What factors may help and hurt your working relationships?

Hello,

I am a PhD candidate writing to ask you to consider voluntarily participating in a research study.

This study aims to understand the factors that facilitate and disrupt working relationships between MD's, RN's and RPN's. How we get along may be key to our own and to patients' well-being.

The survey will take approximately 20 minutes to complete and is anonymous. Participants who complete the survey will be entered into a draw.

Please click on the following link if you would like to participate in this study:

https://tinyurl.com/y8np6p5f

Thank you in advance for considering this request.

Linda MacDougall PhD (c)

## Appendix H Warmth and Competence Instrument

**Wojciszke, B., Abele, E., A., & Baryla, W. (2009). Two dimensions of interpersonal attitudes: Liking depends on communion, respect depends on agency. European Journal of Social Psychology, 39, 973–990. In the scale, the words "agency" and "respect" are synonymous with "agency" and the words "communion" and "liking" are synonymous with "communion".**

**Agency Scale (=Competence)**

*Definitely Disagree (1) It's hard to say (3) Definitely agree (5)*

She/he is a competent member of the healthcare team

She/he is an efficient member of the healthcare team

She/he is a clever member of the healthcare team

She/he is full of energy as a member of the healthcare team

She/he is a well-organized member of the healthcare team

**Communion Scale (=Warmth)**

*Definitely Disagree (1) It's hard to say (3) Definitely agree (5)*

She/he is a sincere member of the healthcare team

I think she/he is an honest person on the healthcare team

She/he is fair towards other members of the healthcare team

She/he is a loyal sort of person on the healthcare team

She/he is selfless as a member of the healthcare team

## Appendix I Ten Item Personality Inventory

Ten-Item Personality Inventory-(TIPI)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

Disagree strongly = 1

Disagree moderately = 2

Disagree a little = 3

Neither agree nor disagree = 4

Agree a little = 5

Agree moderately = 6

Agree strongly = 7

I see myself as:

1. _____Extraverted, enthusiastic.

2. _____Critical, quarrelsome.

3. _____Dependable, self-disciplined.

4. _____Anxious, easily upset.

5. _____Open to new experiences, complex.

6. _____Reserved, quiet.

7. _____Sympathetic, warm.

8. _____Disorganized, careless.

9. _____Calm, emotionally stable.

10. _____Conventional, uncreative.

---

TIPI scale scoring ("R" denotes reverse-scored items):

Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness; 3, 8R; Emotional Stability: 4R, 9;

Openness to Experiences: 5, 10R.

## Appendix J Respectful Leadership Scale

Recognition/Horizontal Respect Adaptation to Measurement Tool from “Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to

Author(s): Niels van Quaquebeke and Tilman Eckloff

Source: Journal of Business Ethics, Vol. 91, No. 3 (Feb., 2010), pp. 343-358

5-point Likert scale with each item answered ranging from a score of 1 (do not agree at all) to 5 (agree completely). A score of 12 would indicate a perception of low respect between members in the healthcare team. A score of 60 would indicate the perception of high respect between members in the healthcare team.

Members of the healthcare team:

1) "... trust my ability to independently and self-reliantly perform well,"

2) "... express criticism in an objective and constructive way,"

3) "... recognize me as a full-fledged counterpart,"

4) "... recognize my work,"

5) "... show a genuine interest in my opinions and assessments,"

6) "... do not try to hold me responsible for his/her own mistakes,"

7) "... unequivocally stand up for me and my work against third parties,"

8) "... treat me in a polite manner,"

9) "... provide me with any information that is relevant to me,"

10) "... take me and my work seriously,"

11) "... interact in an open and honest way with me,"

12) "... treat me in a fair way."

## Appendix K Interprofessional Socialization and Valuing Scale

### Interprofessional Socialization and Valuing Scale—9A (ISVS Equivalent Form A)

#### Introduction

This instrument is designed to help you explore your perceptions of what you have learned about working with professionals from other disciplines. Please complete the following questionnaire based on your own views of your experiences (through workshops, classes, or practice).

Please **indicate the degree to which you hold or display each of the beliefs, behaviours, and attitudes** that are described. You are asked to consider ***where you feel you are now***.

You are asked to respond to each statement using a 7-point scale with 1 meaning "Not at All" and 7 meaning "To a Very Great Extent". Please respond by circling the **one** number that you feel best fits your experience. If you feel the statement does not apply to you please use the zero value (0).

| **At this point in time, based on my participation in interprofessional education activities and/or clinical practice . . .** | To a Very Great Extent | To a Great Extent | To a Fairly Great Extent | To a Moderate Extent | To a Small Extent | To a Very Small Extent | Not at All | N/A |
|---|---|---|---|---|---|---|---|---|
| I am able to share and exchange ideas in a team discussion | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I have gained an enhanced perception of myself as someone who engages in interprofessional practice | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I feel comfortable in speaking out within the team when others are not keeping the best interests of the client in mind | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I believe that the best decisions are made when members openly share their views and ideas | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I feel comfortable in describing my professional role to another team member | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I have gained an enhanced awareness of roles of other professionals on a team | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I have gained an appreciation for the importance of having the client and family as members of a team | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I am comfortable engaging in shared decision making with clients | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| I feel comfortable in accepting responsibility delegated to me within a team | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

## Appendix L Compass of Shame Scale

CoSS (Version 5)

Name:_____ Gender:_____ Age:_____ Date:_____

Directions: Below is a list of statements describing situations you may experience from time to time. Following each situation are four statements describing possible reactions to the situation. Read each statement carefully and circle the number to the left of the item that indicates the frequency with which you find yourself reacting in that way. Use the scale below. Please respond to all four items for each situation.

**SCALE**

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **NEVER** | **SELDOM** | **SOMETIMES** | **OFTEN** | **ALMOST ALWAYS** |

A. When an activity makes me feel like my strength or skill is inferior:

1 2 3 4 5 1. I don't let it bother me.

1 2 3 4 5 2. I get mad at myself for not being good enough.

1 2 3 4 5 3. I withdraw from the activity.

1 2 3 4 5 4. I get irritated with other people.

B. In competitive situations where I compare myself with others:

1 2 3 4 5 5. I criticize myself.

1 2 3 4 5 6. I try not to be noticed.

1 2 3 4 5 7. I feel ill will toward the others.

1 2 3 4 5 8. I ignore my mistakes.

C. In situations where I feel insecure or doubt myself:

1 2 3 4 5 9. I shrink away from others.

1 2 3 4 5 10. I blame other people for the situation.

1 2 3 4 5 11. I act more confident than I am.

1 2 3 4 5 12. I feel irritated with myself.

D. At times when I am unhappy with how I look:

1 2 3 4 5 13. I take it out on other people.

1 2 3 4 5 14. I pretend I don't care.

1 2 3 4 5 15. I feel annoyed at myself.

1 2 3 4 5 16. I keep away from other people.

E. When I make an embarrassing mistake in public:

1 2 3 4 5 17. I hide my embarrassment with a joke.

1 2 3 4 5 18. I blame myself for not being more careful.

1 2 3 4 5 19. I wish I could avoid being noticed.

1 2 3 4 5 20. I get mad at whoever embarrassed me.

F. When I feel lonely or left out:

1 2 3 4 5 21. I put myself down.

1 2 3 4 5 22. I pull away from others.

1 2 3 4 5 23. I blame other people for excluding me.

1 2 3 4 5 24. I don't let it show.

G. When I feel others think poorly of me:

1 2 3 4 5 25. I feel like being by myself.

1 2 3 4 5 26. I want to point out their faults.

1 2 3 4 5 27. I deny there is any reason for me to feel bad.

1 2 3 4 5 28. I am aggravated by my mistakes.

H. When I think I have disappointed other people:

1 2 3 4 5 29. I get mad at them for expecting so much.

1 2 3 4 5 30. I cover my feelings with a joke.

1 2 3 4 5 31. I get down on myself.

1 2 3 4 5 32. I remove myself from the situation.

I. When I feel rejected by someone:

1 2 3 4 5 33. I soothe myself with distractions.

1 2 3 4 5 34. I repeatedly think about my imperfections.

1 2 3 4 5 35. I withdraw from the situation.

1 2 3 4 5 36. I get angry with them.

J. When other people point out my faults:

1 2 3 4 5 37. I get frustrated with myself for having them.

1 2 3 4 5 38. I feel like I'm shrinking.

1 2 3 4 5 39. I point out their faults.

1 2 3 4 5 40. I try not to feel bad.

K. When I feel humiliated:

1 2 3 4 5 41. I isolate myself from other people.

1 2 3 4 5 42. I get mad at people for making me feel this way.

1 2 3 4 5 43. I cover up the humiliation by keeping busy.

1 2 3 4 5 44. I get angry with myself.

L. When I feel guilty:

1 2 3 4 5 45. I push the feeling back on those who make me feel this way.

1 2 3 4 5 46. I disown the feeling.

1 2 3 4 5 47. I feel unworthy of being around other people.

1 2 3 4 5 48. I want to be alone.

Adaptive Scale Questions

1 2 3 4 5 49. When an activity makes me feel like my strength or skill is inferior, I think of ways to improve myself in that area.

1 2 3 4 5 50. In situations where I feel insecure or doubt myself, I try to evaluate my abilities realistically.

1 2 3 4 5 51. When I make an embarrassing mistake in public, I remind myself that everyone makes mistakes.

1 2 3 4 5 52. When I feel lonely or left out, I talk to a friend.

1 2 3 4 5 53. When I feel others think poorly of me, I try to understand why they may think that way.

1 2 3 4 5 54. When I think I have disappointed other people, I consider whether there is something I should do to make things right.

1 2 3 4 5 55. When I feel rejected by someone, I spend time with other friends.

1 2 3 4 5 56. When other people point out my faults, I think about how I might change.

1 2 3 4 5 57. When I feel humiliated, I think about what I can do to change the situation.

1 2 3 4 5 58. When I feel guilty, I try to make amends.

# Appendix M Initial Postcard

Western
Arthur Labatt Family
School of Nursing

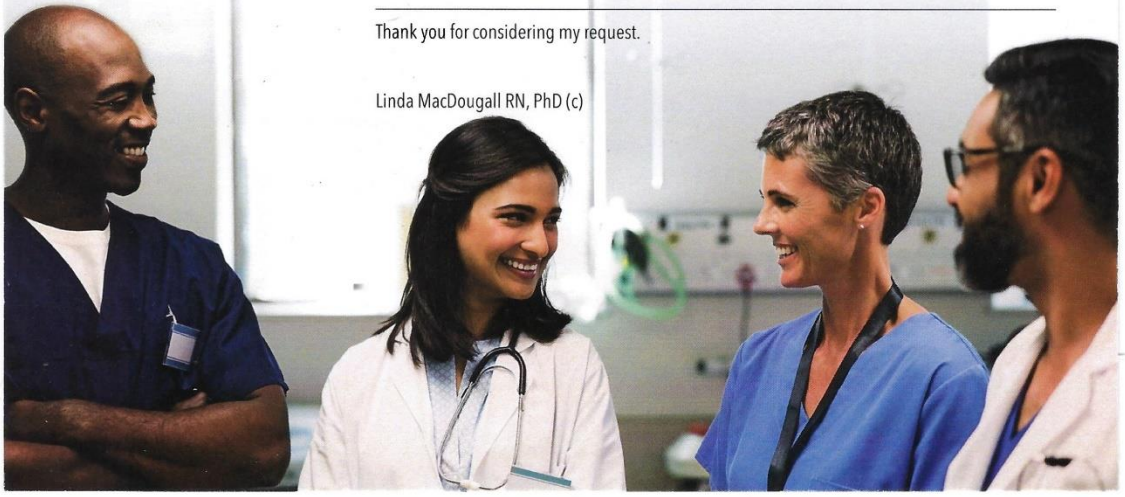
Dear Colleague,

I am a PhD nursing student at Western University in London, Ontario. You have been randomly selected from the College of Nurses or College of Physicians and Surgeons to participate in my study related to how you can make a difference to patients well-being by understanding the dynamics between nurses and doctors. The survey will take approximately 20 minutes to complete and is anonymous. Participants who complete the survey will be entered into a draw. Additional reminders will be sent.

**Please use the link: https://tinyurl.com/y8np6p5f to access the online questionnaire and ballot for the draw.**

Thank you for considering my request.

Linda MacDougall RN, PhD (c)



# Appendix N Second Postcard

Western
Arthur Labatt Family
School of Nursing

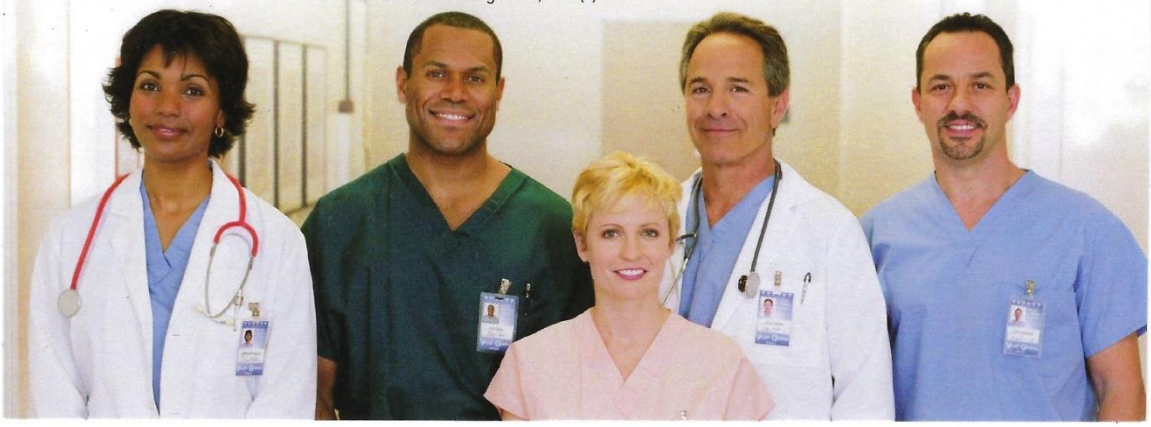
Dear Colleague,

This is a reminder of my survey. You can make a difference in patient well-being as I investigate the dynamics between nurses and doctors. You have been randomly selected from the College of Nurses or College of Physicians and Surgeons. The survey will take approximately 20 minutes to complete and is anonymous. Participants who complete the survey will be entered into a draw. Additional reminders will be sent.

**Please use the link: https://tinyurl.com/y8np6p5f to access the online questionnaire and ballot for the draw.**

Thank you for considering my request.

Linda MacDougall RN, PhD (c)



# Appendix O Third Postcard

Western
Arthur Labatt Family
School of Nursing

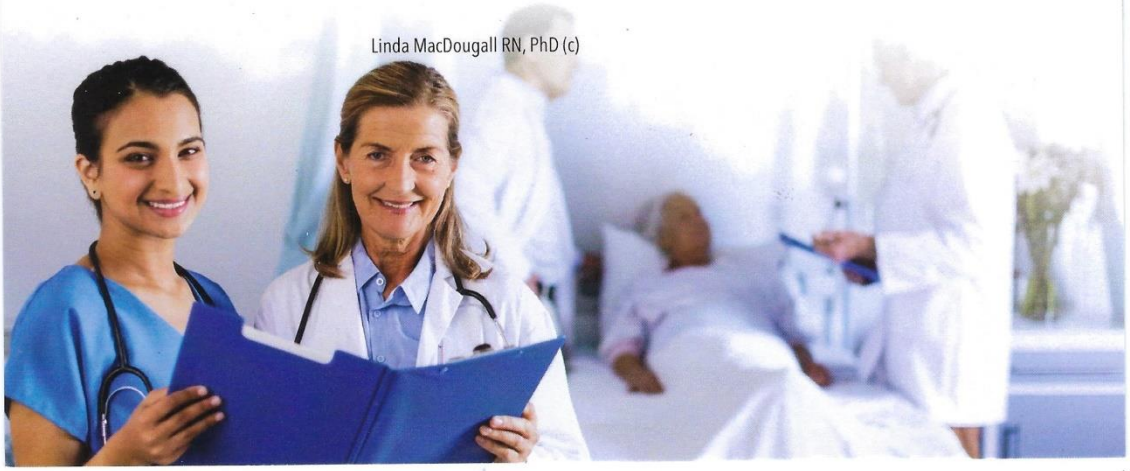
Dear Colleague,

It's not too late to contribute to this survey as I investigate the dynamics between nurses and doctors. How we get along is key to our own and to patients' well-being. You have been randomly selected from the College of Nurses or College of Physicians and Surgeons. The survey will take approximately 20 minutes to complete and is anonymous. Participants who complete the survey will be entered into a draw. Additional reminders will be sent.

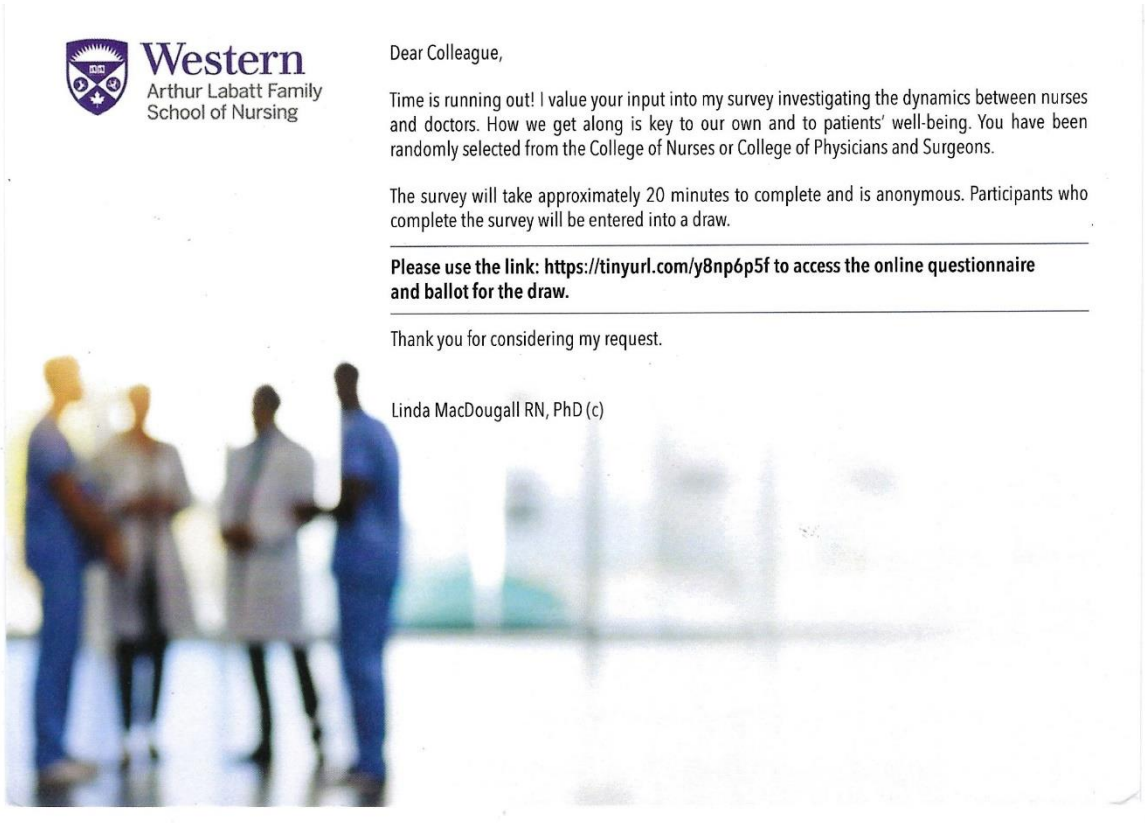
**Please use the link: https://tinyurl.com/y8np6p5f to access the online questionnaire and ballot for the draw.**

Thank you for considering my request.

Linda MacDougall RN, PhD (c)



# Appendix P Final Postcard



## Appendix Q Curriculum Vitae

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**Publications:**

Voth J, Jaber L, MacDougall L, Ward L, Cordeiro J & Miklas EP (2022) The presence of psychological distress in healthcare workers across different care settings in Windsor, Ontario, during the COVID-19 pandemic: A cross-sectional study. *Frontiers in Psychology*, *13*, 1-12. http://doi.org/10.3389/fpsyg.2022.960900

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