
Electronic Theses and Dissertations, 2004-2019

2015

Welcome to the Club: IGO Socialization and Dyadic Arms Transfers

Joseph Dimino
University of Central Florida



Part of the [International Relations Commons](#)

Find similar works at: <https://stars.library.ucf.edu/etd>

University of Central Florida Libraries <http://library.ucf.edu>

This Masters Thesis (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Electronic Theses and Dissertations, 2004-2019 by an authorized administrator of STARS. For more information, please contact STARS@ucf.edu.

STARS Citation

Dimino, Joseph, "Welcome to the Club: IGO Socialization and Dyadic Arms Transfers" (2015). *Electronic Theses and Dissertations, 2004-2019*. 1339.

<https://stars.library.ucf.edu/etd/1339>



WELCOME TO THE CLUB:
IGO SOCIALIZATION AND DYADIC ARMS TRANSFERS

by

J.T. DIMINO
B.A. Political Science, University of Central Florida, 2011

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts in Political Science
in the Department of Political Science
in the College of Sciences
at the University of Central Florida
Orlando, FL

Spring Term
2015

ABSTRACT

This thesis examines whether intergovernmental organizations (IGOs) can socialize member states by testing the effect of shared IGO memberships on dyadic arms transfers. IGO socialization is one of many proposed causal mechanisms by which IGO memberships might reduce interstate conflict. This thesis argues that the institutional socialization hypothesis (ISH), which asserts that shared IGO memberships will lead to interest convergence between member states, uses an invalid conceptualization and measurement of socialization. Instead, socialization is re-conceptualized as increased trust between member states, and re-operationalized using dyadic arms transfers as a proxy for trust. The study uses linear regression with cross-sectional panel data from the years 1960 to 1965 to test if the number of shared IGO memberships a dyad has five years prior leads to an increase in the number of arms transfers in a given dyad-year. The results are suggestive of a positive relationship between the number of shared IGO memberships and dyadic arms transfers, but are not conclusive at a 0.05 level of significance.

ACKNOWLEDGMENTS

I would like to thank first and foremost my thesis chair, Dr. Thomas Dolan. I can safely say that without Dr. Dolan's valuable insights, as well as his tireless patience and support through every step of the way, this thesis would not have been possible.

I would also like to thank Dr. Barbara Kinsey and Dr. Paul Vasquez. Dr. Kinsey provided important assistance regarding issues of data entry and data analysis. I greatly appreciate her help and her willingness to explain methods and commands which I did not fully grasp. Dr. Vasquez generously agreed without hesitation to my late request to include him as the final member of my thesis committee. I am very grateful for his willingness to participate at a moment's notice when my plans went awry and for his valuable insights during the proposal stage of my thesis.

Finally, I would like to thank my wonderful family for always being my biggest cheerleaders and supporters throughout my life and my academic career. I am so grateful for their ceaseless love and encouragement, and am very thankful to have all of them in my life.

TABLE OF CONTENTS

LIST OF TABLES	v
CHAPTER 1 INTRODUCTION.....	1
CHAPTER 2 LITERATURE REVIEW	3
CHAPTER 3 THEORETICAL FRAMEWORK	8
3.1 Identifying a Mechanism for IGO Socialization	8
3.2 Rethinking Measurements of Socialization.....	10
3.3 Considering International Activity.....	12
3.4 Hypotheses	13
CHAPTER 4 DATA AND METHODOLOGY	15
4.1 Unit of Analysis	15
4.2 Data	15
4.2.1 Dependent Variable	15
4.2.2 Independent Variables	16
4.2.3 Control Variables	17
4.3 Methodology	20
CHAPTER 5 RESULTS.....	22
CHAPTER 6 DISCUSSION	30
CHAPTER 7 SUGGESTIONS FOR FUTURE RESEARCH	37
REFERENCES	40

LIST OF TABLES

Table 4-1: Descriptive Statistics	20
Table 5-1: Linear Regression of Dyadic Arms Transfers, without dyadic activity controls	22
Table 5-2: Linear Regression of Dyadic Arms Transfers, with control for dyadic international activity.....	25
Table 5-3: Linear Regression of Dyadic Arms Transfers, with IGO/dyadic activity interaction.	27

CHAPTER 1 INTRODUCTION

The purpose of this thesis is to develop and contribute to the literature regarding the effects of shared memberships in intergovernmental organizations (IGOs) on violent interstate conflict. IGOs are formal organizations whose primary members are sovereign states. State membership in IGOs increased greatly throughout the twentieth century, with an especially rapid pace following World War II (Russett, Oneal and Davis 1998, 442). Given that memberships in IGOs have become so ubiquitous, it has become increasingly important to consider exactly why states join these organizations, and how membership in these organizations shapes interstate interactions. In the past two decades, increasing attention has been paid to the potential for IGO memberships to play a role in managing or even preventing interstate conflict. If IGO memberships do indeed play a role in shaping the dynamics of conflict and cooperation between states, then understanding such effects has important implications for more completely explaining such dynamics, and also normative and policy implications regarding the design of and membership in IGOs.

Despite the efforts of scholars to understand and measure how IGOs shape interstate interactions, there are still many unanswered questions. In particular, the theoretical literature addressing the causal mechanisms by which shared IGO memberships might affect violent interstate conflict is surprisingly underdeveloped. In addition, the empirical findings in the literature on the ability of IGOs to reduce violent interstate conflict have produced mixed results. This thesis helps fill these gaps in the literature by providing a theoretical framework that clearly specifies and tests a proposed causal mechanism and that makes an effort to explain past discrepancies in the empirical findings.

In particular, this thesis re-examines and re-operationalizes the “institutional socialization hypothesis” (ISH) (Bearce and Bondanella 2007, 1). The ISH suggests that shared membership in institutionally-strong IGOs will lead to interest convergence (i.e. higher affinity) over time and has found some empirical support in the literature. Building upon the literature testing the ISH, it is hypothesized that socialization that occurs within IGOs will instead lead to greater trust and friendly identification between members, and that the greater the number of fora between two states (the number of shared IGO memberships in a dyad), the stronger this effect will be.

In the next chapter, a brief review of the literature regarding IGO effects on interstate conflict is provided; a particular focus is given to literature regarding socialization as a causal mechanism and the gaps in this literature. Chapter 3 outlines the theoretical framework underlying the study and addresses gaps in the literature. The hypotheses of the study are also delineated in the third chapter: first, that the number of shared memberships in IGOs with more complex organizations structures will increase the number of arms transfers in a given dyad-year; and second, that the number of shared memberships in all IGOs will increase the number of arms transfers in a given dyad-year. Chapter 4 consists of an overview of the data and methodology utilized to test the hypotheses. Specifically, linear regression analysis with cross-sectional panel data will be used. In Chapter 5 the results of the analysis will be summarized, and Chapter 6 will provided analysis and discussion of these findings. Finally, in Chapter 7 a brief discussion of the implications of this study for the literature and for future studies is provided.

CHAPTER 2 LITERATURE REVIEW

In the late 1990s, a series of studies brought renewed interest in the role of IGOs in interstate conflict, conceptualizing membership in IGOs as contributing to a “virtuous cycle” (Oneal, Russett, and Davis 1998, 458) working as a single leg of the “Kantian Tripod for Peace” (Oneal and Russett 2001) along with democracy (Oneal, Russett, and Berbaum 2003; Pevehouse 2002; Pevehouse and Russett 2006) and trade (Mansfield and Pevehouse 2000). These studies’ findings indicate that shared IGO membership has a significant effect in reducing militarized interstate disputes between states; these effects remain significant after controlling for the pacific effects of levels of democracy, bilateral trade, and “realpolitik” (Oneal and Russett 1998, 453) variables such as military capabilities, formal alliances, and contiguity. However, these studies suffer from an unfortunately underspecified theoretical framework – while various potential causal mechanisms are identified by the authors, none are explicitly tested. This shortcoming left these studies vulnerable to challenge from studies seeking better specified theoretical underpinnings and those with different takes on the issue of causal priority.

The diversity of theoretical assumptions underlying research that followed these initial studies can be grouped into four major camps: the realist camp, the liberal institutionalist camp, the constructivist camp, and what could be considered a “hybrid” camp. While a scholar may not personally identify themselves as adhering to any of these labels, the categories can generally describe their approach to IGOs. Grouping the literature into these four camps not only allows us to see how broad groups of scholars understand and treat IGOs from a theoretical perspective, but each camp also emphasizes particular causal mechanisms over others, and so these groupings have important implications for both empirical research design and the interpretation of findings.

Modern realist thought overwhelmingly views states as unitary and rational actors, as well as the preeminent actors in the international system; the nature of state behavior of states is primarily if not exclusively thought to be shaped by the anarchical nature of the state system. In response to anarchy, states must consider and pursue relative gains in power above all else in order to ensure their survival (Mearsheimer 1994, 12). IGOs and institutions in general are considered merely “a reflection of the distribution of power in the world... [and so] institutions have minimal influence on state behavior” (Mearsheimer 1994, 7). Realists do not consider IGOs to be autonomous actors capable of producing changes in state behavior (Ruggie 1995, 65). Rather, IGOs in this view are *products* of state behavior, mirroring the current status quo (Mearsheimer 1994, 13), and realists point to “realpolitik” as the causal mechanism behind such behavior. However, these expectations lead to a contradiction and flaw inherent in realist thinking on IGOs: if states continually seek relative gains, why would states choose to join IGOs that only reflect the dynamics of the current balance of power?

The second theoretical camp, liberal institutionalism, has a different take on the role of IGOs in international relations. Liberal institutionalism and realism both view states as rational, unitary actors, and characterize the international system as anarchical. However, liberal institutionalists’ views diverge from realists in claiming that IGOs are capable of changing some of these underlying conditions in order to produce changes in state behavior through causal mechanisms such as providing information (Kinne 2013), making commitments more credible (Haftel 2007), reducing transaction costs (Shannon, Morey, and Boehmke 2010), arbitration (Prins and Daxecker 2007; Hansen McLaughlin, and Nemeth 2008) and establishing focal points for coordination and facilitating reciprocity (Keohane and Martin 1995, 42).

Despite the greater autonomy afforded IGOs in liberal institutionalist thought, the camp still places unnecessary limitations on the ways IGOs are conceived to shape state behavior; IGOs influence state behavior by changing the structural context in which states interact to promote their interests, not through the direct transformation of interests or identity (Keohane and Martin 1995, 41). But if changes in state behavior are merely a result of rational calculations on the part of states in response to exogenous conditions, then the effects of joining IGOs should manifest immediately, and behavior should fluctuate based on IGO memberships. However, recent studies into IGO socialization effects have provided evidence that run contrary to these expectations.

The constructivist camp challenges the realist and liberal institutionalist assumption of exogenous state interests. Instead, constructivists take the view that the content of state interests is determined endogenously. Constructivists view the main driving force of state behavior as states' collective understandings of their identities, as well as the social structures which reciprocally shape and are shaped by these identities (Wendt 1995, 71-2). IGOs are still considered autonomous (Barnett and Finnemore 1999, 707), but constructivists think IGOs can directly shape behavior.

The primary causal mechanism by which such shaping occurs, according to the constructivist camp, is through transforming state interests and the identities that motivate them (Bearce and Bondanella 2007, 707). The "institutional socialization hypothesis" (ISH) posits that "[IGOs] make member-state interests more similar over time, thus promoting interest convergence" (Bearce and Bondanella 2007, 703). Most commonly, this hypothesis has been tested using Gartzke's (1998) affinity measure for the similarity of a dyad's roll-call votes in the United Nations General Assembly (UNGA). The ISH has important implications for the study of IGO: "[s]ocialization... implies identity change" (Bearce and Bondanella 2007). If IGOs are

capable of transforming state identities and preferences rather than simply altering exogenous conditions, understanding exactly why/which states join IGOs and which IGOs can socialize become important discussions. Unfortunately, constructivist scholarship alone does not provide much light on these questions.

The fourth camp in the literature on IGOs and interstate conflict can be called the “hybrid” camp. This designation is appropriate because this camp is characterized by a conceptualization of IGO effects on interstate relations that contains elements of the other camps discussed, and can be considered theory-agnostic. Like realists, the hybrid camp views state behavior as being motivated primarily by the anarchical character of the international system; states will consider how their interests will be affected before joining any IGO (Abbot and Snidal 1998, 8). The hybrid camp, like liberal institutionalists, thinks IGOs can diminish the effects of anarchy on state behavior by providing more information (Abbot and Snidal 1998, 15) and by providing enforcement mechanisms to incentivize members to cooperate, and providing disincentives to defect (Abbot and Snidal 1998, 13). In addition to these exogenous pressures, as with constructivists the hybrid camp also shares the assumption of endogenous state interests. Accordingly, IGOs can also engage in “norm elaboration and coordination” (Abbot and Snidal 1998, 15) that directly alters the content of state interests.

Out of the four camps, the theoretical account of the hybrid camp is the most compelling. Not only can it account for the various state behaviors anticipated by the other three camps, but it can also provide a plausible account of the causal mechanisms that drive state behavior including why states join IGOs. Even so, there are still important gaps in the literature that must be considered: first, the causal mechanisms of socialization must be explicitly identified and tested; second, consideration must be given to what the most appropriate measure for IGO socialization

is. This thesis fills these gaps by identifying an explicit mechanism by which the socialization process takes place, and by re-operationalizing how socialization is measured.

CHAPTER 3

THEORETICAL FRAMEWORK

In order to perform a proper examination and test of the ISH, it is necessary to consider two problems: first, few if any quantitative analyses have been done to investigate the precise mechanism by which IGOs socialize members; second, the use of dyadic similarity in UNGA roll-call votes as a measurement of socialization is inherently problematic. For one thing, the motives behind UNGA votes are quite varied. Also, convergence in a dyad's UNGA roll-call votes could just as plausibly be related to exogenous conditions rather than changing endogenous interests or identities. This thesis addresses both of these concerns.

3.1 Identifying a Mechanism for IGO Socialization

As previously mentioned, studies using the hybrid camp's theoretical framework are generally in agreement with realist and liberal institutionalist expectations of rational behavior by states when designing and joining IGOs (Koremenos, Lipson, and Snidal 2001, 762). However, since membership in these IGOs can and does have a bearing on future outcomes (Koremenos, Lipson, and Snidal 2001, 762) we should not expect IGO design and membership to be a static phenomenon, nor that IGO membership effects will be limited to reducing the constraints of the state system. Rather, IGO membership leads to dynamic changes in member states' identities and preferences (Bearce and Bondanella 2007).

An important piece of the puzzle to identifying the process of state identity and interest transformation can be found through the interactive effects of the other Kantian Tripod variables, democracy and trade. For example, democracy, which has its own extensive peace literature¹, has

¹¹ See Ray (1998)

important interactive effects with IGO membership. In examining variations in democratic institutions between states and rates of IGO membership, evidence arose that institutions emphasizing consensus, negotiation, and compromise had more peaceful interstate relations and were more likely to join IGOs (Rey and Barkdull 2005). Another important finding in the literature suggests that democratic transitions are more successful when democratizing states are members of a greater number of democratic IGOs (Pevehouse 2002, 536).

Snyder (2013) provides a theoretical model for the IGO-based socialization of democratizing states that is consistent with these expectations and the hybrid camp theoretical framework. According to this model of socialization, illiberal states first experience competitive pressure on the world stage from liberal states, and decide to integrate themselves into the democratic-capitalist system (Snyder 2013, 37). This leads to a “rushing stage” (Snyder 2013, 37) in which they are pressured to make concessions and adopt democratic-capitalist norms in order to gain membership in the institutions that benefit the more competitive liberal states (Snyder 2013, 37-8). These new norms and practices become so ingrained in the state’s own domestic institutions and are so widely embraced by society that eventually pro-liberal norms parties are able to form winning coalitions (Snyder 2013, 39).

An additional and important consideration is that not all IGOs are created equally. Findings in the literature suggest that the level of complexity of an IGO’s organizational structure plays a key role in its ability to reduce interstate conflict (Boehmer, Gartzke, and Nordstrom 2004). This makes sense because IGOs not endowed with the necessary mechanisms for socializing states to adopt similar norms and identities would not be expected to effect change within the theoretical framework proposed.

3.2 Rethinking Measurements of Socialization

The most common measure used for studying the ISH is the affinity index developed by Gartzke (1998, 14). The measure uses data on UNGA roll-call votes to create an index between negative one (-1) and positive one (+1), from no similarity in voting to perfect similarity in voting. Studies wanting to test the ISH measure changes in dyadic affinity over time to see if there is a convergence of interests, and if this is correlated with the number of shared memberships in IGOs². However, even if UNGA roll-call votes are a suitable proxy for state interests – acknowledged to be a shaky proposition even by scholars who use the measure – such a finding would not necessarily give evidence for socialization as a mechanism. Key to the conceptual definition of socialization is the idea of internalization (Bearce and Bondanella 2007, 707). Changes in UNGA roll-call votes could have a number of possible causes, including changes in calculations based on exogenous factors such as more information or reduced transaction costs. In order to truly see “socialization” occur within IGOs, we need to see a change in identities and perceptions by member states.

Measuring state identity and perceptions is admittedly tricky. These concepts are fairly abstract, relating to how a state sees itself and others; a valid measurement requires identifying some sort of observable phenomenon that can proxy these abstract concepts. It is argued that any such measure should meet some basic requirements to be valid. First, whatever observable phenomenon is chosen should demonstrate a gradual change over time. This is important because socialization is theorized to occur over an extended period of time, not instantaneously (Bearce and Bondanella 2007, 716). Second, considering that the ISH relates to states adapting more

² See for example Bearce and Bondanella (2007)

similar identities and perceptions of each other, the operationalization of socialization should use a measure that reflects a level of trust and perceptions of friendly intent.

In order to re-operationalize and test the ISH, it is proposed that an increase in dyadic arms transfers be used as a proxy for measuring levels of trust and perceptions of friendly intent. Due to the issues of state security inherent in the process of arms transfers, dyadic arms transfers satisfies the first requirement because an increase in arms transfers between states should not happen overnight, but should change gradually based on a state's level of trust and perceptions of intent of another state. Since arms transfers directly relate to issues of state security, it makes sense that states that transfer arms to one another have a certain amount of trust in each other, as states have no absolute guarantees that military technologies they provide to another state will not be used against them at some time in the future.

Literature on the relationship on the relationship between arms transfers and interstate conflict is surprisingly thin, and no studies were found that directly related to shared IGO memberships or socialization. Findings by Krause (2004) suggested that transfers from major powers made states more likely to be targets and initiators of militarized interstate disputes (MIDs). Sullivan, Tessman, and Li (2011) counterintuitively found that US military aid (which included arms transfers) reduced foreign policy cooperativeness with recipients. However, these two studies are not good indicators of the potential of changes in dyadic arms transfers as a proxy for socialization.

First, these studies look only at major power dyads (particularly the United States) which have been shown to behave differently than other dyads and are generally controlled for in studies

involving IGO memberships.³ Second, the theoretical model developed in this thesis to test the ISH predicts a relationship between shared IGO memberships and dyadic arms transfers, or supplier-recipient dyad; Krause's (2004) findings only focuses on the recipient half of the dyad, and only then when the recipient received arms from a major power, while Sullivan, Tessman, and Li (2011) only considers a single, major power supplier. Third, neither of these studies considers shared IGO memberships, which is theorized to be an important consideration regarding trust and friendly identification and behavior between states.

3.3 Considering International Activity

Finally, there are a couple of dimensions of IGO socialization that are often taken for granted or given only the most basic of treatment in the literature – namely opportunity and willingness. In his paper on the democratic peace, Gartzke makes the important point that in addition to controlling for opportunities for conflict “[such as] the physical obstacles nations face in engaging in war” (Gartzke 1998, 1), it is important to also consider states’ willingness to conflict. Likewise, in examining the process of IGO socialization, it is both important to consider states’ opportunities to socialize/be socialized, as well as states’ willingness to socialize/be socialized.

It seems intuitive to suggest that states’ opportunities to socialize/be socialized by IGOs will be reflected in their decisions to join IGOs in the first place. Therefore, the number of shared memberships in IGOs already covers the dimension of opportunity. The willingness to socialize/be socialized, on the other hand, is a little less straightforward. In previous studies, the

³ See Oneal and Russett (1998; 1999) on this precedent

willingness dimension regarding IGOs was reflected in a measure of state affinity.⁴ Since the validity of the affinity measure is being called into question with regards to the IGO socialization process, however, an alternative measure of this dimension must be devised. It seems apparent that the willingness of states to socialize/be socialized within the context of IGOs will depend on how active and engaged states are internationally. IGOs should theoretically socialize states more effectively when those states are involved and invested in the international system. This operationalization of willingness is also consistent with Snyder's (2013) aforementioned model of how illiberal states become socialized. In summary, a dyad's ability to socialize/be socialized within the context of IGOs is proposed to be a function not only of its shared memberships in IGOs but also the dyad's level of engagement internationally.

3.4 Hypotheses

Now that a theoretical framework for the process of socialization has been specified, testable hypotheses can be developed. Since we are interested in testing the ISH, we must determine whether or not there is a relationship between shared IGO memberships and our proxy for socialization, dyadic arms transfers. Since previous studies used a different operationalization of socialization, it is possible that effects of socialization were imperfectly captured if captured at all. It therefore seems worthwhile to first test the relationship on a general and wide population of IGOs. If evidence of socialization can be found when examining all IGOs using the new operationalization, it would lend support to this re-specified model and operationalization. This hypothesis can be framed as follows:

⁴ Gartzke (1998); Bearce and Bondanella (2007)

H1: *In any given dyad-year, highly-active dyads with more shared memberships in all types of IGOs will lead to an increase in arms transfers five year later.*

However, it is clear from previous research and findings in the literature that not all IGOs should be expected to have the same level of effectiveness when it comes to socialization. Specifically, we should expect that the most highly-institutionalized IGOs will have the greatest socializing effects⁵. In order to account for these conditions, a second hypothesis is constructed as follows:

H2: *In any given dyad-year, highly-active dyads with more shared memberships in all types of IGOs will lead to an increase in arms transfers five year later.*

Together these two hypotheses should provide an adequate test of the ISH using the re-specified theoretical model and operationalizations developed in this study.

⁵Boehmer, Gartzke, and Nordstrom (2004)

CHAPTER 4 DATA AND METHODOLOGY

4.1 Unit of Analysis

The two hypotheses are tested using data analyzed at the dyad-year unit of analysis. Each pair of states (dyad) for which data exists will be examined between the years 1960 and 1965. These years were chosen in part due to time and data constraints, and also because these years represent a time of decolonization and independence which could provide greater opportunities to see changes in states' identities as they join IGOs independent of their colonizer states. Analyzing data spanning over these years will provide a large-N sample with which to test the hypotheses. Using dyads rather than monads also allows for a greater number of observations as multiple combinations of states can be considered for each year. In addition, using dyads rather than monads is necessary to test the proposed socialization mechanism, as it will allow for the examination of the relationship and interactions between pairs of states over time.

4.2 Data

4.2.1 Dependent Variable

DYADIC ARMS TRANSFERS is a continuous variable that measures the total transfers of weaponry, vehicles, and technologies designated for militarized use between two states in a given year. The variable is coded using data from the SIPRI Arms Transfer Trend Indicator Value database (<http://portal.sipri.org/publications/pages/transfer/tiv-data>, 2014) and aggregated to produce a total arms transfers value for a given dyad-year. The data will be restricted to arms transfers occurring between the years of 1960 and 1965, however data going back to 1955 will be

used in order to make use of a time lag as discussed below. If there are no arms transfers recorded for a particular dyad-year, this variable will assume a value of zero (0) for the purposes of the analysis. As discussed above, the data will be used as a proxy for trust and friendly identification within a dyad, since states are expected to be more willing to engage in arms transfers with those states that they trust more and identify as friendly. The SIPRI database seems to be the most comprehensive list of arms transfers available, and therefore provides the best measurement of the variable.

4.2.2 Independent Variables

SHARED IGO MEMBERSHIPS is a continuous variable that counts the number of shared memberships in IGOs in a dyad-year. The data for dyadic IGO memberships is taken from Bearce and Bondanella (2007, 713), which used data from the CoW dyadic IGO dataset (Pevehouse, Nordstrom, and Warnke 2004).

Another independent variable included from Bearce and Bondanella's (2007) dataset is *EXTRA IGO CONTACT*. This is a continuous variable operationalized as the lowest number of diplomatic missions conducted between the members of a dyad-year. The variable proxies a dyad's overall level of international activity. This is an important variable because as previously mentioned, the level of international activity among dyad members is theorized to be an important indicator of the likelihood for states to join IGOs and to be socialized as members of the international community.

An interaction variable, *MEMBERSHIPS x CONTACT*, is constructed as a continuous variable and operationalized as the product of the number of shared IGO memberships by the level of dyadic international activity. The previous two independent variables will be combined to

create this new variable. It is important to include this interaction variable because as mentioned above a measure of socialization must include both opportunity *and* willingness to socialize/be socialized with the context of IGOs, and the dyads with the greatest amount of shared IGOs membership and international activity are expected to be the most strongly socialized.

4.2.3 Control Variables

Using the variable-design methodology found in Bearce and Bondanella (2007), the lagged dependent variable $DYADIC\ ARMS\ TRANSFERS_{t-1}$ will be included as a control. Such a control is necessary since socialization is being operationalized as a change in dyadic arms transfers, and not just total number of arms transfers; using the lag as a control allows us to measure the change in dyadic arms transfers between each year.⁶ The variable is constructed exactly as the dependent variable (see above); the only difference will be the one-year lag.

As mentioned above, IGOs are just one leg of the Kantian Tripod of Peace. Due to the possibility of overlap of effects between measures of IGOs, democracy, and interdependence, as well as the important role regime type and trade play in the theoretical model, the potential effects of the other two legs of the tripod must be controlled. In order to maintain compatibility with other studies, the convention of the “weak link” assumption that the least-constrained state is the most likely to initiate conflict (Russett, Oneal, and Davis 1998; Oneal and Russett 1999) is used.

$INTERDEPENDENCE_L$ is a measure of interdependence, defined as the lowest value of a dyad-year’s ratio of bilateral trade to gross domestic product (GDP). Bearce and Bondella’s (2007) dataset already contains the data from the Correlates of War (Pevehouse, Nordstrom, and Warnke 2004), and the variable from that article will be used in this analysis. The level of democracy of

⁶ See Bearce and Bondanella (2007, 713) for more on the logic of such a design

states in a dyad must also be controlled. *DEMOCRACY_L* is operationalized and coded using data and methods from the Polity IV dataset (Marshall and Jaggers 2012). The dataset contains ratings of both democracy and autocracy which are combined into a single scale of negative ten (-10), or most autocratic, to positive ten (+10), or most democratic; the lowest score between both members of the dyad will be used. Using the weak link assumption not only maintains compatibility with other studies, but also provides a fairly large scale with which to measure relatively small degrees of difference in state polities. Additionally, this measure should allow us to test whether or not pacifying democratic norms are playing any role in levels of conflict between states.

The study also controls for common “realpolitik” variables which will serve to control for alternative theoretical frameworks and explanations of state behavior, such as realist expectations that IGOs are reflections of the balance of power in the system. *ALLIANCE* is a dichotomous variable coded zero (0) if a dyad does not have a formal military alliance in a given dyad-year, and one (1) if the state does have a formal military alliance in a given dyad-year. The data is taken from the CoW’s Alliances dataset (Gibler 2009), which contains data on dyadic formal alliances. A formal alliance in this dataset includes defense pacts, neutrality or non-aggression treaties, and entente agreements. It is important to include this variable in order to ensure that any increases in arms transfers are not a result of a military alliance between two states.

MAJOR POWER is a dichotomous variable coded zero (0) if a dyad does not contain a state that is considered a major power in the international system, and one (1) if a dyad does contain such a state. This variable is coded using data from the CoW’s State System Membership List, which contains a list of major powers in the state system (Correlates of War 2011). It is important to include a control for major powers in the model for two main reasons: first, to maintain

compatibility with prior studies⁷; second, and as discussed above, the literature suggests that major powers may have different foreign policy behaviors from other states that would skew the proposed relationships being tested⁸.

RELATIVE MILITARY POWER is a control variable that measures the ratio of the log of the stronger state's military capabilities to the log of the weaker state's military capabilities, producing a range of values between 0 and 10. This data comes from the Bearce and Bondanella (2007) dataset, which uses the Correlates of War (Pevehouse, Nordstrom, and Warnke 2004) dataset. It is an important control variable because it will control for realist explanations regarding interstate behavior.

DISTANCE is a continuous variable measuring the distance in miles between the dyad's national capitals. Distance is commonly used as a control variable when analyzing Kantian Tripod variables because it can be a proxy for interaction opportunities between dyad members. The data comes from the Bearce and Bondanella (2007) dataset, which used data from the Correlates of War (Pevehouse, Nordstrom, and Warnke 2004) dataset.

See Table 4-1 below for a summary of descriptive statistics for all of these variables.

⁷The use of hegemony or major powers as a control variable has been common practice since the precedent set by Oneal and Russett (1998; 1999)

⁸Krause (2004); Sullivan, Tessler, and Li (2011)

Table 4-1: Descriptive Statistics

Variable	Mean	Standard deviation	Min	Max
<i>DYADIC ARMS TRANSFERS</i>	3.971	416.184	0	150043
<i>TOTAL IGO</i>	11.287	5.406	1	64
<i>STRUCT/INTV IGOs</i>	9.689	3.969	0	36
<i>EXTRA IGO CONTACT</i>	20.993	16.326	1	109
<i>IGOs x CONTACT</i>	315.261	355.912	1	6100
<i>INTERDEPENDENCE_L</i>	0.0003	0.002	0	0.086
<i>DEMOCRACY_L</i>	-4.887	5.767	-10	10
<i>ALLIES</i>	0.087	0.282	0	1
<i>MAJOR POWER</i>	0.051	0.221	0	1
<i>RELATIVE MIL POWER</i>	2.063	1.562	0	10.269
<i>DISTANCE</i>	4730.391	2790.295	5	12347

4.3 Methodology

Six models are presented that test the hypothesis. Each model uses linear regression with cross-sectional panel data. Three of the six models will use the total population of IGOs in the *SHARED IGO MEMBERSHIPS* count. IGOs with more-structured bureaucracies have been found to be more effective at socializing states relative to those with less-structured bureaucracies (Boehmer, Gartzke, and Nordstrom 2004), and so the other three models use a variable from Bearce and Bondanella's (2007, 713) dataset to represent memberships in IGOs that are classified

as either “structured” or “interventionist.” These IGO types have more highly-developed bureaucratic structures, with mechanisms to implement policies as well as enforcement mechanisms to make sure states follow these policies (Boehmer, Gartzke, and Nordstrom 2004, 18); the typology itself was developed using data from the Yearbook of International Organizations (Union of International Associations 2013). It seems more likely that structured and interventionist IGOs may be more likely to socialize members than those that are not.

A Hausman test is performed to determine whether a random effects model or fixed effects model best represents the data. Random effects models assume that individual specific effects are not correlated with the independent variables contained in the model; fixed effects models control for correlation between specific effects and independent variables. Linear regression is an appropriate method to test the hypotheses using data with dyad-year as the unit of analysis and an interval-level dependent variable because it can isolate changes over time in a large-n sample of cases; it can also control for changes in independent variables over time.

CHAPTER 5 RESULTS

After constructing random effects models and fixed effects models to test the hypotheses, a Hausman test was conducted. The results determined that the fixed effects model was the most appropriate to test the hypotheses. Since fixed effects models take into account collinearity, variables that maintain the same value across the time period studied are omitted from the analysis; consequently, *MAJOR POWER* and *DISTANCE* are omitted from the reports below, as their values did not change for any of the dyads for the period studied.

Table 5-1: Linear Regression of Dyadic Arms Transfers, without dyadic activity controls

	<i>STRUCTURED/INTERVENTIONIST IGOs</i>	<i>ALL IGOs</i>
<i>Lagged DV</i>	-0.256** (0.008)	-0.256** (0.008)
SHARED IGO MEMBERSHIPS †	-0.657 (1.429)	-0.605 (1.275)
DEMOCRACY _L	0.272 (0.847)	0.268 (0.847)
INTERDEPENDENCE _L	-7208.126* (4065.205)	-7117.655* (4067.786)
ALLIES	-1.627 (40.794)	-1.649 (40.794)
RELATIVE MILITARY POWER	6.178 (12.26)	6.158 (12.261)
<i>Constant</i>	8.848 (26.794)	9.175 (26.925)
<i>N</i>	17,117	
<i>R</i> ²	0.006	

Notes: Cell entries are ordinary least squares (OLS) coefficients with robust standard errors indicated in parentheses. Results rounded to nearest one thousandth. * Indicates statistical significance with 90% or greater confidence. **Indicates statistical significance with 99% or greater confidence.

†Lagged five (5) years

Table 5-1 (above) presents two models – one for all IGOs and another for the subset of structured and interventionist IGOs – which examine the relationship between shared IGO memberships and dyadic arms transfers without any controls for the level of international activity within the dyad. The amount of arms transfers from the previous year is the sole significant variable in this model, and it is significant at the 0.001 level for memberships in both structured and interventionist IGOs and IGOs in total. Interestingly, the relationship between this variable and dyadic arms transfers is negative. At face value, this finding indicates that having a greater number of dyadic arms transfers the year before leads to a smaller number of arms transfers the following year. Due to the parameters of the data, however, this may not be the case; a plausible and alternative interpretation of this finding will be discussed in the next chapter.

Shared IGO memberships, the main independent variable, is insignificant in both of these models. Additionally, it runs in the opposite direction than that which is expected for all IGOs as well as the structured/interventionist subset of IGOs. This would suggest that contrary to the hypothesized relationship, the number of shared IGO memberships within a dyad five years prior seems to lead to fewer arms transfers between dyad members in a given year.

The other Kantian Tripod variables – the level of democracy within a dyad and the level of interdependence within a dyad – are also insignificant in these models. They do run in the expected direction, with more democratic dyads more likely to trade arms than less democratic dyads; this is consistent with the socialization hypothesis. The level of interdependence within a dyad, on the other hand, approaches significance at the 0.05 level but does not run in the expected direction. However, we will see below that re-specifications of the models will find the variable both switches direction and becomes less significant.

Turning to the realist variables, the relationship between the relative capabilities ratio of the dyad members runs in the expected direction, but is insignificant at the 0.05 level. Military alliances between dyad members are likewise insignificant, but the relationship runs in a different direction than expected. Overall then, in these two models the realist variables appear to play no role in determining the number of arms transfers in a dyad.

The overall Pearson's R of these first two models is 0.006. This means that the model explains sixth-tenths of a percent of the variation in dyadic arms transfers. However, this model does not control for the level of international activity within the dyad, which is theorized to be an important component in IGO socialization. Adding in this component improves the explanatory power of the models, as seen below.

Regarding the dependent variable control, the re-specified models in Table 5-2 continue to find a highly significant relationship between the number of dyadic arms transfers in a given year and the number of dyadic arms transfers from the previous year. The variable also continues to run in the negative direction, suggesting that on average the number of dyadic arms transfers in the previous year will lead to fewer transfers the next year. The strength of the effect remains approximately the same, suggesting that controlling for the level of dyadic activity only has a small influence on the relationship between dyadic arms transfers between years.

The models in Table 5-1 did not find a significant relationship between the number of shared IGO memberships and dyadic arms transfers. However, these models did not control for the level of international activity within the dyad, which is theorized to play an important role in the socialization of IGOs as discussed above. In Table 5-2 (below), a control for *EXTRA IGO ACTIVITY* is included. This variable includes the lowest number of diplomatic missions conducted by a member of a dyad, so as this number increases dyads become more active overall. This

control, when included, is highly significant in both models; in fact it is significant to the 0.001 level. Counterintuitively, however, the relationship between this variable and dyadic arms transfers runs in the opposite direction from what is expected. This could indicate that the two variables are connected to or correlated with dyadic arms transfers, and merits further investigation. This possibility will be explored further in the models in Table 5-3.

Table 5-2: Linear Regression of Dyadic Arms Transfers, with control for dyadic international activity

	<i>STRUCTURED/INTERVENTIONIST IGOs</i>	<i>ALL IGOs</i>
<i>Lagged DV</i>	-0.257** (0.008)	-0.257** (0.008)
SHARED IGO MEMBERSHIPS[†]	0.427 (1.617)	0.515 (1.416)
EXTRA IGO CONTACT	-1.569** (0.33)	-1.577** (0.331)
DEMOCRACY_L	0.329 (0.851)	0.332 (0.851)
INTERDEPENDENCE_L	-5351.086 (4107.413)	-5380.785 (4109.089)
ALLIES	-4.01 (40.989)	-3.994 (40.989)
RELATIVE MILITARY POWER	0.054 (12.406)	0.078 (12.406)
<i>Constant</i>	47.327 (28.812)	46.015 (28.71)
<i>N</i>	17566	
<i>R</i> ²	0.011	

Notes: Cell entries are ordinary least squares (OLS) coefficients with robust standard errors indicated in parentheses. Results rounded to nearest one thousandth. * Indicates statistical significance with 90% or greater confidence. ** Indicates statistical significance with 99% or greater confidence.

[†]Lagged five (5) years

When the level of international activity in a dyad is controlled, the relationship between shared IGO memberships and the number of dyadic arms transfers remains insignificant, but

switches to the expected, positive direction. This could suggest a more nuanced relationship exists between the level of international activity in a dyad and the number of shared memberships in IGOs with regards to dyadic arms transfers. Table 5-3 (below) addresses this possibility with the inclusion of a new interaction variable that continues to increase in value when dyads are both more active internationally and have a greater number of shared memberships in IGOs.

Once again, neither of the Kantian Tripod variables in the Table 5-2 models is found to have a significant relationship with dyadic arms transfers. The models differ, however, in that interdependence no longer approaches significance. Both variables continue to follow the same directions as they did in the first two models; the level of democracy in the dyad has a positive – though insignificant – relationship with dyadic arms transfers, while interdependence continues to run in the counterintuitive negative direction.

In examining the realist variables in these new models, we find that both relative military power and distance still are not significant indicators for the number of dyadic arms transfers. Additionally, both variables continue to run in the same directions from the previous models – relative military power continues to run in the expected, positive direction, while allies continues to run in the unexpected, negative direction.

Overall, these new models have a Pearson's R value of 0.011. This is nearly double the value of the models in Table 1, and indicate that adding in a control for the level of international activity within a dyad gives models of dyadic arms transfers more explanatory power. However, our main independent variable continues to remain insignificant, while the level of international activity within the dyad runs in a counterintuitive direction.

As mentioned above, Table 5-3 includes an interaction variable for dyadic international activity and the number of shared IGO memberships in a dyad. When this interaction variable is

included, some interesting changes occur. Most notably, the interaction variable is significant at the 0.001 level; the variable runs in the negative direction, which while surprising does not necessarily contradict the theory or hypotheses. Possible explanations and interpretations of this finding will be discussed in the next chapter. Additionally, the dyadic international activity variable now runs in the expected, positive direction, but has been rendered insignificant with the inclusion of the interaction variable.

Table 5-3: Linear Regression of Dyadic Arms Transfers, with IGO/dyadic activity interaction

	<i>STRUCTURED/INTERVENTIONIST IGOs</i>	<i>ALL IGOs</i>
<i>Lagged DV</i>	-0.261** (0.008)	-0.261** (0.008)
SHARED IGO MEMBERSHIPS[†]	2.789 (1.721)	2.545* (1.536)
EXTRA IGO CONTACT	0.518 (0.448)	0.175 (0.411)
MEMBERSHIPS x CONTACT	-0.141** (0.02)	-0.082** (0.011)
DEMOCRACY_L	0.085 (0.867)	0.091 (0.867)
INTERDEPENDENCE_L	155.904 (4223.976)	3711.061 (4324.476)
ALLIES	-3.332 (41.438)	-9.131 (41.432)
RELATIVE MILITARY POWER	-3.157 (12.85)	-2.796 (12.845)
<i>Constant</i>	20.42 (30.296)	13.599 (0.451)
<i>N</i>	17201	
<i>R</i> ²	0.011/0.009	

Notes: Cell entries are linear regression coefficients with robust standard errors indicated in parentheses. Results rounded to nearest one thousandth. *Indicates statistical significance with 90% or greater confidence. ** Indicates statistical significance with 99% or greater confidence
[†]Lagged five (5) years

Shared IGO memberships remains insignificant at the 0.05 level, but it is worth noting that for the total IGO population, the variable is significant at the 0.1 level (0.098), and approaches this level of significance in the subset population (0.105); in both models the variable continues to run in the expected direction, consistent with the hypothesis. Combined with the significance of the interaction variable, these findings are suggestive of a relationship consistent with the hypotheses, though they are not conclusive.

There are some similarities for the Kantian Tripod variables in Table 5-3 as well as some important differences. Both the democracy variable and interdependence variable remain insignificant like in the previous models. In addition, the democracy variable continues to run in the expected, positive direction. However, a key difference in the Table 5-3 models is that the interdependence variable now runs in the expected, positive direction rather than the negative one. This is consistent with previous findings and the theory behind IGO socialization though the variable is not significant in these models.

The trends present in the previous models for the realist variables continue in the models in Table 5-3 as well. Both the military alliance variable and the relative military power variable remain insignificant as in previous models. In addition, the relative military power variable continues to run in the expected, positive direction, while the military alliance variable still runs in the unexpected, negative direction.

A final notable difference between these models and the previous ones is that the overall Pearson's R values for the total population of IGOs and the subset of structured/interventionist IGOs have different values to the thousandth. For the total population, the model has a Pearson's R value of 0.009, which is a slight decrease from the previous model's value of 0.011. The subset, on the other hand, has a Pearson's R value of 0.011, remaining unchanged from the Table 5-2

models. The Table 5-3 models will be used for analysis because while the Pearson's R is nearly identical to the previous models, the results in the latter models point in the direction of a relationship consistent with the theory and hypotheses. Additionally, a more nuanced look at the breakdown of Pearson's R values make the Table 5-3 models more compelling, and this will be discussed in more detail below. In the next chapter, the implications arising from the models presented above are discussed and potential explanations and interpretations for unexpected findings are given.

CHAPTER 6 DISCUSSION

The preceding findings are suggestive of the relationship proposed in the two hypotheses, and by extension for the theorized process of state socialization through IGOs. However, the findings are not definitive – shared IGO memberships were alternatively significant at the 0.1 level or rested right at the border. Further study will be required in order to examine the relationships more closely. The findings also leave us with some unresolved questions and issues which will be discussed and for which potential explanations will be proposed.

Another point drawn from the findings is that looking at shared IGO memberships and dyadic international activity as fundamentally separate and unrelated components of socialization can lead to findings and results that do not match the reality of the process. In the first models – which did not include international activity – shared IGO memberships not only had a negative relationship with dyadic arms transfers, but the relationship was insignificant. In the next set of models, which included a control for dyadic international activity, the shared IGO memberships variable changed direction but remained insignificant; the dyadic international activity variable was significant, but the indicated direction of its effect was counterintuitive. It was only when including an interaction variable that took into account both the level of international activity in a dyad and greater participation in the same IGOs that shared IGO memberships approached significance, though international activity was rendered insignificant.

It is a bit puzzling, however, that the interaction variable is significant while the level of international activity is insignificant, and while the number of shared IGO memberships is significant only at the 0.1 level. One of the most basic explanations for this finding involves important points regarding the nature and frequency of occurrences of dyadic arms transfers

requires important consideration. Specifically, dyadic arms transfers occurred in 1,462 dyad-years during the period studied out of a total of 203,828 total dyad-years in the dataset. Moreover, only 17,201 dyad-years out of the 203,828 dyad-years were analyzed in the final model due to missing data, and consequently at least some of the 1,462 occurrences of dyadic arms transfers were likely excluded from the analysis as well.

Regardless of the ultimate number of occurrences of dyadic arms transfers present in the data, the number of occurrences relative to the total number of observations in the data shows that it is much less likely for an arms transfer to occur in a given dyad-year than it is for one to occur. In fact, in many cases the data suggest that dyadic arms transfers during the period studied were a one-off occurrence if they even occurred in the first place. Indeed, despite arms transfers from the previous year being a significant predictor of arms transfers in the next year – with each transfer the previous year leading to -0.261 fewer arms transfers the following year. Additionally, in many if not most cases a dyad-year with a large number of dyadic arms transfers was followed by a dyad-year with no dyadic arms transfers. It is possible that the direction of the interaction variable is simply a product of the fact that arms transfers are overall unlikely to occur in a given dyad-year.

Another possibility is that the interaction variable is not just the product of its parts but is instead more nuanced. Including the interaction variable controls for outliers, such as dyads that have high levels of international activity but share few IGO memberships, or vice-versa. Additionally, the negative direction could simply indicate that the effects of the interaction are not perfectly linear; it is possible they taper off once a certain critical value is reached, and the interaction variable adjusts for this.

Another interesting finding was that there did not seem to be any notable difference between relationships found in the models for the total population of IGOs and the subset of structured/interventionist IGOs. The original expectation was that IGOs with higher levels of institutionalization would be more effective at socializing states than those with lower levels of institutionalization. This assumption was consistent with the findings⁹ that indicated a large difference in the size of the socialization effect between the total population of IGOs and the more-institutionalized subset. This study followed the precedent of looking at structured/interventionist IGOs separately as a subset. However, it is possible that beyond the absolute number of these IGOs, the proportion of shared IGO memberships that are highly-institutionalized may matter for the purposes of socialization. Future studies could investigate this possibility further.

It was also unexpected for the other two Kantian Tripod variables – the level of democracy and the level of interdependence within the dyad, to be insignificant. A possible explanation for this is that the Kantian Tripod variables are in fact correlated to an extent. Another possibility, though an unlikely one, is that the effect of socialization within IGOs is so powerful as to render the level of democracy in a dyad or the interdependence of a dyad irrelevant – though it should be noted that out of all the variables that were significant at the 0.05 and 0.1 levels, the number of shared IGO memberships had the largest absolute value.

The realist variables were also found to be insignificant, which is surprising considering the strategic calculations that intuitively appear to be inherent in transferring arms. Not only were these variables insignificant, but in the case of military alliances ran in the opposite direction than expected, suggesting that the existence of an alliance could be associated with fewer dyadic arms

⁹Bearce and Bondanella (2007, 725)

transfers. One possibility for this finding is that the five-year period (from 1960-65) occurred during a particularly turbulent stretch of international relations involving arms transfers, including the Cuban Missile Crisis and the Vietnam War. The existence of strategic arms transfers between states without official military alliances may simply be part and parcel of the times, and could have interfered with the analysis. This possibility could be remedied by changing the time scope in future studies; it is doubtful that strategic considerations could be removed from the analysis entirely however.

Another important point to address is the fact that while the findings are suggestive, the highest Pearson's R value for the models is only 0.0105, meaning it explains about 1.1 percent of the total variation in the data. In other words, they explain very little regarding the occurrence of dyadic arms transfers overall. However, the aim of this study was to try to find evidence of socialization, not to create a predictive model for arms transfers. To show that socialization is occurring does not require a complete explanation of levels of trust between states (operationalized here as the number of dyadic arms transfers), but only needs to show that the level of trust within the dyad is increasing. To that end, the data is enticingly conspicuous.

Additionally, some interesting observations arise if we take a more nuanced view of Pearson's R. Linear regression analysis can break down the cross-sectional panel data into within-group variation and between-group variation. In this conceptualization, the "groups" refer to the dyad-years unit of analysis. Within-group variations refers to variations over time in a given dyad, while between-group variation refers to variations between dyads in a given year.

Recall now that the overall Pearson's R value for the first group of models was only 0.006. If we examine the Pearson's R values for each dimension of the group separately, we get a better picture of how well the model performs. The first group of models has a within-group Pearson's

R value of 0.074; in other words, the first group of models explains 7.4 percent of the variation in dyadic arms transfers in a given dyad over time. The first group of models' between-group Pearson's R value, on the other hand, is 0.538/0.537; this means that the first group of models explains almost 54 percent of the variation between dyads in a given year, which is substantially more impressive. This suggests that the model performs better at explaining variations between dyads rather than variations over time.

The models from the second group, which include a control for dyadic international activity but not an interaction variable, have an overall Pearson's R value of 0.011. Looking at the variation separately, however, reveals a within-group Pearson's R value of 0.076 and a between-group Pearson's R value of 0.434/0.437. This model does a slightly better job of explaining variations over time but the ability to explain variations between dyads in a given year has decreased. Still, the second group of models performs better overall than the first; adding in the control for dyadic international activity resulted in a slight increase in variation over time which nearly doubled the overall explanatory power for the models, despite the lower between-group explanatory power.

Finally, the third group of models, which includes an interaction variable for shared IGO memberships and dyadic international activity, has an overall Pearson's R value of 0.011/0.009. The within-group Pearson's R value for these models is 0.08, and the between-group Pearson's R value for the models is 0.565/0.624. Interestingly, while both the within-group and between-group Pearson's R values increased between the second and third tables, the overall Pearson's R values stayed the same and decreased slightly, respectively. The fact that including the interaction variable adds explanatory value on both counts, but especially for the between-group values, is yet another reason why considering the Table 5-3 models is justified.

Note that the explanatory power for variation between dyads increased noticeably between the first and final iterations, while the explanatory power for variation within dyads remained fairly constant. Considering the discussion above regarding the relative infrequency with which dyadic arms transfers occur, it does not seem surprising then that the model has little success explaining the total variation in dyadic arms transfers over time. It is possible that increasing the time scope of the study may help to increase the number of data points that can be used to explain the variations. As noted above, however, this is irrelevant to the ultimate question posed by this study. On the other hand, the variables in the models do account for a large amount of the variations in arms transfers between dyads in any given year.

Also worthy of consideration are the variables that were ultimately omitted from the analysis, namely the major power variable and the distance variable. These variables were omitted because their values did not vary between dyad-years, and fixed effects models assume the possibility of collinearity. While using the random effects model may have produced different results, the Hausman tests indicated that it was not the appropriate type of model to use for the analysis. Regardless, while major powers might undoubtedly have more opportunity (and perhaps willingness) to transfer arms, this facet of the relationship between major powers and dyadic arms transfers should be adequately captured by the relative military power variable.

One important implication that this study highlights is that it is important to consider both the conceptual definition and operationalization of terms when constructing and testing theory. In thinking more carefully about both the meaning of socialization and the potential causal mechanisms behind it, it became possible not only to create a more appropriate conceptualization of socialization as it occurs between states, but also develop hypotheses that could more effectively test whether or not the process of socialization was being facilitated by IGOs. However, this

operational definition is not without its drawbacks – while the limited number of dyadic arms transfers that occur in a given year can be useful for a more controlled analysis, it is also a drawback in that the sheer number of non-cases might water down the analysis. Future studies may be able to address this problem, as will be discussed in the final chapter.

In summary, the study has shown preliminary support to the hypotheses and the theory outlined above. Socialization appears to be occurring over time. Specifically, friendly identification and levels of trust, measured by the number of dyadic arms transfers in a given year, seems to have a positive relationship with a dyad's number of shared IGOs memberships. Additionally, a dyad's level of international activity plays a crucial role in the socialization process. Suggestions for how to use these findings to improve and extend future research will be provided in the next chapter.

CHAPTER 7

SUGGESTIONS FOR FUTURE RESEARCH

As is evident from this study, many questions still remain. First and foremost among the concerns raised by the study is the fact that while it was suggestive of a relationship, it did not provide conclusive evidence for the ISH at the 0.05 level. Future studies will be necessary to test the relationship further. One way this could be done could be to increase the sample size of dyadic arms transfers, since the occurrence of dyadic arms transfers is relatively uncommon. The scope of this study was limited to the years 1960 through 1965 due to time constraints, but data is available for arms transfers from the years 1950 through to the present day. In addition, the larger the sample of arms transfers in the dataset, the more external validity the study should have.

Relatedly, in order to test the ISH, this study used the previously-established practice of putting a five year lag on the number of shared IGO memberships within the dyad. However, while five years is theorized to be a sufficient amount of time for socialization to occur, it is ultimately an arbitrary number and future studies could benefit by experimentally lengthening the lag to see if socialization effects become more apparent in a dyad over a greater span of time.

One of the interesting findings in the study is that the subset of more-institutionalized IGOs was not found to have a stronger socializing effect than the total populations of IGOs as expected. However, this possibility still needs to be tested further for more evidence. It is suggested that future attempts to test the ISH include a variable that looks at the proportion of shared IGO memberships that are highly-institutionalized rather than using highly-institutionalized IGOs as a subset.

As previously discussed, socialization is a particularly tricky concept to operationalize. It is difficult to find a concrete measurement that can proxy the effects of socialization. While it has

been argued that a change in dyadic arms transfers is an appropriate operationalization of socialization, and though the findings are suggestive of the existence of a relationship using this operationalization, there are certain drawbacks to this given operational definition as discussed above. An important endeavor in future studies should be to refine both the theory and terms to ensure valid findings; to this end it is important to consider and test other potential measures for socialization in future studies to see if models of socialization gain more explanatory value and achieve greater levels of significance. Importantly, any potential measures should take into account the dimensions of a dyad's opportunity and willingness.

Also, though this study attempts to address multiple gaps in the current literature on IGO membership effects on interstate conflict – specifically the ability of IGOs to shape state behavior through socialization and increased trust – further avenues of research in this vein still remain. The scope of this thesis is limited to better specifying the theory behind IGO membership effects on interstate conflict and re-operationalizing socialization empirically to see if socialization occurs within IGOs. While this is an important contribution and a step forward in the literature, it does not answer the question of whether or not this type IGO-based socialization leads to lower rates of interstate conflict. If more support is found for the ISH in future studies, the next step will be to test for a relationship between IGO socialization and interstate conflict

Additionally, while socialization is one proposed mechanism by which IGOs would reduce interstate conflict, there are multiple proposed causal mechanisms for these effects. Due to the complexity of state behavior and variations in IGO design, it is possible that more than a single mechanism could be at work; these mechanisms do not necessarily supplant but rather could complement each other, as proposed in the hybrid camp literature (Abbot and Snidal 1998; Bearce and Bondanella 2007). All of the various proposed causal mechanisms behind IGO membership

and interstate conflict should be rigorously tested in order to refine theory and further develop the literature.

REFERENCES

- Abbott, Kenneth W., and Duncan Snidal. 1998. "Why States Act through Formal International Organizations." *The Journal of Conflict Resolution* 42(1): 3–32.
- Barbieri, Katherine and Omar Keshk. 2012. Correlates of War Project Trade Data Set Codebook, Version 3.0. Online: <http://correlatesofwar.org>.
- Barbieri, Katherine, Omar M. G. Keshk, and Brian Pollins. 2009. "TRADING DATA: Evaluating our Assumptions and Coding Rules." *Conflict Management and Peace Science*. 26(5): 471-491.
- Barnett, Michael N., and Martha Finnemore. 1999. "The Politics, Power, and Pathologies of International Organizations." *International Organization* 53(4): 699–732.
- Bearce, David H., and Stacy Bondanella. 2007. "Intergovernmental Organizations, Socialization, and Member-State Interest Convergence." *International Organization* 61(4): 703–733.
- Bennett, D. Scott, and Allan Stam (2008). *EUGene* Version 3.202. Website: <http://eugenesoftware.org>
- Bennett, D. Scott, and Allan Stam. 2000. "EUGene: A Conceptual Manual." *International Interactions* 26:179-204. Website: <http://eugenesoftware.org>.
- Boehmer, Charles, Erik Gartzke, and Timothy Nordstrom. 2004. "Do Intergovernmental Organizations Promote Peace?" *World Politics* 57(1): 1–38.
- Correlates of War Project. *Direct Contiguity Data, 1816-2006*. Version 3.1. Online: <http://correlatesofwar.org>.
- Correlates of War Project. 2011. "State System Membership List, v2011." Online, <http://correlatesofwar.org>.

- Donno, Daniela. 2010. "Who Is Punished? Regional Intergovernmental Organizations and the Enforcement of Democratic Norms." *International Organization* 64(04): 593–625.
- Gartzke, Erik. 1998. "Kant We All Just Get Along? Opportunity, Willingness, and the Origins of the Democratic Peace." *American Journal of Political Science* 42(1): 1.
- Ghosn, Faten, Glenn Palmer, and Stuart Bremer. 2004. "The MID3 Data Set, 1993–2001: Procedures, Coding Rules, and Description." *Conflict Management and Peace Science* 21:133-154
- Gibler, Douglas M. 2009. *International military alliances, 1648-2008*. CQ Press.
- Haftel, Y. Z., and Alexander Thompson. 2006. "The Independence of International Organizations: Concept and Applications." *Journal of Conflict Resolution* 50(2): 253–75.
- Hansen, H. E., S. McLaughlin Mitchell, and S. C. Nemeth. 2008. "IO Mediation of Interstate Conflicts: Moving Beyond the Global versus Regional Dichotomy." *Journal of Conflict Resolution* 52(2): 295–325.
- Keohane, Robert O., and Lisa L. Martin. 1995. "The Promise of Institutionalist Theory." *International Security* 20(1): 39–51.
- Kinne, B. J. 2013. "IGO Membership, Network Convergence, and Credible Signaling in Militarized Disputes." *Journal of Peace Research* 50(6): 659–76.
- Koremenos, Barbara, Charles Lipson, and Duncan Snidal. 2001. "The Rational Design of International Institutions." *International Organization* 55(4): 761–99.
- Krause, Volker. 2004. "Hazardous Weapons? Effects of Arms Transfers and Defense Pacts on Militarized Disputes, 1950-1995." *International Interactions* 30(4): 349–71.
- Mansfield, Edward D., and Jon C. Pevehouse. 2000. "Trade Blocs, Trade Flows, and International Conflict." *International Organization* 54(4): 775–808.

- Marshall, Monty G. and Keith Jagers. 2013. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2012*. Version p4v2012d. College Park, MD: Center for International Development and Conflict Management, University of Maryland. Website: <http://www.systemicpeace.org/inscr/inscr.htm>
- McLaughlin Mitchell, Sara, and Paul R. Hensel. 2007. "International Institutions and Compliance with Agreements." *American Journal of Political Science* 51(4): 721–37.
- Mearsheimer, John J. 1994. "The False Promise of International Institutions." *International Security* 19(3): 5–49.
- . 1995. "A Realist Reply." *International Security* 20(1): 82–93.
- Oneal, John R., and Bruce Russett. 1999. "The Kantian Peace: The Pacific Benefits of Democracy, Interdependence, and International Organizations, 1885–1992." *World Politics* 52(01): 1–37.
- Oneal, John R., Bruce Russett, and Michael L. Berbaum. 2003. "Causes of Peace: Democracy, Interdependence, and International Organizations, 1885-1992." *International Studies Quarterly* 47(3): 371–93.
- Pevehouse, Jon C. 2002. "Democracy from the Outside-In? International Organizations and Democratization." *International Organization* 56(3): 515–49.
- Pevehouse, Jon C., Timothy Nordstrom, and Kevin Warnke. 2004. "The COW-2 International Organizations Dataset Version 2.0," *Conflict Management and Peace Science* 21(2):101-119.
- Pevehouse, Jon, and Bruce Russett. 2006. "Democratic International Governmental Organizations Promote Peace." *International Organization* 60(4): 969–1000.

- Ray, James Lee. 1998. "Does Democracy Cause Peace?" *Annual Review of Political Science* 1(1): 27–46.
- Rey, Denis, and John Barkdull. 2005. "Why Do Some Democratic Countries Join More Intergovernmental Organizations Than Others?" *Social Science Quarterly* 86(2): 386–402.
- Ruggie, John G. 1995. "The False Promise of Realism." *International Security* 20(1): 62–70.
- Russett, Bruce M., and John R. Oneal. 2001. *Triangulating Peace: Democracy, Interdependence, and International Organizations*. New York: Norton.
- Russett, Bruce, John R. Oneal, and David R. Davis. 1998. "The Third Leg of the Kantian Tripod for Peace: International Organizations and Militarized Disputes, 1950–85." *International Organization* 52(03): 441–67.
- Shannon, Megan, Daniel Morey, and Frederick J. Boehmke. 2010. "The Influence of International Organizations on Militarized Dispute Initiation and Duration: The Influence of International Organizations." *International Studies Quarterly* 54(4): 1123–41.
- Singer, J. David. 1987. "Reconstructing the Correlates of War Dataset on Material Capabilities of States, 1816-1985" *International Interactions* 14: 115-32.
- Stinnett, Douglas M., Jaroslav Tir, Philip Schafer, Paul F. Diehl, and Charles Gochman. 2002. "The Correlates of War Project Direct Contiguity Data, Version 3." *Conflict Management and Peace Science* 19(2):58-66.
- Sullivan, Patricia L., Brock F. Tessman, and Xiaojun Li. 2011. "US Military Aid and Recipient State Cooperation." *Foreign Policy Analysis* 7(3): 275–94.
- Union of International Associations. 2013. "Yearbook of International Organizations 2013-2014: Statistics, Visualizations, and Patterns." SI: Brill.

Wendt, Alexander. 1995. "Constructing International Politics." *International Security* 20(1): 71–81.