

# THE FRONT END OF INTERDISCIPLINARITY: An Acculturation Framework For Explaining Varieties Of Engagement

by

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**Abstract:** Scholars trained and credentialed in disciplines have a vast array of response options when challenged to engage with others from other disciplinary backgrounds. By considering the ways in which disciplines are like cultures and putting acculturation theory squarely into the domain of interdisciplinary studies, this article takes a new look at these variations. My aim is to undertake a systematic exploration of adjustment processes of the individual disciplinary scholar involved in interdisciplinary work. I discern two fundamental adjustment responses that characterize interdisciplinary engagement: disciplinary maintenance and participation in another discipline. The context for this research is international business (IB) studies, a discipline in which scholars come regularly into contact with research from diverse disciplinary backgrounds. I use a study of scholars from two adjacent subject areas – East Asian studies and economic geography – to explore the many ways scholars make themselves familiar with IB specific repertoire. Consistent with the well-established acculturation modes, my exploration suggests that interdisciplinarity of those in these fields can take on the form of assimilation, integration, separation, and marginalization. I find that scholars' academic background has differential effects on the outcomes of interdisciplinary engagement.

**Keywords:** acculturation theory, East Asian studies, economic geography, business studies, disciplinary cultures, careers, interdisciplinarity

## Introduction

Processes underlying the integration of disciplinary perspectives have provoked considerable attention in the interdisciplinary studies literature (e.g., Klein & Newell, 1997). Fundamentally, interdisciplinary research maps competing notions of vibrancy (Ambrose, 2006) and disorder (Giddens, 1991). Tapping into multiple forms of knowledge and methods subverts cherished disciplinary routines (Uzzi, et al., 2013) and, as a consequence, a large share of interdisciplinary projects, in academia or industry, fail to realize their potential (e.g., v.d.Vengt & Bunderson, 2005; Disis & Slattery, 2010) especially when projects involve radical or discontinuous innovations (Bessant, 2008). Simply put, interdisciplinarity and setbacks are virtually inseparable.

Although our understanding of the complexities and challenges of the process of doing interdisciplinary work is relatively advanced (e.g., Szostak, et al., 2013; Klein, 1990), the front end of interdisciplinary efforts, especially the response options among scholars confronted with opportunities to engage beyond the usual boundaries of their disciplinary work, is still poorly understood. While general success factors have been identified (e.g., National Academies, 2005), it is largely unclear which specific processes guide engagement and adaptation decisions and which aspects determine the outcomes of these processes. The main reason for our scant knowledge concerning the early stages of interdisciplinary engagement resides in the fuzzy links at the crossroads of disciplinary grounding and interdisciplinary context (e.g., Mansilla, 2005). In the early stages of the engagement process ideas and expectations about how to make use of interdisciplinary opportunities usually exist only in the minds of those considering whether or not to transcend disciplinary boundaries (Lyall, et al., 2011). This lack of articulation makes transactional effects (between individuals and an interdisciplinary situation) hard to track. Although recent studies have looked at group cohesion (e.g., Stokols, et al., 2005; Marzano, et al., 2006; Rhoten, 2004), leadership (e.g., Gray, 2008; Stokols, et al., 2008), and, more generally, cognitive and emotional aspects influencing interdisciplinary research capacity-building processes (e.g., Bruce, et al., 2004; Scott, 1997; Bergami & Bagozzi, 2000), to my knowledge, research has not been directed at interpersonal processes before someone even begins – or decides to begin – transcending disciplinary boundaries.

Individual accounts are crucial for expanding our understanding of interdisciplinary scholarship (Murray, 1986; Nicholson, 1987), and

this article shifts the focus of exploring interdisciplinarity away from “interdisciplinarians,” that is, those already involved in (and committed to) a situation requiring interdisciplinary work, to the forces shaping the engagement strategies of “sojourning scholars,” i.e. those academics, who, though trained and credentialed in one discipline, find themselves in situations where work with those in other disciplines is necessary. Because people construct their self-concept through transactions with their environment (Tajfel & Turner, 1979), I specifically focus on situations when scholars interact either directly with disciplinary institutions (e.g., publication outlets, funding applications, university management) or indirectly (e.g., conferences, reviewers, working groups). So although the external context may suggest conditions under which transcending disciplinary boundaries seems valuable (e.g., Bammer, 2002), I will argue that interdisciplinary engagement already begins with the interplay between the motivational climate (to opt in or out of interdisciplinary work) and a sense of disciplinary identity, especially in instances where something is at stake when individuals blend disciplinary ideas.

For the purpose of analysis, and building on generalist views of interdisciplinarity (see Repko, et al., 2014), I base this study on three premises: (i) the fundamental principle of knowledge creation is anarchy, by which I mean the absence of rules. Disciplines rally around building and protecting specialized strengths that weather change. There is no court of appeal that monitors fair-play between disciplines; (ii) power matters, and disciplines with their idiosyncratic understandings of professional and intellectual development reward or penalize members based on their capacity to adhere to cherished community practices. By implication, discipline-specific intellectual standards bifurcate scholars into “valued” and “less valued” members; (iii) the attention to disciplinary conventions results in insular environments un conducive to integrating knowledge domains.

This study rests on the belief that the power dynamics of disciplines structure professional behavior (Bennett & Gadlin, 2014). Because disciplines (and their institutions) emphasize “deep” knowledge, many scholars feel the need to build disciplinary credentials first, before moving into interdisciplinary work. I adopt the perspective of Rafols, et al. (2012) who suggest that scholars nolens-volens develop and use disciplinary capital to build careers, especially in environments that reward high impact publications at all costs (Horn, 2015). By implication, acting in ways that correspond to disciplinary influences and expectations is a significant aspect of a scholarly identity (Becher & Towler, 2001). My view is that, as a result, even if work per se is interdisciplinary scholars often are not. By relating

the kinds of interdisciplinary engagement manifest among scholars, in spite of factors that discourage such work, to kinds of engagement discussed in acculturation theory (Redfield, et al., 1936), I offer interdisciplinarity as reflecting a process of psychological change resulting from operating at the boundaries of disciplines. This I term “interdisciplinary acculturation.” Although complex in detail, the key dimensions of interdisciplinary acculturation are very simple – disciplinary maintenance and participation in another discipline. Confronted with opportunities to engage beyond the usual boundaries of their disciplinary work, sojourning scholars face two straightforward questions: (i) to what extent are the characteristics of one’s own discipline important enough to be maintained? and (ii) to what extent should one become involved with other disciplines? Both questions pertain to a range of situations, with interrelationships between the attitudes revealed in answers having profound effects on how the contact with other disciplines is managed. According to acculturation theory terminology, scholars can exert an effort to abide by the conventions of other disciplines (assimilation). They may display little interest in building credentials outside their own discipline (separation). Engagement characterized by an interest in maintaining their own disciplinary identity whilst at the same time welcoming thinking and research approaches from another discipline follows an integrative orientation (integration). Finally, scholars may be indifferent to their own discipline and fail to engage with another (marginalization).

The purpose of this study is twofold: First, I report survey findings about the ways scholars from two subject areas, East Asian studies and economic geography, respond to scenarios involving potential interdisciplinarity. I do this because country- and region-specific scholarship is often deemed to lack methodological gravity, a hard academic core (Rafael, 1994), and, as a consequence, it is also said to lack disciplinary focus. These unfavorable perceptions make departments or programs so designated particularly vulnerable to austerity measures and subsequent agglomeration of “core” academic activities (for the status of area studies in the UK see HEFCE, 2012). Arguably, this poses a most vexing problem for scholars in these fields: Pushed along by the concentration on discipline-based research, they are continuously faced with pressures to apply and develop their expertise in disciplinary contexts (Goodman & Berlan, 2005). International business studies (IB) provides a particularly useful lens through which to consider how scholars in these two fields respond to opportunities for interdisciplinary work for two interrelated reasons: (i) Given the global expansion of business activities, the need for people skilled enough in managing multiple disciplines to deal with the complex cultural realities business people must

deal with is widely acknowledged among IB scholars (e.g., Oesterle & Wolf, 2011); (ii) at the same time, and in spite of the calls for more openness to country- or region-specific expertise in the IB community (Dunning, 2007), commitment to discipline-encompassing engagement remains rather muted (e.g., Seno-Alday, 2010).

Second, I employ acculturation research to develop its explanatory potential especially for those research-intensive environments where scholars are primarily assessed by output in top-journals (Holt & den Hond, 2013; Macdonald, 2014). Through the lens of country- and region-specific scholars and their sojourning attempts, I offer an approach to make sense of scholarly adjustment processes that I believe holds promises for interdisciplinary research. This will be of interest to both sojourning scholars and self-reflective interdisciplinarians (especially those who find themselves having to deal with disciplinarians) operating in a number of research realms, including universities and government-education interfaces.

The remainder of this article is organized in five parts: First, I review extant literature on acculturation theory placing a particular focus on its novel applicability to understanding the nature of interdisciplinary engagement. Second, expanding on qualitative findings by Horn (2013) I develop a conceptual framework pertaining to varieties of interdisciplinarity. Third, I test my interdisciplinary acculturation model combining data sets from research practitioners in the fields of East Asian studies and economic geography that find themselves in situations where they might engage with the body of knowledge in IB disciplines. Fourth, I discuss the results of my enquiry. I explain how, through the application of acculturation theory, my study expands upon the research that has focused on those who have already decided to commit to doing interdisciplinary work, to analyzing thoughts (and feelings) that precede such a decision to commit or decision not to commit. Fifth, I conclude with implications, and limitations, and offer directions for future research.

## Conceptual Framework

Fundamentally, interdisciplinary engagement takes place when scholars from two (or more) independent disciplines try to work together (Salter & Hearn, 1996) or at least try to work with insights from disciplines beyond their own. It has been persuasively argued, therefore, that interdisciplinarity – similar to acculturation processes – can be described for an individual as a learning process (Lattuca, 2002), in which different and often conflicting

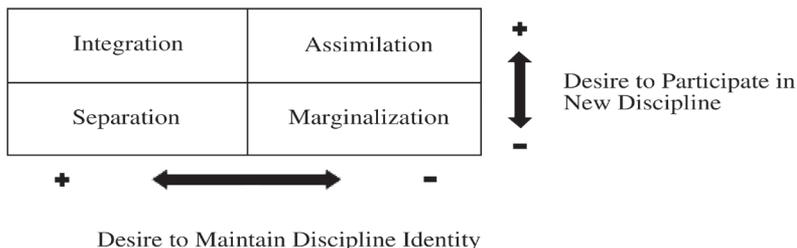
perspectives require negotiations to establish common cognitive ground (Mackey, 2001, 2002). By implication, interdisciplinary activities lead to and follow from cognitive and behavioral change (Lyall, et al., 2011). Attitudes towards the involvement with other disciplines are one possible determinant of this adjustment process (Kuhn, 1977), including the recognition of possible insights from the academic discourse in other disciplines in general and collaborations at the individual level in particular. Extant literature suggests that scholars, when reaching out to another discipline, have two primary concerns. One concern is the authority and pedigree of their own disciplinary home (e.g., Henry, 2005; Repko, 2007). The other concern is the perceived attractiveness of interacting with another discipline and of the other discipline itself (Trow, 1984; Nicholson, 1987). As a consequence, variations in interdisciplinary engagement emerge from varying views of individual scholars.

Disciplines have been compared to cultures (Becher & Towler, 2001) conditioned by a distinct “language” (Nicholson, 1987; Gaff, 1994). Acculturation theory (Berry, 1990) – with its focus on how contact between two distinct cultures occurs – helps us to explore the varieties of interdisciplinary engagement. When reaching out to other academic fields, sojourning scholars are generally confronted with response options that run between two poles: (i) disciplinary maintenance (to what extent are the cognitive structures of one’s own discipline important?) and (ii) participation in another discipline (to what extent should one become involved with other disciplines and their cognitive structures?). Acculturation theory lends itself to exploring interdisciplinary interaction for five interrelated reasons: First, in spite of the increasing importance of “interdisciplines,” disciplines continue to derive their legitimacy from paradigmatic roots that organize and produce knowledge (e.g., Miller, 1982); second, the resultant specialist “worldview” of reality creates disciplinary boundaries (e.g., Kuhn, 1977); third, these boundaries delineate self-referential and self-reproductive “systems” that constitute shared values, self-categorization, and ultimately in-group cohesiveness (Meek, 2001; Frost & Jean, 2003); fourth, from this perspective, interactions between people in different disciplines equate to intergroup relations, including differences in approaches, toolkits, and territoriality (Lattuca, 2002; Klein, 1990). Fifth, in-group identification is therefore likely to moderate individual and, by extension, collective interaction (Tajfel & Turner, 1979). From all this, interdisciplinarity can be interpreted as comparable to contact between cultures (or between people with competing identities). As with contact between cultures, unconscious assumptions about and attitudes toward “how things are done” in other scholarly disciplines become apparent as a determiner of interdisciplinary

engagement (Bauer, 1990). In other words, acculturation theory adds an important layer atop research examining how to go about interdisciplinary work: If interdisciplinary interaction is seen as involving a gradual “change” resulting from creative and reactive relationships such as occurs when those from different cultures come together, then the decomposition of anticipations that precede such interactions will allow us to examine whether and how scholars, particularly those scholars trained and credentialed in a discipline, come to manage scenarios involving potential interdisciplinarity.

Assuming that a scholar venturing into another disciplinary area than that of his/her home is like a traveler “sojourning” in another culture than his/her own (or at least considering doing so), I can now dichotomize my two response sets (disciplinary maintenance and interdisciplinary participation — each ranging from negative to positive). I then arrive at a quadro-modal structure of interdisciplinarity (Figure 1), with binary options for each component (“yes” and “no”). Each quadrant or cell represents a distinct option for involvement with another discipline, based on the concurrence of orientations towards maintenance and participation. How individuals or groups address differences in epistemology, principles, and practices defines trajectories of interdisciplinary collaboration (Porter, et al., 2006; Boni, et al., 2009). Consistent with the well-established acculturation modes (see Berry, et al., 1987; Berry, 1997), I posit four kinds of response to interdisciplinary engagement: “assimilation,” “integration,” “separation,” and “marginalization.” I describe these fundamental options available to scholars in more detail below, using terminology of Berry’s seminal work on acculturation psychology.

**Figure 1** Framework of Interdisciplinary Acculturation



**Assimilation:** A negative response to maintenance and a positive one to participation describe an assimilating attitude towards interdisciplinary engagement. This is portrayed in the top right quadrant. Depending on individual circumstances and institutional environments amongst other things,

scholars may consider leaving their original academic background in favor of a stronger engagement with another discipline. Coinciding with aspirational participation (e.g., to enhance career prospects) or operating within mono-disciplinary conventions (e.g., following “rules of the publication game”) (Henry, 2005), scholars operating in this quadrant attach importance to learning from, and adapting to, the norms of the “new” discipline (Bailis, 1996). While generally a matter of degree, this option may ultimately result in the absorption of a scholar into a dominant disciplinary system. What varies, of course, is the level of openness towards such academic sojourners or “immigrants” from other disciplines (Szostak, 2002), not only because they see themselves as centers of intellectual distinctiveness, but also because they are social institutions with mechanisms of socialization, relationships, and sanctions (Belcher & Towler, 2001). For the individual scholar who wishes to achieve insider status (i.e. when “informed borrowing” is seen as unattractive), disciplinary assimilation may come with the completion of rites of passage (e.g., when writing for publication the discipline-specific use of linguistic code). These can create substantial challenges for the deepening involvement of interdisciplinary initiatives.

**Separation:** Here, little interest in involvement with another discipline, combined with emphasizing one’s own disciplinary identity (Rodgers, et al., 2003), results in the separating response mode of the bottom left quadrant. While lip service may be paid to interdisciplinary activities (e.g., Henry, 2005), ideological splits are likely to result in avoidance strategies characterized by self-referential indifference to, if not denial of, input from another discipline (Fuchsman, 2009). The failure to operate outside the comfort zones of the customary thought of one’s own discipline might include ignoring opportunities for cross-fertilization through input from other scholarly domains. As with any closed system such isolationist attitudes are potentially detrimental to the development of a new (in this case, interdisciplinary) understanding.

**Integration:** I label interdisciplinary engagement which takes the form of an interest in maintaining one’s own disciplinary identity while at the same time venturing into other disciplines and making use of their insights integration. This mode is represented in the top left quadrant. The affirmation of both maintenance and participation implies collaborating as hybrid members of the academic community (Miller, 1982). An important precondition of this scenario is intellectual flexibility (Murray, 1986): reciprocal acceptance that things are appropriately done differently in different disciplines (Nicholson,

1987). With belief systems of one's own discipline likely to get in the way (Repko, 2007), this integrative approach is arguably very difficult to manage (e.g., Lane, et al., 1999). However, the effort is seen as worthwhile, given that the inclusive orientation inherent to this engagement option yields productive actions such as borrowing ideas, enlargement of the methodological toolkit, and the development of conceptual links, amongst other things (Klein, 2000). These cooperative and interactive behaviors represent the ideal of interdisciplinarity as a "bridge-building eco-system" (Gasper, 2001).

**Marginalization:** Scholars unable (or unwilling) to adhere to "rules of the game" of disciplines are professionally vulnerable, especially in audit cultures where expertise in multiple disciplines is all too quickly shunned as generalist incompetence as soon as it does not fit neatly within disciplinary boundaries. Since role expectations take on meaning for individuals (Stets & Burke, 2000), failing to secure peer-group recognition can frustrate scholarly self-categorization. Interdisciplinary activities often result in disappointments (van Baalen & Karsten, 2012), especially when intellectual compartmentalization leads those in different disciplines to negate each other's expertise (Knights & Willmott, 1997). Finding ways to resolve these tensions is difficult and may manifest in criticizing of one's own discipline.<sup>1</sup> Neither the maintenance of a scholar's own discipline nor interaction with another discipline may be perceived as an attractive option. Over time, interdisciplinary engagement becomes a "non-option" and may result in weakened contact with both domains (bottom right quadrant); in line with Henry (2005) I define this simultaneous alienation as marginalization. While this engagement option seems at first sight less relevant in academia, we can nevertheless see its results in high staff turnover rates where careers have stalled or turned aside, unpublished papers, withdrawal from academia altogether or even the closure of departments. In other words, this "otherized" option entails a loss of paradigmatic identity as a result of interdisciplinary engagement (Rodgers, et al., 2003) leading to individual (or collective) disorientation (e.g., Mackey, 2002; Miller, 1983).

## Development of Research Propositions

My initial focus is on interdisciplinarity as a quadro-modal construct. Modes of response to opportunities for interdisciplinarity occur between individuals and between individuals and groups (i.e. institutional organizations) (e.g.,

<sup>1</sup> Indeed, Lyall, et al. (2011) offer interview data indicating that such alienations from both an original discipline and all others are compared to a "purgatory" of interdisciplinary work.

Bates, 1997; Newell, 2007). Acculturation theory is supportive of exploring encounters at both levels (see Horn, 2013). The dynamics of individual and group differences – and the interplay between them – are particularly salient (e.g., Griffin, et al., 2006). First-hand experiences of individual academics may provide insights into psychological changes and adjustment patterns that result from opportunities for interdisciplinary encounters. Individual researchers are likely to exhibit variations in interdisciplinary behavior (Newell, 2001). These effects should become visible at multiple levels, including cognitive and behavioral change. The perspective enables identification of the behavior disciplinary scholars display when sojourning to another discipline. It also alerts us to possible psychological changes vis-à-vis the idiosyncrasies of the discipline they engage with. The semantic overlap of studies on acculturation and interdisciplinarity (although to my knowledge no explicit reference in extant interdisciplinary literature is made to acculturation theory) is perplexing, and extending Berry's (1990) conceptualization along two principal components – a) disciplinary maintenance and b) participation in another discipline – enables us to embrace the broad spectrum of response styles, including engagement (assimilation, integration), disengagement (separation), and disassociation (marginalization) (Fuchsman, 2009). This dichotomization of fundamental attitudes provides us with a starting point to examine in more detail the four adjustment options I identified earlier. Assimilation, integration, separation, and marginalization provide orientation to how sojourning scholars adapt to the “rules of the game” of a novel disciplinary context or don't. I expect concomitant patterns to emerge from fundamental attitudes towards disciplinary maintenance and willingness to participate in another discipline. Based on my theoretical framework presented above I hypothesize the existence of distinct scholarly response options when scholars are confronted with an opportunity to move beyond the boundaries of their own disciplines.

**Proposition 1:** Scholars hold various attitudes towards interdisciplinary engagement. Based on their attitudes, they exhibit distinct variations in interdisciplinary engagement, with primary response patterns taking the form of assimilation, integration, separation, or marginalization.

While not all members of a group share the same experiences with interdisciplinary challenges, it is plausible to argue that discipline membership provides orientation for “appropriate” academic behavior (Turner, 2006). One of the most obvious consequences of the proposed bi-dimensional modes of responses is that it allows us to explore in greater detail those differences in the way scholars engage with interdisciplinary opportunities.

The scholarly environment of area studies and economic geography should illustrate variations of scholarly engagement (e.g., conforming to expected norms and values). Whilst regional scholarship has been driven by linguistic and cultural competence as a key to describing and analyzing geographies and societies (Rafael, 1994), the legacy of “deep” country expertise has been held responsible for the alleged inertia of scholars in these areas when it comes to engaging with the much more theory-driven agenda of social sciences (Schäfer, 2010). Discourses in economic geography, on the other hand, follow a pluralist methodological trajectory (Boschma & Frenken, 2006) and those involved conventionally relate their work to economic disciplines (Schoenberger, 2001). Similarities (or dissimilarities) in approaches and toolkits are likely to result in divergent preferences for interdisciplinary engagement modes (Klein, 2010). I therefore posit:

**Proposition 2:** Disciplinary distance, that is intellectual barriers between subject areas resulting from discrepant disciplinary commitments, informs patterns of interdisciplinary engagement.

## Methodology

The best way to chart the interplay between the two principal components of interdisciplinary acculturation (disciplinary maintenance and participation) is to provide empirical evidence for what researchers actually do and their experiences when reaching into other disciplinary fields. With the hypothesized quadro-modal structure at the core of my model, I initially conducted preliminary semi-structured in-depth interviews with researchers working at the interstices of East Asian studies and business research. Findings from this initial ethnographic screening, reported in Horn (2013), seem to support the assumed multi-dimensional nature of interdisciplinarity, most notably the proposed quadro-modal response options. The data helped me to discover what interdisciplinary issues cause anxiety, in what situations individual scholars recognize conflict potential, and what response options to these challenges they choose. These findings informed the formulation of the individual questionnaire items for this study.

My theoretical model predicts that individual scholars are likely to display discrete behavioral and cognitive patterns when reaching into another discipline. These response patterns should be relatively stable across a range of situations. It is therefore plausible to argue that specific response styles are best identified through factor analysis using a variety of items (instead of a single score). Based on the seminal measurement model proposed by Berry (1990),

Berry, et al. (1987), and Barry (2001), I operationalized the four conceptual orientations reflecting attitudinal, behavioral, and cognitive patterns (see Rudmin, 2009). Pertaining to the composite profile of interdisciplinarity, the items allude to the range of acculturating behaviors and situations. Sixteen items were then sorted according to response modes resulting in four scales, each representing one of the interdisciplinary acculturation options. Table 1 provides an item summary arranged according to response mode within my framework. Each scale is composed of six statements relating to behavior and assessment of interdisciplinary engagement, accompanied by 1 to 5 Likert-style response options. These statements not only discern distinct kinds of interdisciplinary engagement; they also seek to discriminate between the alternative response options. The rationale is that the grouped items record consistent behavior across a range of situations.

As points of reference I controlled the area/country and disciplinary specialism<sup>2</sup> via academic degree, language proficiency, and faculty affiliation. This allowed me to monitor how interdisciplinarity is practiced at the interstices of area and business studies.

## Sample Selection and Description

The strategic importance of spatial and cultural contextualization is well recognized in business studies (Cook & Jones, 2013), and both subject areas (i.e. East Asian studies and economic geography) share the history of exploring ways of whether, how, and to what extent local knowledge can be incorporated into discipline-specific analytic frameworks/bodies of knowledge (Bates, 1997). At the same time, scholars from both disciplines face a broad range of challenges when interacting with the domain of business studies, both in terms of interaction between individuals and, more generally, with disciplinary institutions in this field (e.g., conferences, journals). While scholars in the fields of East Asian studies and economic geography are traditionally proactive in engaging with those in other disciplines (Asheim, 2006; Appadurai, 2000), the skills and knowledge specific to East Asian studies and economic geography have had little resonance among business scholars (Boschma & Frenken, 2006; Piekkari & Tietze, 2010). This underdeveloped dialogue has been attributed to two interrelated factors. First, scholars placing emphasis on cultural or spatial perspectives face

<sup>2</sup> Area studies scholarship is highly heterogeneous. In addition to developing linguistic skills, area specialists usually seek deeper understanding of a particular aspect of country or region (e.g., literature, politics, economy).



fundamental contrasts in epistemology, theory, and methodology (Martin, 2003; Pleggenkuhle-Miles, et al., 2007) when reaching out to those in adjacent business disciplines. Put differently, issues of power differentials arise from expertise in matters specific to a region. This specificity is antithetical to (or at least exists in tension with) the generalization typical of IB theorizing. The lack of integrative frameworks and institutions (e.g., Johnston, 2003) further hinders outreach activities. Second, it has been suggested that both subject areas lack theoretical core (Schoenberger, 2001; Rafael, 1994), a common methodological and epistemological grammar (Dicken, 2004; Chen, 2007; Mollinga, 2008), and, as a consequence, practical relevance in social and public discourses (Martin, 2001; Schäfer, 2010). Both East Asian studies and economic geography scholars often respond to these challenges by either intensifying their disciplinary specialization or by emphasizing their region- or country-specific heritage.

A total of 141 scholars participated in the survey. The sample consists of 57 East Asian studies scholars and 84 economic geographers. The data were collected anonymously in two batches using the Bristol Online Survey system. I first obtained information from university lecturers in the field of East Asian studies (February and May 2012) whom I contacted via professional bodies, universities, or research networks. All participants seek to combine their area specialization with business domains research. From August to November 2012 I then collected data from economic geographers. Because economic geography has a less fluid cognitive construct, I chose a different route to contact potential survey participants. As selection criteria I specified authorship in key journals (*Journal of Economic Geography*, *Environment and Planning*, *Regional Studies*) within a timeframe between 2007 and 2012. With a view to evaluating the relevance of interdisciplinary outreach activities I only contacted authors who were either employed by a geography department or given a specific job-title reference as economic geographer. The response rate of 34.3% indicates that non-response bias is unlikely to affect my interpretation.

## Treatment and Data Analysis

The individual items were randomized and then presented to the respondents in no particular order. To ensure that participants were unaware of the four hypothesized response modes, they were only informed that the questionnaire was designed to help identify interdisciplinary strategies at the interstices of East Asian studies/geography and business studies.

## Empirical Findings

I first examine factorial patterns emerging from my items, using the East Asian studies sample: Because of the assumed factorial independence of the four response modes an orthogonal solution is appropriate. The factor loadings and Eigenvalues<sup>3</sup> of the principal component analysis are illustrated in Table 2.

**Table 2** Principal Component Analysis (Varimax Rotation)

Item	Marginalization	Assimilation	Integration	Separation
M6	.797			
M2	.744			
M5	.726			
M4	.687			
M3	.647			
M1	.476			
A4		.738		
A5		.721		
A2		.675		
A3		.631		
A6		.512		
S3			.785	
S2			.643	
S4			.624	
I3				.781
I1				.662
I2				.613
I5				.522
Eigenvalues	5.643	4.018	2.544	1.541
% of Variance	17.423	14.058	13.284	12.513

In my sample a four factorial structure emerges (with sufficient inter-item correlation). The individual items are aligned according to their hypothesized response mode. High factor loadings on the latent variables indicate a relatively high internal consistency for the assimilation, integration, separation, and marginalization options. It is, thus, plausible

<sup>3</sup> Principal component analysis (PCA) reduces a set of observed variables in a data set to a lower number of unobserved variables. Here it helped me to identify to what extent individual items are supportive of measuring the composition of my four subscales. Eigenvalues represent the variances of the principal components, whereas factor loadings (ranged from -1 to 1) offer insights into how strongly a factor affects a variable. I then use Cronbach's Alpha to determine the reliability of each factor.

to argue that my findings provide initial evidence for the hypothesized variations of interdisciplinary engagement. A subsequent reliability analysis provides further evidence of factor structure homogeneity (Table 3). Overall, my results mirror a good structural fit of the quadro-modal structure of interdisciplinary adjustment as assessed by four distinct scales.

**Table 3** Reliability Estimates

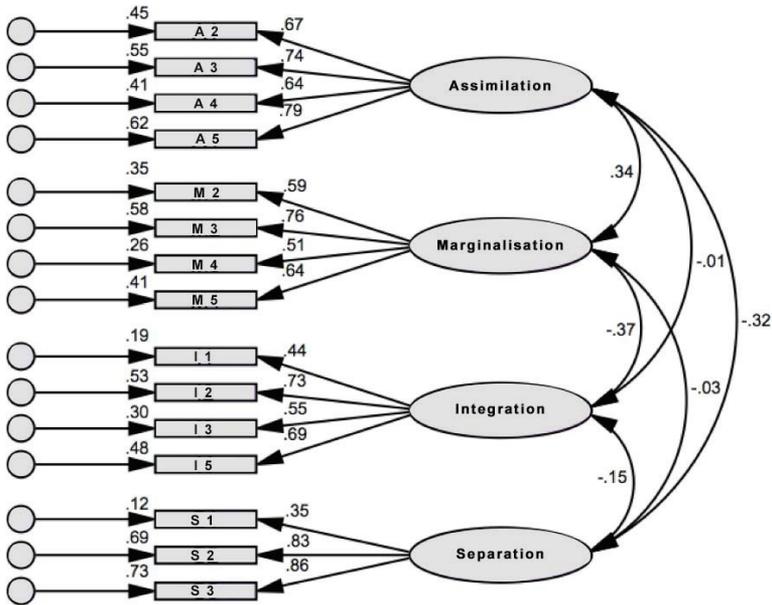
Latent Variables	Cronbach's Alpha
Assimilation	.688
Marginalization	.802
Integration	.714
Separation	.700

Based on these initial findings I re-tested the dimensional consistency of my measures across the disciplines East Asian studies and economic geography, using the highest loading items of each factor. The data were normally distributed, allowing me to choose maximum likelihood estimation. Missing data were list-wise excluded from further analysis (i.e. only fully completed questionnaires were used for analysis), resulting in a final data set of 136 participants. The comparative fit index (CFI = .931), the Tucker-Lewis fit index (TLI = .914), and the root mean square error of approximation (RMSEA = .056) indicate a good fit<sup>4</sup> between my hypothesized model and the observed data. Figure 2 reports the standardized parameter estimates and the squared multiple correlation (SMC) values. In sum, because of the good fit indices, no further modifications were considered necessary: The data support a four factorial structure consistent with the assimilation, integration, separation, and marginalization options proposed in this article. The individual items are aligned according to their hypothesized response mode. The standardized regression weights indicate a relatively high internal consistency for the assimilation, integration, separation, and marginalization options. Neither standardized regression weights nor explained variance of each factor differs considerably. My findings therefore reconfirm quadro-modal kinds of interdisciplinary engagement. The outreach activities of those studied are reflected in four distinct response styles, each representing attitudes and behavior at the individual level. Only three items were used for the separation option, as they exhibited sufficient inter-item correlation;

<sup>4</sup>Confirmatory factor analysis (CFA) tests whether measurements are consistent with a theoretical understanding of a construct. I here employ CFA for re-test purposes. The indices reported here are commonly used to determine the plausibility of a hypothesized model. All are within the significance range.

their factor loadings are above the .5 threshold.

**Figure 2** Confirmatory Factor Analysis



**Table 4** Group Differences in Interdisciplinary Engagement

	t-Test	Significance	Cohen's D	Effect Size
Marginalization	2.932	.004**	0.50083252	Large
Assimilation	2.228	.028**	0.37830763	Medium
Integration	-2.702	.008**	0.46758999	Medium
Separation	4.319	.000**	0.75201796	Large

Note: \*\* Differences significant at the .01 level.

Table 4 identifies intergroup differences between scholars working in East Asian studies and economic geography. The effect sizes indicate considerable group level effects across four response modes. The analysis indicates large effects as regards the marginalization and separation options and medium effects for the assimilation and integration options. In other words, I detect substantial differences in the way those in the two groups approach interdisciplinary engagement. Participants working in an economic geography environment tend to favor the integration route. In contrast,

participants embedded in an East Asian studies context exhibit a range of engagement options.

## Discussion

My data show that East Asian studies scholars and economic geographers have key challenges to face in reaching out to those in business disciplines, and in adjusting their country- and region-specific *modus operandi* to suit conditions of those in other disciplines. For them, opportunities for interdisciplinary engagement are an everyday phenomenon that creates complex interactions among individual academics and groups. The resultant adjustment processes not only affect the way “sojourning” scholars interact with those in business disciplines but also how and to what extent expertise is diffused from one knowledge domain to the other. This study sought to integrate acculturation theory to refine our understanding of these interactions. In line with Fuchsman (2009) my empirical evidence points towards variations in scholarly approaches, dependent on individual motivations with regard to engagement (assimilation, integration), disengagement (separation), disassociation (marginalization), and their interplay (Newell, 2001). This suggests that we need to distinguish between interdisciplinary work *per se* and individual adjustment processes that lead up to such work. After all, disciplinary modes of thought and practice continue to work against the process of crossing disciplinary boundaries (e.g., Barry, et al., 2008) and researchers (particularly those trained and credentialed in a discipline) who seek to adopt an interdisciplinary approach have to respond to these circumstances. Berry (1997) defined such adaptation processes as psychological change.

In examining how East Asian studies and economic geography scholars interact with those in business disciplines, my first proposition queried whether constructions of interdisciplinarity result from an essentially interdependent process “in-between” bodies of knowledge, where no discipline is expected to play a dominating role. The data from my sample indicate that this assumption is misleading. We know that individuals want to belong (Walton & Cohen, 2011). Scholars are therefore likely to act in line with social expectations among academics (Berry, 1997), including disciplinary conventions (Braxton, 1993). There is no reason why cherished practices should change in situations where interaction with scholars from other disciplines (and their institutions) is necessary. The results reported here, however, offer initial insights into substantial

variability in interdisciplinary engagement behavior when scholars trained and credentialed in one discipline attempt to respond to the “rules of the game” of another one. My analysis demonstrates that attitudes towards interdisciplinary engagement options – ranging between maintenance and participation in another discipline – correspond with varying behavioral patterns in the four response modes, namely assimilation, integration, separation, and marginalization, that I have described as varieties of “interdisciplinary acculturation.” Consistent with Berry’s (1997) typology my exploratory – and confirmatory – factor-analytical results provide strong support that interdisciplinary interaction can be represented as involving a conscious learning (Trow, 1984; Nicholson, 1987) or, in the case of disciplinary disassociation, an unlearning effort. Taken together, these findings underline just how important individual motivations to travel across disciplinary boundaries in order to do interdisciplinary work are.

How can these divergent preference patterns be explained? Adapting acculturation theory to interdisciplinary research, variations of scholarly engagement should become visible in the way East Asian studies scholars and economic geographers deal with the academic discourse in business studies across various settings. From my survey data, four independent factors have emerged. Each factor subsumes variables a priori categorized according to the presumed engagement option. In interpreting these relationships, it seems clear that each factor accurately represents one of the hypothesized responses available to individual sojourning scholars of East Asian studies or economic geography when interacting with business disciplines. The results analysis suggests that the items have relatively high internal consistency for each engagement option. Each option manifests across a number of situations (e.g., seeking funding, finding suitable publication outlets, etc.). These results coalesce in cognitive and behavioral patterns highly consistent with the hypothesized quadro-modal response options to opportunities for interdisciplinary engagement advanced here. The first research proposition is therefore accepted. By adapting acculturation theory and conducting research accordingly, we are arguably now in the position to better explain extant narratives of engagement, disengagement, and disassociation of scholars considering engagement who are challenged by comparatively closed cognitive structure committed to discrete disciplinary knowledge production (or, to use Gibbons, et al., 1994, terminology, “mode 1” knowledge linked to cognitive communities).

I then looked at the extent to which individual differences in interdisciplinary engagement can be explained by similarities (or dissimilarities) in approaches and toolkits. Consistent with the distinction between narrow and

broad interdisciplinarity (e.g., Klein, 2010), I detected disciplinary distance (which I defined as intellectual barriers between subject areas resulting from discrepant disciplinary commitments) as being a potential indicator for interaction patterns perhaps helping to explain why the data suggest that interaction occurs more in some directions and across some boundaries than others. Specifically, economic geographers prefer the integrating response to opportunities for engagement, whereas area studies scholars tend to employ a range of interdisciplinary engagement or disengagement options. Because of their particularistic focus and emphasis on linguistic competence, area studies scholars share few theoretical structures and methodological approaches with those in the field of IB (e.g., Appadurai, 2000). By contrast, economic geographers rely on similar presuppositions to business studies (Asheim, 2006; Schoenberger, 2001), making it arguably easier for them to work with IB scholars. I anticipated, thus, that area studies scholars would be less familiar with engaging with business disciplines. *Mutatis mutandis*, I associated placing importance on engagement with social science disciplines with those scholars embedded in economic geography. My findings suggest that East Asian studies scholarship and economic geography scholarship – each with a distinct epistemological heritage – have very different views about how scholars might engage with business disciplines: Economic geographers may be more familiar with the toolkits necessary for disciplinary mastery (narrow interdisciplinarity), whereas East Asian studies scholars display more fluid approaches to opportunities for engagement (broad interdisciplinarity). I speculate that the predominant model of area study scholarship that comprises decentralized structures (Bates, 1997), a heterogeneous epistemological toolkit (Ludden, 2000), and loose internal and external differentiation (Basedau & Koellner, 2007) is responsible for these variations of preferred responses. In other words, epistemological and methodological distance – both between and within disciplines – may affect the scholarly adjustment processes of establishing common cognitive ground with scholars in other disciplines (or opting not to seek to do so).

The impact of epistemological and methodological distance and the resultant divergent patterns of responses to opportunities for interdisciplinary engagement cannot be stressed enough. If conceptual and cultural proximity of the disciplines involved in a possible engagement affect individual adjustment options (van Rijnsoever & Hessels, 2011), then the findings intimate that interaction occurs more in some directions and across some boundaries than others. Put differently, “ease of interaction” may augment trajectories of capacity building both in terms of research rigor and practical

relevance. For disciplinary domains, such as those of IB, that import concepts and methodologies from other subjects and apply these to their needs, such variations may affect in which field of inquiry knowledge is produced – and, perhaps more importantly, where not. Each adjustment option differs in its response to the underlying dimensions (maintenance versus participation). Consequently, the “yes” and “no” combinations could be interpreted as extreme outcomes of how individual scholars opt in (or out) of participation in the discourse of a discipline that absorbs this expertise. Given the important role of sojourning scholarship in the development of disciplinary fields such as IB (e.g., Collinson, et al., 2013; Tsui, 2007), epistemological and methodological distance between disciplines involved in an interdisciplinary opportunity and subsequent individual response profiles should not be ignored.

## Implications

This study is an early step in enhancing our understanding of how worldviews and disciplinary cultures that flow from them affect interactions between individuals and disciplines other than their own with which they might engage (Fuchsman, 2009). In this article (and in the research upon which it is based), I have proceeded very much in the same way as Berry (1990; 1997) by linking cultural context and individual behavioral development. My analysis has demonstrated just how important individual orientations are when dealing with issues of how to acculturate to disciplinary demands (van Rijnsoever & Hessels, 2011). Analyzing engagement strategies from the perspective of sojourning scholars can aid the management of out- and inreach activities of those involved in business scholarship. With acculturation theory as the theoretical base, I have devised a framework that is supportive of explaining (i) how interdisciplinarity occurs, (ii) how individual orientations differ, and (iii) how these affect engagement choices. By implication, my approach may open up important perspectives concerning conditions under which disciplinary interaction takes place (e.g., Tsui, 2007), allowing the formation of new knowledge (e.g., Cheng, et al., 2009; Sullivan & Daniels, 2008), and, thus, the “reshaping” and “sharpening” of the contours of scholarship in, for instance, the field of IB (e.g., Collinson, et al., 2013; Amann, et al., 2011).

I expect that several impulses for research, teaching, and outreach will emerge from my observations. Although undoubtedly in need of further conceptual refinement and expansion beyond area studies and economic geography, the adaptation of acculturation theory I am proposing provides

a comprehensive framework to explore scholarly interactions both at an individual and group level. Thus, the “utopianism” of synergetic knowledge creation that is all too often associated with interdisciplinarity (e.g., Trow, 1984) appears in a different light. In line with recent thinking (Finkenthal, 2001; Huuttoniemi, et al., 2010; Jeffrey, 2003), my study points us to more complex, power-induced patterns of rule negotiation and adjustment processes than most interdisciplinarians have considered thus far. I see at least three areas in which my findings generate relevant impetus:

- First, the usefulness of my conceptual framework derives from its potential to explain differences in individual orientations towards interdisciplinary engagement. Individual differences in the way scholars perceive engagement with other disciplines, as proposed here, may aid assessments of when, how, and to what extent collaborations may be fruitful. The perceived distance from a scholar’s home discipline to other disciplines is likely to affect efforts to find a common “language” (Bracken & Oughton, 2006; Clark, 1996). Clearly, such knowledge is important for managing expectations of working relationships, including team roles, responsibilities, and leadership (e.g., Boni, et al., 2009; van Baalen & Karsten, 2012). At an individual level, this understanding is crucial in raising self-awareness, sensitizing practitioners to the otherness of others’ disciplinary codes, and the challenge of reconciling possible asymmetries (Henry, 2005). In particular, this study has relevance for “exporting” fields such as area studies, so crucial for cultural and regional knowledge creation (e.g., Meyer, 2007), and their interaction with kindred but compartmentalized business and management domains not welcoming to imports from outside. By implication, it has also practical relevance in explaining how region- or country-specific context can be integrated into more universally applicable frameworks (as promoted by social science disciplines, see Teagarden, et al., 2015).
- This article has argued that power matters in interdisciplinary interaction. Disciplines continue to play a significant role in shaping the infrastructure of knowledge production, and, by extension, enduring patterns of academic practice. Institutions such as government agencies, universities, or funding councils are complicit in promoting knowledge production (and dissemination) organized around disciplines. There is no reason, of course, why interdisciplinary and disciplinary work should not co-exist and interact, even if further disciplinary compartmentalization that flows from austerity measures and increased exposure to global competition implies otherwise

(Holmwood, 2010; Holligan & Sirkeci, 2011). In the UK, for instance, higher education institutions have responded to these realities with audit regulations, most notably in the form of key performance indicators such as research productivity or student satisfaction rankings. Alarming, under these preconditions interdisciplinary engagement, especially for younger scholars, is considered as risky (Schoenberger, 2001) and program integration involving scholars with expertise from a variety of disciplines as difficult (e.g., Bajada & Trayler, 2013). However, as advocated by Amann, et al. (2011), my framework encourages institutions to rethink and improve how the gaps between disciplinary perspectives could be populated or, perhaps even more importantly, how the overlap of domain territories could be transformed from competitive to cooperative, cohesive structures and processes. Condensing interdisciplinary engagement into two fundamental acculturation components (maintenance and participation) – and the variants this produces – should lead to a clearer match between formulation of learning and teaching objectives and integrative program designs.

- Finally, my framework offers initial insight into how differences in scholars' responses to opportunities for interdisciplinary engagement originate. Although I analyzed only very simple dimensions of interdisciplinary engagement, the results of the analysis allow self-reflection about sense-making patterns of scholarship, both subtle and important, and offer a way of understanding the development of homogenous or heterogeneous disciplinary identities (Szostak, 2002). I concede that the power disciplines seek to exert does not impact every scholar the same way. Our understanding of the determinants shaping collaborations across disciplinary domains remains, therefore, incomplete as long as more complex patterns are not considered, perhaps in combination with the two dimensions suggested here. Supposing power-induced fragmentation is not going to go away, I believe that an expanded model of interdisciplinary acculturation holds promise to at least challenge the entrenchment of disciplines (Bates, 1997) and their identity-inducing initiation mechanisms (Becher & Towler, 2001). After all, real-world problems are complex (Repko, et al., 2014), and the world often does not work the way disciplines assume it should. Those scholars more exploratory with their interdisciplinarity (see Lyall, et al., 2011) could be allocated into the fourth quadrant of my model, among the marginalized. However, that category could be redefined so it doesn't merely emphasize the harmful consequences

of disciplinary disassociation (as suggested by my initial framework), but also emphasizes the possible benefits of such disassociation, acknowledging that methodological critique of one's own discipline and indeed all disciplines could indeed be a source of empowerment, where scholars seek a better understanding of the world by strategically de-emphasizing the identity-bifurcating credentialism of disciplines (see also Shih, 2004). In this sense, those scholars skeptical about the theoretical structures and methodological approaches of their home discipline (and perhaps all disciplines) could be seen as "empowered" versions of the "marginalized." When the pursuit of interdisciplinarity is framed as an energizing rather than a depleting process, eventually, my model could inform training that will prepare people to opt out of the four response scenarios entirely, developing so much resilience when dealing with opportunities for interdisciplinary work that they might actually be considered interdisciplinarians, moving freely through the cultures of many disciplines, but belonging to none of them, citizens of, not merely sojourners in, a multidisciplinary world.

## Conclusions

A commitment to high-quality interdisciplinarity has the potential of stimulating academic discourse (Mintzberg, 2009) and practice such that graduates might be better prepared to deal with the complexities of real-world work (Lyall, et al., 2011). Employers value interdisciplinary approaches (van Baalen & Karsten, 2012), and organizations in both educational and managerial settings experiment with the integration of disciplinary strands (Boni, et al., 2009). At the same time, collaborations across disciplines inevitably result in complex interactions (Schmidt, 2010), and are, as a consequence, often institutionally discouraged (see Shaw, 2013), precisely because of the uncertainties potential participants experience "prior" to committing to interdisciplinary work. By exploring how scholars progress from home territories where disciplines reign to considering (or actually) moving beyond the boundaries of their disciplines I have addressed the fuzziness at the front end of interdisciplinarity.

This study has several limitations that present opportunities for fruitful avenues of research. There seems little doubt that disciplines continue to be powerful shapers of scholarly behavior. Their norms and institutional incarnations appear to be playing significant roles in filtering research within today's increasingly high-stakes context of scholarship (Horn, 2015),

which more or less forces scholars to manage an array of disciplinary expectations if they wish to be taken seriously. Starting from the premise that most of those considering sojourning into interdisciplinary work are still people trained as disciplinarians, I explored how those so trained respond when deciding whether to engage with those in other disciplines (or at least with the insights available in the work of those in other disciplines), using acculturation theory to do so. But acculturation theory could be a vehicle for study of an even broader set of person-environment transactions, especially exploring thoughts (and feelings) that precede such a decision to commit or not to commit. Acculturation theory posits several phases of adjustment, resulting in sequenced response styles over time. By contrast, my framework is based on responses to the challenges of adjustment. It does not include relationships between scholarly antecedents and current situations, self-reported willingness to engage across disciplines, and the actual consequences of such engagement in terms of research output. The analysis of adjustment styles could be extended to the exploration of sequencing effects embedded in routines of interdisciplinary acculturation. There is also the possibility that scholars perceive and process interdisciplinary challenges very differently depending on their individual circumstances, personality, and past engagement experiences amongst other things. I therefore cannot rule out that there are more complex mechanisms of building (inter-)disciplinary capital. Although I cannot fully explain what happens to sojourning scholars in the process of developing disciplinary expertise in areas beyond their own so as to do interdisciplinary work, my findings provide reasonable evidence to suggest that at least for scholars in the two subject areas I studied engagement variations exist. The resultant specific response patterns are arguably consistent with the four well-established acculturation options. If, as Berry (1997) suggests in his work on acculturation, individual backgrounds and experiences affect acculturating behavior, then my quadro-modal structure could be an excellent first step for a longitudinal exploration of interdisciplinary adjustment processes.

In spite of the shortcomings of this study, the application of acculturation theory offers an intriguing alternative to other ways of studying interdisciplinary engagements. This is especially relevant for scholars in those domains dominated by doubt about what openness to interdisciplinary inquiry can do for them. A noticeable pattern has emerged from the results of this study that may give us a better understanding about how to encourage and support scholars considering interdisciplinary engagement. The possibility of contributing further to the discussion of what happens

“before” a disciplinary scholar commits to interdisciplinary work and how this affects knowledge creation, integration, and dissemination is a very exciting prospect.

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