The Millennial 'Meh': Correlated Groups as Collective Agents in the Automobile Field

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ABSTRACT   Explanations for field change emphasize the role of purposeful strategic actors, paying little attention to uncoordinated but cohesive social groups, despite their profound impacts on fields ranging from autos and news to politics. Using a mixed methods approach, we study Millennials' driving behaviours, focusing on the role of generation cohorts as field actors. Combining in-depth qualitative analysis with an original nationwide survey ($N = 2{,}225$) we find that Millennials exhibit significantly different driving behaviour than earlier generations, driving for roughly 8 per cent fewer trips. These differences are primarily due to their attitudes, not, as commonly presumed, socio-economic factors. Our results contribute to theory on fields and collective actors. First, we identify a new field phenomenon, *correlated groups*, uncoordinated actors behaving as collective agents due to shared experiences and characteristics. Second, we identify four mechanisms through which correlated groups impact fields: *correlated imprinting, cohorts as conduit, cohort myth apathy,* and *cohort myth creation*.

Keywords: automotive field, correlated groups, field actors, generation cohort, institutional field, Millennials, technological change

INTRODUCTION

'I've considered getting a car, especially when I was in college. But now it's like, meh … I mean, like, it doesn't sound appealing whatsoever'. – Millennial participant

The institutional field, long seen as a site of stability, has become the focus of a growing body of research on dynamics and agency in recent years (Fligstein and McAdam,

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2011; Zietsma et al., 2017). At the heart of this research is a recognition of field actors, those individuals and groups who create, maintain, and change field rules and structures. These activities were long seen as the purview of purposeful and strategic actors, either actors external to the field, or embedded and central elites (Garud et al., 2007; Greenwood and Suddaby, 2006). An extensive body of research on social movements (King and Pearce, 2010; Soule, 2012) has also shown the profound impact coordinated and strategic groups can have on fields, either from within or without. More recently, uncoordinated actors, such as consumers, have also been found to have important impacts at the micro-level (Ansari and Phillips, 2011; Smets et al., 2012).

This research has largely overlooked a mid-range possibility: the potential for uncoordinated social groups – groups that share common experiences or characteristics but lack any formal means of coordination – to have important and broad collective impacts (Zietsma et al., 2017). Such social groups and subcultures may be based on many factors including demographics, socio-economic status, race, nationality, and values, and are ubiquitous in modern society. In a time of growing political and social polarization, overlooking these groups is an important theoretical shortcoming as it neglects key aspects of field change and meaning-making. Our paper responds to this lack of attention to social groups by focusing on the potential impact of a specific type of social group, a generation cohort, as it enters an established field. We draw on a rich literature across disciplines on the role that shared life events in formative years can have on a group of individuals – a generation cohort – born within a similar time frame (Halbwachs, 1980/1925; Mannheim, 1952/1923). The value system and worldview established during these years generally 'stays with the individual throughout their lives and is the anchor against which later experiences are interpreted,' thus anchoring people 'in qualitatively different subjective areas' (Scott, 2000, p. 356). Accordingly, we ask: *Can an uncoordinated social group, such as a generation cohort, behave in a collective manner as a field actor? If so, what are the mechanisms by which it does so?*

To answer these questions we used a mixed-methods approach combining qualitative and quantitative empirical analyses of Millennials in the U.S. automotive field. First, we used qualitative interviews with a national sample of Millennials ($N = 40$), to explore attitudes around automobiles and to inductively develop theory and testable hypotheses. We then conducted a national survey of travel behaviour ($N = 2{,}225$) comparing three generations of adults. We find that Millennials report driving for a significantly smaller proportion of their weekly trips than prior generations, and that many of their attitudes and preferences related to car use are unique. Anomalies between the results of our two studies led us to abductively develop theoretical mechanisms that may reconcile them. Although we do not claim to predict the future of the automotive field, we identify a broad Millennial ambivalence to the entire field – arguably the most important consumer product in history – that may have important future implications. In short, the infamous Millennial term for indifference, 'meh', appears to have been directed at the automobile.

Our research makes both theoretical and practical contributions. First, we contribute to research on agency in institutional fields by identifying what we term *correlated groups*. By this we mean social groups of uncoordinated actors that, while not actively coordinating, may act in a seemingly coordinated and collective manner due to common

experiences and characteristics. Such groups may demonstrate collective agency, despite their lack of formal organization. Our insights suggest that such groups, although previously unaccounted for, can have important field impacts. Second, we identify four novel theoretical mechanisms that explain how these *correlated groups* can produce impacts. Two of these draw on similarities across our two studies: *correlated imprinting* and *cohort as conduit*. However, the second two, *cohort myth apathy* and *cohort myth creation* draw on surprising inconsistencies whereby Millennials state that they are more 'experience oriented' and less 'status oriented' than other groups and believe that 'driving is dangerous', but do not appear to differ from other groups in any of these regards when analysed using large-scale survey data. Our findings show that correlated groups and in-group myths provide essential insight to understanding emerging research on meaning-making in fields and how meaning travels across fields. Further, we point to the dynamic nature of field meanings in an environment of increasingly highly connected and self-referential field and inter-field subgroups.

Our study also has important implications for an active body of energy and transportation research on whether Millennial driving behaviour differs from that of other groups. Our large-scale survey and mixed-methods approach offer novel insights: Millennials are indeed different, but it is their attitudes rather than their socio-economic status that make them so. Moreover, our findings have timely practical implications for managers in the auto industry and other sectors susceptible to impact from Millennial behaviour, for transportation policy and infrastructure investment, and for the environment and greenhouse gas emissions. If Millennial attitudes are indeed permanently imprinted, then traditional vehicles and sales models may be threatened as this group questions the safety, the pleasure and the environmental impacts of driving.

THEORETICAL CONTEXT: FIELD THEORY AND THE ROLE OF SOCIAL GROUPS

The institutional field, defined as a community of organizations 'whose participants interact more frequently and fatefully with one another than with actors outside the field' (Scott, 2001, p. 56) has taken on increasing importance as field and market boundaries are being challenged and disrupted. A recent turn in field theory has begun to consider in detail agency and the role of field actors – those groups whose activities lead to field creation, maintenance and change – examining both actors within and outside the field as well as their relative coordination.

While exogenous shocks and spill-overs from outside fields and groups were long the focus of fields research (e.g., Meyer et al., 2005), studies on field actors now identify highly strategic and purposeful actors within the field as agentic. These are often elite and embedded central actors (Greenwood and Suddaby, 2006), heroic and motivated institutional entrepreneurs, (Garud et al., 2007) or organized and intentional social movements within and outside the field (Hoffman, 1999). In a systematic review of 110 fields papers, Zietsma et al. (2017) identify these 'central/elite actors' and 'formal governance units' as being the key agentic actors in the vast majority of cases. Where non-elites are involved, their review frequently identifies these actors as having some level of field status

or standing, including the role of 'field coordinators' such as professionals (Garud, 2008) or recognized cultural 'arbiters of taste' (Anand and Jones, 2008).

In contrast, a smaller but emerging body of fields literature argues that a broader array of actors may also play key roles. Following a recent interest in the role of individual and micro-level actors more broadly (e.g., Powell and Colyvas, 2008), field studies have begun to turn to the role of micro-level actors and their practice-level improvisations (Smets et al., 2012). Emerging studies on the role of these less central actors draw on early fields literature that argued new ideas emerge from 'parties from the fringes' and from 'newer and/or less powerful participants' (Leblebici et al., 1991, p. 359). The Zietsma et al. review (2017) also highlights some important cases of agency from 'peripheral' or 'new' field actors. While these may arise from external shocks, as past research shows, more recent authors have shown that peripheral and new actors may arise in relatively established 'industry exchange fields' (Zietsma et al., 2017) and have incremental but important impacts over time (Hoffman, 1999; Kipping and Kirkpatrick, 2013).

This growing focus on the variety of agentic field actors privileges purposeful and strategic actors, whether they be central and elite or peripheral and new. In contrast, a very limited set of studies has argued that this focus may miss important non-strategic sources of field dynamics. In a study of the introduction of text messaging, for example, Ansari and Phillips (2011) highlight the role of non-core actors, 'product consumers', as field actors through micro-level dispersed and uncoordinated actions. This theory is built on Dorado's (2005) concept of 'partaking' whereby autonomous and uncoordinated activities, through cumulative action, can lead to coordinated impacts. While these studies suggest a complete lack of coordination, Zietsma et al. (2017, p. 407) suggest another potential level of organizing for disparate micro-actors whereby their impact may be amplified because they are often '…embedded in societal spheres, which may be influenced by geography, religion, or social group or even technology …' Similarly, although not a focus of their study, Ansari and Phillips (2011) also note that young consumers used practice changes 'as a form of collective identity for situating the self in particular social groups of subcultures' (p. 1588). These comments suggest that uncoordinated actors may not be as individualized as sometimes thought. Instead, they may participate in previously unexplored forms of collective field action through a meso-level of organizing that lies between that of the central and strategic actors who are the focus of prior research, and the unorganized activities that are the alternative focus. Disparate social groups or societal spheres, such as a generation cohort, may occupy an under-theorized midway point between these two views of field actors. In other words, previously unexplored social ties may serve to bond autonomous and unorganized micro-level actors such that their actions have a collective, seemingly coordinated, and potentially non-linear and even disruptive field impact.

One potential means by which autonomous actors may have collective bonds is through demographic ties. For example, the study of differences between generation cohorts and their values and attitudes builds primarily on seminal work in sociology by Mannheim (1952/1923) and Halbwachs (1980/1925). These authors argue that generation cohorts of those born in the same broad time period experience similar events and contexts during the key developmental periods of childhood and adolescence (Schaie,

1965). Similar 'traumatic or formative events' may be experienced differently by those in different age groups, such that a generational 'collective identity' is formed (Eyerman and Turner, 1998, p. 96). These events can influence values, attitudes, orientations, and actions throughout a cohort's life, and differentiate them from other generations (Schuman and Scott, 1989).

Nascent research on the effects of generations has begun to emerge in management and organizations research. Such studies tend to focus predominantly on the workplace as Baby Boomers begin to retire and Millennials take a more prominent role (Twenge, et al., 2010), and on the complex mix of generational and other workplace identities in understanding employee attitudes and behaviours (Joshi et al., 2010). Going beyond the organization, Lippmann and Aldrich (2016) seek to integrate the generations literature with organization theory by developing a framework for how generational units within a geographic locale may 'actively work in concert' (p. 662) shape and sustain regional entrepreneurial clusters. This link between generations and impact echoes seminal work on young adults as catalysts due to the prominent role they play in 'war, revolution, immigration, urbanization, and technological change' (Ryder, 1965, p. 843).

Although fields research has not, to the best of our knowledge, specifically considered the role of a generation cohort, anecdotal evidence suggests that as an emerging social sphere, a new generation may have profound impacts both on organizations and on a variety of fields. To address these concerns and to extend our understanding of the role of uncoordinated societal groups, we study the impact of a new generation, Millennials, on the U.S. automotive field as we ask: *Can an uncoordinated social group, such as a generation cohort, behave in a collective manner as a field actor? If so, what are the mechanisms by which they do so?*

RESEARCH CONTEXT: THE U.S. AUTOMOTIVE FIELD AND MILLENNIALS

The automotive industry has been the focus of prior field studies (Orsato et al., 2002). The industry, and related field, is established and large, dominated by the 'Detroit Three' auto manufacturers (plus Toyota) in the U.S. and directly employing over one million people (Pearl, 2008). The automotive field has been described as inert and resistant to change and transition, with dependency on the automobile built into the 'fabric' of modern life due to technological lock-in as well as 'profound cultural concepts such as freedom' associated with the automobile (Wells and Nieuwenhuis, 2012, p. 1687). Famously deemed 'too big to fail' and bailed out by government during the 2008 recession, a decade later the industry has largely recovered economically. However, industry analysts share a 'general consensus that the industry is transforming' (McKinsey & Co., 2016, p. 3) due to changing lifestyle and mobility demands and an array of technological changes such as electric vehicles, connected and automated vehicles, and shared mobility. As the precise shape these changes will take over time is still open for speculation, we do not attempt to make projections about the nature of future changes, or even whether they will persist. Instead, we use the context of a field in flux to examine the role of a previously unexplored group of field actors. We characterize this field as an established industry exchange field, possibly moving to being actively contested (Zietsma et al., 2017).

We selected Millennials (i.e., born between 1981 and 1998) as our generation cohort of interest due to emerging popular, practitioner, and academic interest in this generation's lifestyle and purchasing choices. Millennials are also noteworthy as the first generation of 'digital natives' (Prensky, 2001) coming to adulthood and due to the potential impacts of the Great Recession and economic disruption on their economic standing and attitudes. Recent U.S. Census Bureau data confirms some key differences from prior generations. Comparing Millennials in 2016 with young adults of the same age in 1975, the report finds that 'today's young adults look different in almost every regard: how much education they have, their work experiences, when they start a family…' (Vespa, 2017, p. 1). These differences suggest that Millennials are an appropriately distinct demographic social group for the purposes of our study.

To date, a handful of studies have examined how and why Millennial travel behaviour might differ from other generations. Using data from the Panel Study of Income Dynamics, Klein and Smart (2017) conclude that Millennials own fewer cars than prior generations at the same age but that the effect is concentrated among Millennials who remain economically dependent on their parents. Blumenberg et al. (2012) and Leard et al. (2016) found that recent declines in youth driving were correlated with economic factors, but the survey was not designed to capture changing attitudes and social influences. Other cross-sectional surveys have explored some of these aspects in greater depth. For example, the American Public Transportation Association (n.d.) finds that Millennials are more attached to their smartphones, have a stronger desire to protect the environment, and see public transportation as more affordable and convenient. Transportation research not specific to Millennials reinforces the role of attitudes in determining mobility choices and demand. For example, Bagley and Mokhtarian (2002) found that attitudes toward alternative forms of transportation, to the environment, and to driving had a greater impact on travel demand than either socio-demographic variables or residential location. Although these studies typically control for age, none to our knowledge explores whether attitudes towards transportation differ by age and generation. In short, extant studies across disciplines have been inconclusive as to the likely impact of Millennials on the automotive field.

STUDY 1: QUALITATIVE METHODS

In line with the multi-method nature of our study, we used a field analytic approach to link secondary data from popular and academic sources with primary data from our survey and interviews in order to gain a rich understanding of current field dynamics, existing research, and relevant trends. We began our project with exploratory discussions with Millennials and collection of archival data including traditional and social media as well as automobile-specific media sources including Car & Driver and Jalopnick. We also collected and analysed academic articles from transportation and other disciplines as well as 15 practitioner reports from recognized transportation and energy organizations.

Our qualitative sampling technique for interview participants was both emergent and deliberate (Eisenhardt, 1989). Several initial interviews were conducted in person with participants of theoretical interest through personal and academic networks as well as recruiting posters at an employment office in a large urban centre. As these early insights emerged we saw the need for a broader sample more in line with our proposed

survey. Using an online Qualtrics screening survey we then sampled for Millennial participants across the U.S. Respondents to a brief demographic survey were asked if they would participate in an in-depth one-hour interview via video conferencing. At this stage our sampling for interview participants was deliberate so that we could include a balance of Millennials across key categories: rural/urban, age, and car ownership. Our 40 interviews were recorded and transcribed. In semi-structured interviews participants were asked about their personal travel behaviours and preferences, factors that impacted these, perceptions of automobiles and driving, and their future plans.

Our qualitative data were analysed using a multi-step process (Dacin et al., 2010). An open coding approach was used in the first step whereby archival and interview data were coded using *in vivo* words and statements used by the informants in their own terminology and language (Locke, 2001; Strauss and Corbin, 1990) to better reflect that much of the language of our Millennial participants around lifestyle and driving differed from prior transportation research. Second, retaining the language and meaning of the informants, we then analysed the codes identified in the first stage to identify emerging themes, constructs, and categories (Purdy and Gray, 2009). At this stage, while retaining the rich and distinct meaning and words of our participants, we began to step away from driving and car ownership to broader emerging themes such as lifestyle, utility, values, emotions, and the impact of the built environment. Third, we identified aggregate analytical dimensions or categories that proposed theoretical linkages between second-order themes. Our coding at each step as well as additional data samples are included in Table I. This stage led us to identify three ways in which Millennials appeared to be interacting with the field, or the field positions (Hardy and McGuire, 2010) they were taking, as a collective field actor that we posit are generalizable to other cohorts or social groups: *Weakly Embedded Actor*, *Boundary Spanning Actor*, *Self-Referential Actor*. While these dimensions were interesting, at this stage we still had few insights as to whether this social group was impacting the field, and how and why they might be doing so, that would allow us to build deeper theory, and we conducted a second, quantitative, survey to explore these factors in detail.

We used the ideas and themes from our qualitative analysis to develop a series of specific hypotheses for the quantitative study. As we completed analysis of the second study, we noted several surprising differences between our survey results and how Millennials explained their own and their cohort's behaviour. These 'surprising facts' (Hanson, 1958, p. 86) in the data across our two studies pushed us to return to our qualitative data for further analysis to build deeper theory on how Millennials, as autonomous members of a social group, are behaving as collective field actors. The similarities across our two studies as well as the inconsistencies between them allowed us to identify a set of theoretical mechanisms explaining how uncoordinated social group members can play a role as a collective field actor, and marshal them into a theoretical model, which we present after the empirical results from our survey.

QUALITATIVE FINDINGS

Our qualitative analysis revealed three dimensions in which a new generation cohort of Millennials may have unique values, attitudes, and orientations that can position them

Table I. Qualitative data analysis

Dimensions, Themes, Categories and Data	
Second-order themes & first-order categories	*Representative quotes for categories*

Aggregate Dimension 1: Generation Cohort as Weakly Embedded Actor

1. Reduced emotional benefits of autos

A. Conditional enjoyment of driving	A1. 'It's more of a chore I would say… It can cause you to be late or, you know, you're trying to get somewhere and you said you're going to get there at a certain time, but the traffic delays you. So, I think overall it's kind of a nuisance'
	A2. 'Yeah. So, I would say on the whole, no. Like, I wouldn't, like, jump at the chance. Like, if someone's like, "Hey, who wants to drive here?". Like, I would never be like, "Me, me, me!" I would be, like, the last person to raise their hand'
B. Driving as stressful or dangerous	B1. 'It's, like, boring for me. It's – I could die at any time. I get nervous. One time I had a dream that I killed my whole family when I was driving. That put me off of the driving thing. So very nervous'
	B2. 'I've just been like, "This is scary". Like, because you see so many car accidents, and it's like – what is it? Something like 30,000 people in the United States die in a car accident every year? I don't know. It's just ridiculous. It's just – oh, god. It's so scary'

2. Increased opportunity cost of autos

C. Employment and financial position	C1. 'If I had a little bit more money and I always had a full tank of gas, I probably wouldn't mind going out again because I would be, "Oh, I got gas"'
	C2. 'Being so close to Louisville, we have had – we – heroin has been really, really bad around here. And – well, drugs period, but heroin has been terrible. And it seems that a lot of the people around here have started to use more public transportation because they are – they can't hold any – they can't hold onto anything anymore. So, I have seen that, I've seen a lot more people sitting at the bus stations and just knowing'
D. Cost of vehicle ownership	D1. 'I actually used to own a car. When I moved to the city though from a slightly more rural area I sold my car because between congestion and the cost that I mentioned before, because parking and insurance was quite expensive in the city. I opted to actually forgo vehicle ownership and embrace transit'
	D2. 'You know, obviously like cost is always part of any decision. So when gas prices go up, we maybe won't… do a long trip and it is like another factor in the decision to get a car. In addition to just insurance and gas, its, oh, you got to park it'

3. Changing utility perceptions around field

E. Vehicle as tool, practical	E1. 'The experience is going to a fancy cottage, going to a music festival, going to a sporting event. So, the car isn't the driving factor, but the car is required in the equation'
	E2. 'And so once I finish my degree, we'll end up in a place and then I'll probably try to get rid of my car. Like I'll look for an excuse to get rid of my car because I don't want to have a car unless I absolutely need it'

Table I.   *Continued*

Dimensions, Themes, Categories and Data

Second-order themes & *first-order categories*	*Representative quotes for categories*
F. Limited interest in vehicle ownership	F1. 'And I think maybe back in the day that would have been different. Like, "Oh, you drive that car? Gross". Now it's just like, "Oh, you have a car? Eh, that's cool. Is it a nice car?" "Yeah." "What kind of car is it?". Every one of my friends living in the city doesn't own a vehicle, and all their licenses are expired, and they don't care'
	F2. 'I dread, absolute dread [buying a new car]. I don't want to because like then you have to deal with car maintenance and gas and parking and the winters are really rough in Colorado and snow is scary and you have to brush it off your car and it's cold all the time. You have to worry about, oh, am I going to put this in the car? Is the windshield going to crack because the temperature fluctuates like crazy around here'

Aggregate Dimension 2: Generation Cohort as Boundary Spanning Actor

1. Receptivity to external field technological change

G. Travel substitutes (less need to travel for work or leisure)	G1. 'I know a lot of people who work either for technology or start-ups too. There're more people working at home now as well so there's not as many people commuting. So, I think there isn't always a need to have two cars anymore. If you have one and you schedule your day the right way, there's definitely no need to have two. And for my friends, at least, I know that a lot of them just like to stay at home and watch movies or play games'
	G2. 'I think people just drive less because there's so much to do now at home. There's Netflix and Hulu and Spotify. You don't need to go drive down to Blockbuster anymore. There's so much available to you at home and internet is so high-speed that you don't need to go out, especially–like video games, you don't need to go to an arcade or a Game Stop really. You just download it on demand'
H. Transportation Substitutes (other and new transport options)	H1. 'There is a lot, because everybody lives downtown, or close enough together, we do carpool a lot. So, like for volleyball every week there's – I don't even know – there's like five, five of us, I think, that live fairly close to each other, so we just take turns driving rather than everybody just driving themselves. And like that also tends to happen with like cottage weekends, if there's a few people going. So, it's a lot of carpooling. Not for like cost or anything. I think it's just like either social, and then I, I like to think it's environmental'
	H2. 'Zipcar is usually if I need to do like a lot of errands in one day. So, for example, if I need to drop off donations and pick up a lot of groceries or go to Ikea where it's very big, or if I have to travel somewhere for a particular event or to occasionally see my parents or something like that, we'll take the Zipcar just because you have a little bit more freedom to do that. You can rent it for the day so that's kind of convenient too'

Table I.   *Continued*

	Dimensions, Themes, Categories and Data
Second-order themes & first-order categories	*Representative quotes for categories*
I. Growing appeal of alternate travel	I1. 'Yeah. Especially for going to work and, like, rush hour, it gives me an opportunity to just read a book and, I don't know, just turn on music and not have to deal with people and things. It's kind of – I mean, even though it's crowded, it's easy to kind of just blank out the world because I don't have to pay attention to traffic or pay attention to getting myself to work'
	I2. 'Yeah, I mean, I didn't, I didn't used to have a bike, but I think the city's gotten a lot safer for biking around, like and there's more like laws about it, like everyone has to have a light, or like everything's kind of more thought through now regarding bicycle safety, so yeah, I feel more comfortable with that'
2. Receptivity to external field issues/movements	
J. Environmentalism	J1. 'I think it's a real big environmental concern as far as like, you know, the new pipelines that I'm hearing about. So maybe gas prices will go down, but even with gas prices down, that just means that there will be more users, more pollution, more things going on that, you know, isn't too favorable to our environment. As you can see, you know, we're in the middle of winter, and we've only had maybe two snows in Philadelphia, where typically snow starts in December'
	J2. 'Well, I mean like, you know, I would be more willing to pay for gas if it went to something that was, you know, helpful for the world and I think the oil companies aren't exactly, you know, the most beneficial. Like, yeah, they employ tons of people, but it also pollutes the world and we, we only got one of those'
K. Anti-materialism and anti-consumerism	K1. 'The way I consume products. And I try to reuse a lot of things, or buy things used or second-hand, and, you know, try not to buy things that aren't necessary'
	K2. 'Yeah. I mean, environmental factors are a reason why also why I like public transportation. I like the idea that there's less footprint that way. I try to be as little of a, as a consumer as possible for, you know, for multiple reasons, but that's also another one'
Aggregate Dimension 3: Generation Cohort as Self-Referential Actor	
1. Questioning relationship with field members and norms	
L. Disidentification with vehicle and/or enthusiasts	L1. 'But I just think that there's a different sense of community that Millennials have, or at least Millennials in a city have. That isolation and cars, and sort of bragging about your individuality, bragging about your salary, and bragging about your ability to pollute don't have the same sort of cache that they did'
	L2. 'I just think it's, if I can say, glazed over, if that makes sense? It's just like, "Oh. You have that kind of car. Yeah, cool. Whatever". It's not anything to be – yeah. It's not positive, it's not negative, it's just kind of like – it's neutral. It's like, "Blah"'

Table I. *Continued*

Dimensions, Themes, Categories and Data	
Second-order themes & first-order categories	*Representative quotes for categories*
M. Disidentification with norms of field members outside group	M1. 'Older people are way more likely to own their own car and drive everywhere. And then people that are like younger in my generation, most people don't have a car. They just use a car when they need to with like a rental service. Like it's not the default. It's not to just drive wherever you go. I'd say that's the biggest thing. Like car ownership is not prioritized in our generation'
	M2. 'And sort of like I think that's part of the thing. It's like I want to learn how to drive, but like I don't necessarily aspire to car ownership, which is I think like a definite like difference versus earlier generations'
2. *Asserting group-wide norms and choices*	
N. Experiences Prioritized over Material	N1. 'Like what's new coming out and stuff like that…like tangible purchases. More of like, the experience. "Did you go here? Did you go there? Have you been to this new restaurant? Oh, you got to try this place. It's delicious" kind of thing'
	N2. 'Oh, we go to, like, restaurants, and bars, and grills, and things like that, and hang out like that, a common club. Probably it's – yeah, like experiences. Spending our money on experiences. Housing isn't really affordable here, so it's not like we're saving money for, you know, to purchase like a brown stone in Manhattan for two million dollars'
O. Location choices	O1. 'Most of them, they choose homes that are like close to work. So, I have a friend who's like two minutes from work, walking distance. Other friends are like five minutes from work – always walking distance – so they don't use any public transport. They just live in the city, walk to work, come back. Sometimes even work from home doing work. So, like for them, it's all also about convenience. So, I guess when it comes to driving, it's not really seeing that as often'
	O2. 'Yeah. Yeah. I like living places where I can walk to the things that I need. And that's – that's one of the major things that I look at when I'm moving to a new place is, like, how close is the grocery store? Can I walk to work? Do I have to deal with parking? And I – I try to avoid places that are more car-heavy. They're car dependent'

– or an important portion of them – uniquely in the field in three important ways. First, our analysis shows that as new field members, social groups may be *weakly embedded* in field and institutional norms and understandings, often making them peripheral field members. Second, as a weakly embedded social group they may also be more receptive to ideas from neighbouring fields, and act as *boundary spanners* between multiple fields. Third, the above factors may mean that a new cohort may *self-referentially* identify as different from others. We discuss these dimensions below. In striving to embrace the potential of multi-method research, we present our qualitative findings interlinked with extant research in order to develop hypotheses for Study 2. Following the quantitative study, we go on to further develop theory and then, to identify mechanisms as to how these positions are a precursor to collective activities.

Generation Cohort as Weakly Embedded

Members of a generation cohort may have experienced unique events and life experiences that make their personal values, attitudes, and behaviours differ from others in ways that are similar. Our analysis revealed several aspects of car ownership that Millennials were experiencing as negative, or at least less positive, than we would expect from prior consumers, field norms, and prior literature. Here we suggest that Millennials are, therefore, weakly embedded field members. In part, this is due to the fact that they are new to the field, but our analysis suggests that this weakly embedded status is much more deeply ingrained and gets to both the emotional and utilitarian experiences and views many of these individuals have about autos.

   Auto ownership has long been viewed as a major life step attached to feelings such as 'liberation, empowerment, and social inclusion' (Sheller, 2004, p. 230). In addition to the perceived importance of learning to drive or owning a vehicle, auto ownership has been particularly important for identity formation in the young (Sheller, 2004) as through vehicle selection 'people define and communicate who they are, expressing interests, beliefs, values, and social status' (Heffner et al., 2007, p. 398). In contrast, our participants often spoke of a highly utilitarian connection with their vehicles, with terms such as 'practical', 'reliable', 'tool,' and 'get me from A to B' used frequently. These attitudes and perceptions are in almost all cases extended to current vehicles and are even used frequently when speaking of aspirational vehicles, illustrating a lack of interest in or prioritization of ownership for ownership's sake. Instead, many Millennials note that a vehicle is simply a tool, for example:

> *It was really just like something you needed. Like when you have to go and, you know, pay taxes or something. It's like, all right, well, I'll get a car. All right. I didn't like name it or anything or have this big emotional attachment to it. I was just like, this is what I need to get to the grocery store.*

We also found rejection of some of the meaning making and car-related identity building that the auto industry has associated with vehicle ownership. While some participants acknowledged these connections, numerous others rejected the idea of such a connection to the vehicle for themselves, actively disassociating themselves from such ideas and from 'others' who feel this way:

> *I know that lots of people see their car as a reflection on, like, how they see themselves. But, you know, I guess I just define myself differently.*

Interestingly, while this acknowledgement of others' identification with the vehicle was common, most participants could only identify one or two people they knew who were like this when asked to elaborate. These findings suggest Millennials may be actively seeking to disidentify (Elsbach and Bhattacharya, 2001) not with a particular auto organization but with broader field norms and understandings around the automobile, exacerbating their ambivalent attitude to field norms and reducing their field embeddedness. The changing understandings of the role of the automobile in one's lifestyle, and even in

one's identity, appeared to go hand in hand with broader preference changes around the support for and buy-in to the field norms.

Building on the growing ambivalence to the automobile itself, changing lifestyles seem to be allowing a new generation to find substitutes for the meaning and connection with peers formerly provided by vehicles. These in turn suggest a re-assessment of the field's value propositions in two key aspects: emotional benefits of vehicles, and perceived opportunity cost of ownership.

A growing body of institutions literature illustrates the importance of emotions to understanding institutional change and reproduction (Voronov and Vince, 2012). The automobile field has long been dependent on the emotional responses of consumers to buying and driving cars. Vehicles have been associated with positive emotional experiences including joy and freedom, in part based on auto company marketing (Sheller, 2004). Yet, despite this history, we generally found a lack of strong emotional connection to ownership among our Millennial participants. This went beyond a feeling of indifference to a feeling of stress, anxiety, and even fear associated with driving that was noted by numerous participants. Although both positive and negative emotions have long been associated with automobiles and driving (Sheller, 2004), for a majority of participants these negative emotions seemed to be dominant. For example:

> I have really bad anxiety and, like, I lived in D.C. before I moved to Dallas and took public transportation everywhere and I kind of got used to it. I think the idea of driving gives me anxiety. Like, even now. I'd rather take the train or have someone else drive. Like, I don't enjoy it.

Although not consistent across all participants these neutral or negative emotions were in the majority, undercutting the traditional positive emotional connections that reproduced field norms and meanings around the automobile in prior generations. Long-held emotional connections to auto ownership may be reconsidered by less embedded actors as they enter the field and become drivers and customers.

In addition to negative emotions around driving, we also heard from participants that the perceived cost of driving, or at least the opportunity cost, was changing. A defining feature of the Millennial generation was the economic shock of the Great Recession during their youth, a shock that may have had significant long-term impacts on employability and job prospects (Kahn, 2010). Thus, the cost of automobile ownership was not surprisingly a factor for many of our participants, with many admitting that the cost of parking, insuring, and fuelling a vehicle is a major consideration, both in terms of the choice to own, type of vehicle purchased, and miles driven. A participant speaking of her efforts to walk to work rather than drive comments:

> So, my job doesn't pay super well. Like it's better than the national minimum wage, but not much better. So, if I can get out of paying for something, I do. Honestly, I'm not sure what the price of gas is these days, but it's greater than zero … and walking is free.

Of course, economic factors will have impacts across the field and across generations. However, as new actors entering the field as customers, Millennials may be particularly vulnerable to these economic factors as many entered the job market during the peak

of the Recession and have more limited savings to fall back on. In addition, with lower financial and job prospects, and as actors who are not yet embedded in the norms of the field or committed to living arrangements that require car access, Millennials also have more flexibility in their travel choices and lower switching costs (Burnham et al., 2003) than do older generations. This combination of factors has led to a lack of interest and enthusiasm:

> *Like, I've considered getting a car, especially when I was in college. But now it's like, meh, getting a car… I mean, like, it doesn't sound appealing whatsoever. Because, in the end, I have to maintain my car, you know, and I also have to pay for gas, so like why not just skip all that and just rely on [public transportation].*

From our data, Millennials appear to be affected by economic factors and are also flexible enough to change their habits and living arrangements to accommodate. These early habits are important as they may develop into longer term preferences and shape later life choices.

In sum, at this stage our qualitative analysis showed that Millennials' vehicle-specific preferences may indicate that they are adopting a more ambivalent, and weakly embedded or more peripheral, approach to the field. Actors' embeddedness in their institutional environment has long been seen as a constraint on action and on institutional and field change (Dacin et al., 1999). For example, the automobile has been deeply entwined with modern Western cultures and social norms, especially in the U.S., in ways that have shaped field norms and embedded new actors well before they were even allowed to drive. Car consumption has been found to be 'socially and culturally embedded in familial and sociable practices of car use' (Sheller, 2004, p. 222), as the term 'car culture' denotes. Yet, Millennials seem to be positioned, or positioning themselves, as distinct from these expectations. Based on the above findings we develop our first hypotheses around Millennials broader choices for driving as well as the emotional and practical reasons for these choices. We begin by positing that Millennials are indeed behaving differently, as they suggest:

> *Hypothesis 1*: Millennials rely less on personal automobiles than either Generation X or Baby Boomers, even after controlling for socio-economic factors.

We then hypothesize that this is due to individual differences mentioned by participants:

> *Hypothesis 2A*: Millennials have more negative emotions, such as fear and anxiety, and fewer positive emotions, towards driving than either Generation X or Baby Boomers.

> *Hypothesis 2B*: Millennials perceive higher opportunity costs of driving than either Generation X or Baby Boomers.

Generation Cohort as Boundary Spanning Actor

Shocks and spill-over effects from external fields or groups have long been recognized as key field influences. While these effects have been explored extensively in prior literature,

here we focus on how these effects tie directly to the role of generation cohorts as field actors. Our analysis highlights two key aspects of the external environment and outside fields that are of particular importance to Millennial participants: their receptivity to outside technological change; and, their receptivity to outside social change, or issue fields.

The advent of new technology in neighbouring fields has been shown to have profound impacts on field change in studies across industries and disciplines (e.g., Munir and Phillips, 2005). Writing on generation cohorts specifically, Ryder (1965) provides further insight noting that the effects of technology may be highly differentiated by age, with those who are 'about to make their lifelong choices' (p. 851) both feeling the impacts and being more open and flexible to adaptation than older generations. For the emerging cohort of Millennials, their greater familiarity as 'digital natives' with internet technology has been firmly established elsewhere (Prensky, 2001). What we find in our interviews and analysis is that rather than new technologies entering equally across the field, a generation cohort or social group may be the avenue of entrance, with new technologies first appearing and being adopted by those both more open to them and less embedded in existing automobile field structures and norms. Our analysis identified two distinct means by which Millennials span boundaries between fields for new technology entering the U.S. automobile manufacturing field: travel substitutes and transportation substitutes.

First, Millennials are finding increasing ways not simply to change their transportation modes, but to avoid travel. In many cases our participants note that they have opportunities to work at home or remotely and that they have reduced other optional travel due to a desire to save money, save time, and avoid congestion and stress. Emerging online opportunities to grocery shop, do errands, and enjoy entertainment (Netflix etc.) make these choices both viable and appealing. One participant summarizes how he and his wife substitute for travel:

> *I use Amazon a lot to just make a lot of normal house purchases. And we'll stream movies from home, it's cheaper and easier than going to the movie theater. So we'll do that more often than we probably used to. We've ordered food occasionally online, or we'll use food delivery services … That definitely does decrease our time driving.*

Second, when Millennials do travel, technology allows them increased choice of substitutes for driving their personal vehicles. New technologies such as car-sharing (e.g., Zipcar or Maven) and ride-sharing or ride-hailing (e.g., Uber, Lyft, etc.) rely heavily on online applications that Millennials may be both more comfortable with and more likely to adopt.

While each of these technologies is available and used across generations, our qualitative data suggest that their impact on the field will come largely through the younger generation cohort which shows excitement over these options that far outstrips their interest in driving and vehicle ownership. Although changes in infrastructure and congestion affect travellers of all ages, our analysis suggests that Millennials are less constrained by prior choices and habits (driving to work, living in a suburban area etc.) and may also have lower switching costs (renting a home, owning an old/cheap vehicle) than older generations. In addition, their greater facility with information technology may make

transit and other alternate travel modes both more accessible and more appealing due to the alternative uses of time not spent occupied by driving, which is seen as lost or wasted time by many participants. For example, Millennials see increased appeal of not driving due to the ability to use the time more effectively if they are able to read, check email and social media, do work, or simply relax. For example, a young male professional driving his dream luxury vehicle on his daily 45-minute commute explains that he would still prefer to not be driving:

> If I was on a direct line on transit, and it was a comparable travel time… I would take transit… for the convenience of not having to drive. To be able to sit there and read a newspaper, do something else. I think the lifestyle of not [having] the anxiety of sitting in traffic, versus just going along for the ride. And I'd do something else valuable to me.

Participants' choices around vehicle ownership and driving were also frequently related to concern over the state of the environment, their own impact on the planet, and the role of auto emissions in climate change. Changing environmental values and attitudes have been shown to impact field change across numerous industries including chemicals (Hoffman, 1999) and international governance of DDT (Hardy and McGuire, 2010). Where our findings here differ is that we found no references to active involvement in or engagement with environmental groups and social movements that might be expected in issue-based field change (Zietsma et al., 2017). Instead, external social movements and growing public concern appear to be translated by members of the generation cohort into values-based assessments of vehicle ownership and driving, and have begun to influence their travel choices. For example, one participant explains:

> So I think that you have to think about your driving in more of a 'is this good economically and also environmentally?'. To drive a Hummer these days is just, like, being a jerk.

Numerous participants also noted interest in living minimally, not being as much of a consumer, and reusing, upcycling and reducing waste. Although this was in part attached to environmental concerns it was not exclusive to that, suggesting that Millennials may be seeking a different approach to their lifestyles that is not as dependent on material goods. Again, these arguments make no visible connection to direct participation in broader movements or activism. Accordingly, we expect Millennials to be more open to external fields and we posit:

> *Hypothesis 3A*: Millennials are more open to technological change from external fields than either Generation X or Baby Boomers. Specifically, we expect Millennials to use technology more often than prior generation cohorts as a substitute for travel.

> *Hypothesis 3B*: Millennials are more open to external issue fields than either Generation X or Baby Boomers. Specifically, we expect Millennials to be more conscientious about their role in addressing environmental issues than prior generations.

Generation Cohort as Self-Referential Actor

A final dimension we noted among our participants was their acknowledgement of their status as a unique cohort, or a self-referential quality. The combination of their practical attitude and lack of emotional or normative connections with auto ownership leads many Millennials as individuals to a general lack of interest in automobiles as illustrated above. However, we also heard from many participants who spoke of their generation, not just themselves, actively choosing a different path from their parents and prior generations. In this way driving and ownership is not simply associated with neutral or negative feelings but, instead, for some, has reversed the traditional benefits thought to be conferred by the automobile. For these Millennials, driving is seen as a lack of freedom and lack of independence, with not owning a car associated with flexibility and independence, and a point of distinction from car-bound prior generations. As one female professional explained:

> When I look at all of my friends' parents or, you know, my older coworkers, they would drive all the time and pay like 20 bucks a day in parking, you know, and gas and sit in the traffic and then like bitch about it and say, like, 'I have to drive'. Whereas a lot of younger people that I know, they would rather live closer to work or sit on public transit where they can read a book or listen to a podcast and not have to, you know, deal with it. Like it's just – it's a very big, I think, generational thing. Like car ownership, people are, 'Whatever', in our age, yeah.

These responses and many others from Millennials suggest that they see less status associated with owning a vehicle and driving than did prior generations, and believe their peers and cohort are different in these regards than prior generations.

Although changing values regarding auto ownership vary, broader comments about lifestyle choices run through almost all of our interview participants. In both the popular press and academic research, the idea that Millennials are experience-seeking is common. For example, Twenge et al. (2010) find that Millennials value leisure time and work-life balance more than prior generations. Our qualitative analysis shows consistent prioritization of experiences such as restaurants, concerts, and a desire to travel. When asked about these purchases our participants regularly recounted more specific aspirations (e.g., target destinations or wish lists) and budget plans (e.g., currently saving for an annual trip) than they did regarding future car ownership, where all but a few had no specific vehicle or budget planned. One participant summarizes this prioritization of experiences over traditional purchases:

> Our generation is very big on doing. It is kind of rebalancing priorities, and how we spend money compared to previous generations. Right? You know, maybe a home, and, you know, investments. Big stable things aren't as valuable, or experiences are more valuable.

Even where participants noted awareness of this experience-oriented stereotype of Millennials, many affirmed its truth. This self-awareness, along with a sense of shared identity and actively working to shape both the group and public perceptions, is common

to cohesive generational units (Joshi et al., 2010). For example, one participant noted awareness of this perception:

> *You hear it and it might seem like a huge stereotype, you know, Millennials being that type that seek experiences over material goods. And it's a lot to forsake one for the other, it's definitely not that type of mentality. But just, you know, different priorities I think definitely exist within my age group. Things like Instagram and the rest of it. We feel the need to travel and to share and show that you're participating in it all.*

Based on the above findings regarding Millennials' self-referential perceptions about how their cohort differs, we develop two final hypotheses:

> *Hypothesis 4A*: Millennials equate less status with the automobile than do either Generation X or Baby Boomers.

> *Hypothesis 4B*: Millennials are more interested in experiences (as opposed to things) than are either Generation X or Baby Boomers.

STUDY 2: QUANTITATIVE METHODS

The primary goal of our quantitative study was to explore the hypotheses developed in our qualitative study and archival research, and in particular to determine whether on average Millennials in fact differ from other generations in their driving behaviour after controlling for economic status and life stage. Of course, members of any generation cohort are not homogeneous across all attitudes, values, and behaviours, and there may be meaningful subgroups within the larger cohort. Our goal with our large-scale survey is to identify underlying commonalities within the whole cohort despite the heterogeneity amongst members. This allows us to explore how beliefs and attitudes related to personal vehicle use might vary by generation cohort, and their role in explaining driving behaviour. Our survey comprised a series of five- and seven-point Likert-scale items designed to measure attitudes about cars and driving, preferences related to residential location, and socio-economic status. Other measures, not reported in detail here, concerned such things as availability of public transportation, self-reported travel mode, driver's licensure, and perceptions of neighbourhood quality.

Sample and Procedure

Participants were U.S. adults recruited via an online survey panel managed by Qualtrics. As our primary interest was in understanding how Millennials differ from other generations of working age, we limited the sample to individuals between the ages of 18 and 65. Quotas were used in order to sample equivalently sized groups of young Millennials (born 1989 – 1998), older Millennials (born 1981 – 1988), young Generation X'ers (born 1972 to 1980), older Generation X'ers (born 1965 to 1971), and young Baby Boomers (born 1952 – 1964). We defined birth years for each generation cohort using the same classification as the National Center for Sustainable Transportation (Circella et al., 2016).

Additional quotas ensured that within each generation cohort we had equal representation of individuals living in small, medium, and large cities (defined as less than 50,000 people; 50,000 to 250,000 people; and greater than 250,000 people; respectively); an even gender split; and a proportion of parents with children at home roughly comparable to U.S. Census data (60 per cent for Millennials and Generation X; 40 per cent for young Baby Boomers). Although our analyses do not distinguish between young and old Millennials (or young and old Gen X'ers), we employed this sampling strategy to ensure our samples were broadly representative of each generational cohort and not skewed towards, for example, college-age Millennials whose life stage might distort our understanding of driving-related attitudes and behaviour for the cohort as a whole.

To help ensure content and construct validity of the survey instrument, prior research on transportation-related attitudes was consulted and used to help frame our questions. The resulting survey was iteratively pilot tested with U.S. adults on Amazon Mechanical Turk ($N = 415$) before fielding the final revised instrument with Qualtrics panel participants in 2016 ($N = 3{,}469$). The final survey had a median time to complete of 25 minutes. Survey measures used in the present analysis are available in the online supplemental material along with a discussion of steps taken to reduce common method bias.

A number of respondents were excluded from the dataset either because they failed simple attention checks ($N = 1{,}011$), entered nonsensical responses on items not reported in the present analysis ($N = 232$), or reported living outside of the US ($N = 1$). The final sample ($N = 2{,}225$) comprised 864 Millennials, 892 Generation X'ers and 469 Baby Boomers. Importantly, generation and cohort terms were not used in the survey itself.

Attitude Measures

Unless otherwise noted, items were measured on 7-point Likert scales from 1 = *Strongly disagree* to 7 = *Strongly agree*. Principal component analysis was used to reduce items into a smaller set of interpretable scales, with scale scores computed by taking the average of all items that loaded onto a single factor above 0.45. Given the exploratory nature of the study, components were retained if they achieved a Cronbach's alpha of 0.60 or higher (Hair et al., 2010).

Pro-environmental personal norms. Feelings of moral obligation to protect the environment have previously been shown to be correlated with travel mode choice (e.g., Lind et al., 2015), car use (Klöckner and Matthies, 2009), and intentions to use public transportation (e.g., Bamberg et al., 2007). Three items were adapted from Klöckner and Mattheis' (2009) personal pro-environmental norm scale and included measures such as 'I feel guilty about my environmental impact if I take a lot of trips by car'. These items formed a reliable scale with Cronbach's α = 0.85.

Experiential purchasing. Car ownership may be in decline among Millennials because they are generally less interested in owning material goods. To assess whether Millennials are more likely to spend money on life experiences as compared to other generations, we used a 5-point version of the Experiential Buying Tendency Scale (EBTS) (Howell et al., 2012), with higher ratings indicating a greater proclivity for experiential purchasing (α = 0.67).

Desired density of residential location. To determine whether Millennials intentionally seek to live in high-density areas where cars are not needed, we asked participants to rate the desirability of living in locations where car travel can be substituted with walking or public transportation. Sample items include 'Living within walking distance of work/school', 'Being able to take public transportation for some of my trips', and 'Having shops and services within walking distance of my home' (rated on a scale from 1 = *Extremely undesirable* to 7 = *Extremely desirable*). Principal component analyses yielded a five-item Pro-density scale ($\alpha = 0.78$) as well as a single-item component, 'Living in a larger home even if it means I have to travel farther to shops and services'.

Attitudes toward car use. Prior research indicates that car use may be a function of how people value cars. To determine whether Millennials differ from other generations, we adapted items from Steg (2005) to measure the symbolic value of cars as well as their perceived utility or instrumental value. These included measures such as, 'Owning a nice car is a sign that you've made it' and 'Cars are only good for traveling from place to place', respectively. We additionally devised three items to measure the perceived opportunity cost of driving: 'When traveling, I would rather be reading or on my smartphone than behind the wheel', 'Driving is too much of a nuisance', and 'Driving a car wastes time. I would rather be doing other things when I travel'. Three scales emerged representing the Instrumental value ($\alpha = 0.65$), and Symbolic value ($\alpha = 0.86$) of cars, as well as the perceived Opportunity costs ($\alpha = 0.76$) of driving. To assess affective values associated with driving, participants rated how they felt about 'driving for day-to-day tasks' on ten attributes such as 'Safe', 'Enjoyable', 'Intimidating', and 'Gives you freedom'. These items formed three scales concerning beliefs that driving is Dangerous and stressful ($\alpha = 0.73$), Fun ($\alpha = 0.87$), and Gives you independence ($\alpha = 0.79$).

Desired transportation attributes. Participants evaluated the importance of 10 attributes when choosing a transportation mode: comfort, convenience, privacy, cost, safety, environmental friendliness, potential for physical activity, being able to multitask, total travel time, and flexible departure time (on a scale from 1 = *Not at all important* to 5 = *Extremely important*). These items formed two scales concerning Convenience ($\alpha = 0.72$) and a Desire for co-benefits ($\alpha = 0.60$). Items concerning privacy, safety, and cost failed to load on any components above 0.45 and were dropped from future analyses.

Socio-Economic Variables

The survey included several measures of socio-economic status, including educational attainment, employment (measured by number of jobs held), perceived financial security (using three items from Griskevicius et al., 2011), and subjective socio-economic status. Subjective socio-economic status was measured with the MacArthur Scale of Subjective Social Status (Adler and Stewart, 2007), which asks respondents to rank themselves on a 10-rung ladder that represents people in the United States. The top rung represents people who are the 'best off' with the 'most money, most education, and best jobs', and the bottom rung represents the people who are worst off. Evidence suggests that the SES ladder is strongly associated with financial security, occupation, and education and is an

equal, if not stronger, predictor of overall well-being than income (Singh-Manoux et al., 2003).

Attitudes toward personal vehicle use may depend on one's life stage, with, for example, parents of young children holding more favourable attitudes toward driving than single adults. To account for these differences, we included a variety of measures to capture household structure and stage of life. These included number of adults in the household, number of children in the household at different ages, home ownership, whether the respondent lived with a significant other, whether the respondent lived with family, and gender of the respondent. We also included a binary measure of whether the respondent had children under the age of 18.

Self-Reported Behaviour

Online shopping. Participants were asked to rate how often they shop online instead of going to a store to purchase six types of goods: groceries, clothing, personal care items, household staples, furniture, and housewares/décor (1 = *Never* to 5 = *Almost always*, with a not applicable option). These six items were averaged to form an Online shopping scale (α = 0.87).

Use of technology for travel. Participants rated how often they use smartphones or other technologies for five behaviours: deciding which means of transportation to use for a trip, checking traffic or routes, navigating, requesting ride hailing services, and tracking arrival times of public transportation. These items formed a reliable scale (α = 0.81), with higher values indicating more frequent use (1 = *Never*, 2 = *At least once a year*, 3 = *At least once a month*, 4 = *At least once a week*, 5 = *Daily*).

Travel mode choice. Participants were asked to estimate the number of one-way trips they take in a typical week using various modes of transportation. These include trips taken as a driver, a passenger in a car, a pedestrian or cyclist, and as a rider of public transit. We used the proportion of trips taken as a driver as an indicator of preference for automobile use.

Analytic Approach

To estimate effects on our outcome variable – proportion of weekly trips taken as a driver – we use a series of nested fractional logit models (*fracreg logit* in Stata). These models use quasilikelihood methods specifically designed for outcome variables that range from 0 to 1 inclusive (Wooldridge, 2002). We began by testing whether Millennials, in fact, display different driving behaviour from other generations (Hypothesis 1). By comparing our nested models with one another, we assessed whether cohort effects affected the outcome variable directly, or whether they were mediated through (a) socio-economic differences or (b) differences in attitudes. We then tested for generational differences on each attitudinal variable using analysis of variance (ANOVA) with Games-Howell post-hoc comparisons. Finally, to determine whether there is something unique about the attitudes held by generation cohorts – above and beyond economic status and life stage – we performed a series of nested regression analyses. For each attitude of interest, we

entered socio-economic and life stage variables in the first step of the model. Dummy variables for the Gen X and Baby Boomer generations were added in the second step. To test hypotheses 2A through 4B, we examined whether the addition of generation cohort dummies explained added variance (as measured by a significant change in R^2), over and above the predictors already included in the model.

QUANTITATIVE ANALYSIS FINDINGS

The results of our nested regression models are shown in Table II. We began by estimating the proportion of driving trips in a 'naïve model' based on generation cohort alone. Doing so allows us to see the overall effect of generation cohort, without parsing out how much of the variance is explained by socio-economic factors or attitudes. As shown in model 1, generation cohort significantly predicts proportion of self-reported driving trips, with Millennials (the omitted category) reporting a significantly lower proportion of trips as a driver than either Gen X'ers or Boomers. No significant differences were found between Gen X and Boomers (marginal effect = 0.01, SE = 0.02, p = 0.63). Our findings indicate that the proportion of trips Millennials take as a driver is between 6.68 per cent and 7.68 per cent lower than earlier generations, a large and economically important difference.

A crucial part of Hypothesis 1, however, is that Millennials differ from other cohorts, even controlling for socio-economic status. Thus, in model 2, we include multiple controls for socio-economic status and find that the effects of generation cohort are dampened but still significant. Respondents are more likely to drive if they live with a significant other or are homeowners. We also observe positive relationships for number of jobs held, subjective socio-economic status, education, and having children between 11–14 years of age.

Controlling for attitudes in model 3 shrinks the estimates for the generation dummies by two-thirds and renders them statistically insignificant. Wanting a convenient mode of travel, believing that driving gives you independence, and desiring a larger home had small, positive effects on driving. Respondents are less likely to drive the more they favour living in dense areas, believe driving is dangerous, want travel modes with co-benefits, and believe that driving imposes an opportunity cost. There was also a small correlation between believing driving is fun and driving less, suggesting that people are more likely to think driving is enjoyable when they don't do it often. Finally, in model 4, we also control for the frequency of online shopping behaviour and technology use for travel – two behaviours that may reflect a greater willingness to substitute car travel with other means made convenient by technology. As might be expected, both behaviours are negatively associated with driving behaviour.

Overall, our nested regression results show that Millennials do indeed drive less than earlier generations even after controlling for socio-demographic variables. Yet, when attitudes are added to the model the effect of generation cohort becomes statistically insignificant, suggesting that the effect of being a Millennial on driving behaviour is mediated through attitudes.

Table II. Series of nested fractional regression analyses to predict proportion of weekly trips as driver

	1		2		3		4	
	Marginal effect	SE	Marginal effect	SE	Marginal effect	SE	Marginal effect	SE
Generation X	0.07***	0.02	0.04*	0.02	0.02	0.02	−0.00	0.02
Baby Boomer	0.08***	0.02	0.07**	0.02	0.03	0.02	−0.01	0.02
Gender (*female*)			0.01	0.02	0.01	0.01	0.00	0.01
Education (*some college*)			0.08***	0.02	0.07***	0.02	0.07***	0.02
Education (*bachelor's or higher*)			0.09***	0.02	0.09***	0.02	0.10***	0.02
Number of adults			−0.01	0.01	−0.01	0.01	−0.01	0.01
Number of children 0-4 years			0.01	0.01	0.00	0.01	0.00	0.01
Number of children 5-10 years			0.00	0.01	0.01	0.01	0.01	0.01
Number of children 11-14 years			0.05**	0.02	0.05**	0.02	0.05**	0.02
Number of children 15-17 years			−0.00	0.02	−0.00	0.02	−0.01	0.02
Have children under 18 years			0.00	0.02	0.00	0.02	0.01	0.02
Live with significant other			0.08***	0.02	0.06**	0.02	0.05**	0.02
Live with parents			0.02	0.03	0.01	0.03	0.00	0.03
Homeowner			0.07***	0.02	0.06***	0.02	0.05***	0.02
Number of jobs			0.05***	0.01	0.04***	0.01	0.05***	0.01
Subjective SES			0.01**	0.01	0.02***	0.00	0.02***	0.00
Financial security			−0.01*	0.01	−0.01*	0.01	−0.01*	0.01

(Continues)

Table II. *Continued*

	1		2		3		4	
	Marginal effect	*SE*	*Marginal effect*	*SE*	*Marginal effect*	*SE*	*Marginal effect*	*SE*
Pro-environmental norms					0.00	0.01	0.00	0.01
Experiential purchasing					0.01	0.01	0.01	0.01
Pro-density					−0.07***	0.01	−0.06***	0.01
Desire larger home					0.01*	0.00	0.01**	0.00
Symbolic value of cars					0.00	0.01	0.01	0.01
Instrumental value of cars					0.01	0.01	0.00	0.01
Driving has opportunity cost					−0.02***	0.01	−0.02**	0.01
Driving gives independence					0.03***	0.01	0.03***	0.01
Driving is fun					−0.01*	0.01	−0.01†	0.01
Driving is dangerous					−0.04***	0.01	−0.03***	0.01
Want convenient mode					0.02†	0.01	0.03*	0.01
Want co-benefits					−0.03**	0.01	−0.02*	0.01
Shop online							−0.01	0.01
Use technology for travel							−0.07***	0.01
AIC	2830.07		2760.65		2593.33		2562.31	
Pseudo R²	0.004		0.039		0.107		0.119	

Marginal effects represent the percent change in the proportion of trips taken as a driver for each 1-unit increase in the predictor variable.
$N = 2,225$.
†$p < 0.08$; *$p < 0.05$; ***$p < 0.001$.

Table II presents the marginal effect of each variable on driving behaviour. We see there that education has the largest marginal effect, with a college degree associated with a 10 per cent increase in the proportion of trips taken as a driver. More importantly, the marginal effects also reveal some of the key contributors to the difference between Millennials and other generations. As mentioned earlier, the 'naïve' regression 1 in Table II shows that Millennials on average take 7–8 per cent fewer of their trips as a driver, compared to other generations. Looking at individual factors that contribute to this difference, Table II shows that a one-unit shift in the belief that driving is dangerous (e.g., from strongly disagree to disagree) is associated with a 3 per cent decrease in the proportion of trips taken as a driver. Similarly, a one-unit shift in the belief that driving has an opportunity cost (e.g., strongly disagree to disagree) is associated with a 2 per cent reduction in proportion of trips taken as a driver. Moreover, a one-unit shift in using technology for travel (e.g., from at least once a year to at least once a month) is associated with a 7 per cent reduction in proportion of trips taken as a driver.

To explore the extent to which Millennials hold different attitudes, we next examined how attitudes vary by generation cohort. Table III reports mean scores for each attitude by generation cohort.

Consistent with Hypotheses 2A and 2B, believing that driving is dangerous and poses an opportunity cost was more common among younger generations, although mean scores still equate to 'Slightly disagree' on the scale. Younger generations were also more likely to desire transportation modes with co-benefits such as opportunities for physical activity or multi-tasking. However, they are no less likely to believe that driving is fun than other generations.

With regards to Hypothesis 3A, we observed large generational differences for online shopping behaviour and use of technology for travel. For both measures, Millennials reported engaging in these behaviours most often, followed by Gen X'ers, then Boomers. However, Hypothesis 3B was not supported, with no differences between generations on pro-environmental norms.

Regarding Hypothesis 4A, Millennials had higher ratings than other generations on items related to the symbolic value of cars and were no more likely to see an instrumental value to cars; thus, Hypothesis 4A is not supported. Their mean response on symbolic value, however, was near the neutral point of the scale, suggesting that many in this generation may, in fact, be ambivalent about the need for the status conferred by cars. Also of interest, despite much commentary in the popular press and amongst our interview participants, Hypothesis 4B, regarding Millennials higher value of experiences, was not supported, with no differences found between the average attitude of different generations regarding experiential purchasing tendencies or the desired density of residential location. Nor were any differences observed for the perceived instrumental value of cars or the desire for convenient modes of travel.

Of course, members of a generation cohort are not homogeneous on all dimensions of attitudes, values and behaviours. Thus, to formally test whether generation cohort explains differences in attitudes above and beyond socio-economic factors, we ran a series of nested regression models with socio-economic variables controlled in the first step, and dummies for generation cohort added in the second. The results provide a more nuanced but similar picture of the influence of generation as the ANOVAs. As shown

Table III. Summary of ANOVA results

	Millennials $n = 864$		Gen X $n = 892$		Boomer $n = 469$		
	M	SD	M	SD	M	SD	F
Pro-environmental norm	3.57	1.55	3.46	1.49	3.43	1.48	1.89
Experiential purchasing[†]	3.19	0.89	3.21	0.88	3.22	0.89	0.11
Pro-density	4.77	1.24	4.73	1.16	4.65	1.14	1.45
Desire larger home	4.39[a,b]	1.61	4.07[a,b]	1.69	3.83[a,b]	1.73	18.64[ŧ]***
Symbolic value of cars	3.88[a,b]	1.50	3.58[a,b]	1.44	3.36[a,b]	1.37	21.31***
Instrumental value of cars	4.79	1.07	4.79	1.18	4.83	1.12	0.28[ŧ]
Driving has opportunity cost	3.52[a,b]	1.54	3.36[a,b]	1.53	3.01[a,b]	1.44	18.32[ŧ]***
Driving gives independence	5.89[a,b]	0.94	5.99	0.91	6.02[a,b]	0.91	3.88*
Driving is fun	4.78	1.29	4.63	1.34	4.71	1.25	2.75
Driving is dangerous	3.56[a,b]	1.17	3.37[a,b]	1.15	3.22[a,b]	1.16	13.42***
Want convenient mode[‡]	3.94	0.70	3.98	0.70	3.93	0.70	1.24
Want mode with co-benefits[‡]	2.76[a,b]	0.90	2.68[a,b]	0.93	2.53[a,b]	0.90	9.56***
Online shopping	1.97[a,b]	0.79	1.80[a,b]	0.76	1.64[a,b]	0.67	33.73[ŧ]***
Use technology for travel	2.62	0.97	2.30	0.92	1.95	0.85	85.24[ŧ]***

Note: $N = 2225$.
[†]$p < 0.08$; *$p < 0.05$; ***$p < 0.001$.
[†]5-point bipolar scale.
[‡]5-point unipolar scales from *Not at all important* to *Extremely Important*. All other constructs were measured on 7-point bipolar scales with 4 as the neutral point. In all cases, higher scores indicate greater endorsement of the construct.
[a,b]Means sharing a superscript in the same row are significantly different at $p < 0.05$.
[ŧ]Welch's F-ratio. For these variables, the assumption of homogeneity of variances was not met.

in Table IV, socio-economic and life stage variables account for a small proportion of variance in attitudes in the first step of each model (2 − 7 per cent), with gender often being the strongest predictor. Adding generation dummies in the second step explains a small, but significant amount of added variance for a select number of attitudes, with the change in R^2 ranging from 0.001 to 0.049 (a percentage increase of up to 42 per cent). In line with the ANOVA results, the largest differences between generations are seen for the symbolic value of cars (contrary to Hypothesis 4A), the opportunity costs of driving (supporting Hypothesis 2B), the belief that driving is dangerous (supporting Hypothesis 2A), and the desire for a larger home even if it requires more car travel. In each case, Millennials have the highest ratings, followed by Gen X'ers, who in turn have higher estimated means than Boomers ($b_{\text{symbolic value}} = 0.20, p = 0.01; b_{\text{opportunity cost}} = 0.34, p < 0.001; b_{\text{danger}} = 0.16, p = 0.02; b_{\text{larger home}} = 0.19, p = 0.05$). Interestingly, after controlling for socio-economic status, life stage, and household structure, differences also emerge for pro-environmental norms (supporting Hypothesis 3B), with Millennials reporting higher norms than both Generation X and Baby Boomers; no differences were found between Generation X and Boomers ($b = −0.02, p = 0.81$). Smaller differences were observed for

Table IV. Summary of hierarchical regressions to predict transportation-related beliefs and attitudes

	Pro-environmental norms				Experiential Purchasing				Pro-density			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Constant	3.07***	0.15	3.20***	0.16	2.49***	0.09	2.51***	0.09	4.55***	0.12	4.63***	0.13
Gender	0.19**	0.07	0.18**	0.07	0.12**	0.04	0.12**	0.04	0.03	0.05	0.03	0.05
Education	0.03	0.04	0.04	0.04	0.14***	0.03	0.15***	0.03	0.14***	0.03	0.14***	0.03
Number of adults	−0.04	0.04	−0.04	0.04	0.00	0.02	0.00	0.02	−0.02	0.03	−0.02	0.03
Number of children 0 − 4	−0.10†	0.05	−0.13*	0.06	0.00	0.03	0.00	0.03	−0.05	0.04	−0.06	0.04
Number of children 5 − 10	0.02	0.06	0.02	0.06	−0.02	0.03	−0.02	0.03	0.09	0.04	0.09*	0.04
Number of children 11 − 14	0.02	0.07	0.04	0.07	0.04	0.04	0.04	0.04	0.00	0.05	0.01	0.05
Number of children 15 − 17	0.05	0.08	0.09	0.08	0.08	0.05	0.09†	0.05	0.07	0.07	0.09	0.07
Have children under 18 yrs	0.12	0.08	0.09	0.08	0.06	0.05	0.06	0.05	−0.02	0.07	−0.04	0.07
Live with significant other	−0.20*	0.08	−0.21*	0.08	0.06	0.05	0.06	0.05	−0.15*	0.06	−0.15*	0.06
Live with parents	0.16	0.14	0.09	0.14	−0.04	0.08	−0.05	0.08	−0.11	0.11	−0.15	0.11
Homeowner	0.00	0.07	0.03	0.07	0.05	0.04	0.05	0.04	−0.19***	0.06	−0.17**	0.06
Number of jobs	0.03	0.04	0.02	0.04	0.05*	0.02	0.05*	0.02	0.00	0.03	0.00	0.03
Subjective SES	0.03	0.02	0.03	0.02	0.01	0.01	0.01	0.01	−0.01	0.02	−0.02	0.02
Financial security	0.06*	0.02	0.05*	0.02	0.04**	0.01	0.04**	0.01	0.05**	0.02	0.05*	0.02
Generation X			−0.18*	0.08			−0.04	0.05			−0.08	0.06
Baby Boomer			−0.20*	0.10			−0.01	0.06			−0.14†	0.07
R^2	0.019		0.022		0.049		0.050		0.022		0.024	
R^2 change	—		0.003*		—		<0.001		—		0.002	
F	3.04***		3.05***		8.18***		7.21***		3.59***		3.37***	

Table IV. *Continued*

| | Desire larger home | | | | Symbolic value of cars | | | | Instrumental value of cars | | | |
| | Step 1 | | Step 2 | | Step 1 | | Step 2 | | Step 1 | | Step 2 | |
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Constant	3.59***	0.17	3.79***	0.18	2.96***	0.15	3.27***	0.15	4.80***	0.11	4.79***	0.12
Gender	−0.07	0.07	−0.08	0.07	−0.28***	0.06	−0.29***	0.06	0.18***	0.05	0.19***	0.05
Education	−0.01	0.05	0.00	0.05	−0.02	0.04	0.00	0.04	−0.01	0.03	−0.01	0.03
Number of adults	0.02	0.04	0.03	0.04	−0.04	0.04	−0.04	0.04	0.00	0.03	0.00	0.03
Number of children 0 – 4	0.14	0.06	0.07	0.06	0.04	0.05	−0.03	0.05	−0.05	0.04	−0.05	0.04
Number of children 5 – 10	0.13*	0.06	0.13*	0.06	−0.13*	0.05	−0.13*	0.05	0.04	0.04	0.04	0.04
Number of children 11 – 14	0.12*	0.08	0.16*	0.08	0.06	0.06	0.10	0.06	−0.02	0.05	−0.02	0.05
Number of children 15 – 17	−0.08	0.09	0.00	0.09	−0.04	0.08	0.06	0.08	−0.01	0.06	−0.01	0.06
Have children under 18 yrs	0.20*	0.09	0.13	0.09	0.29***	0.08	0.21**	0.08	0.03	0.06	0.03	0.06
Live with significant other	0.15	0.09	0.14	0.09	−0.27***	0.08	−0.28***	0.08	0.13*	0.06	0.13*	0.06
Live with parents	0.11	0.15	−0.04	0.16	0.14	0.13	−0.03	0.13	0.16	0.10	0.17	0.11
Homeowner	0.03	0.08	0.10	0.08	−0.09	0.07	−0.01	0.07	0.13*	0.05	0.12*	0.05
Number of jobs	0.01	0.04	−0.02	0.04	0.02	0.04	0.00	0.04	−0.04	0.03	−0.04	0.03
Subjective SES	−0.01	0.02	−0.01	0.02	0.13***	0.02	0.12***	0.02	−0.07***	0.02	−0.07***	0.02
Financial security	0.10	0.03	0.09***	0.03	0.09***	0.02	0.08***	0.02	0.04*	0.02	0.04*	0.02
Generation X			−0.33***	0.09			−0.35***	0.07			0.00	0.06
Baby Boomer			−0.51***	0.10			−0.55***	0.09			0.03	0.07
R^2	0.032		0.043		0.074		0.091		0.021		0.021	
R^2 change	—		0.011***		—		0.017***		—		<0.001	
F	14.35***		17.00***		12.55***		13.77***		3.44***		3.03***	

Table IV. *Continued*

| | Driving has opportunity cost | | | | Driving gives independence | | | | Driving is fun | | | |
| | Step 1 | | Step 2 | | Step 1 | | Step 2 | | Step 1 | | Step 2 | |
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Constant	2.57***	0.16	2.85***	0.16	5.59***	0.09	5.51***	0.10	4.80***	0.13	4.85***	0.14
Gender	0.04	0.07	0.03	0.06	0.12*	0.04	0.13***	0.04	−0.24***	0.06	−0.24***	0.06
Education	0.22***	0.04	0.23***	0.04	0.09***	0.03	0.09**	0.03	−0.24***	0.04	−0.24***	0.04
Number of adults	−0.06	0.04	−0.05	0.04	−0.03	0.02	−0.03	0.02	0.04	0.03	0.04	0.03
Number of children 0 − 4	−0.07	0.05	−0.13*	0.06	−0.03	0.03	−0.01	0.03	0.03	0.05	0.01	0.05
Number of children 5 − 10	0.04	0.06	0.03	0.06	0.01	0.03	0.01	0.03	−0.04	0.05	−0.04	0.05
Number of children 11 − 14	−0.11	0.07	−0.08	0.07	0.01	0.04	0.00	0.04	0.07	0.06	0.08	0.06
Number of children 15 − 17	−0.05	0.08	0.03	0.08	0.07	0.05	0.05	0.05	0.09	0.07	0.11	0.07
Have children under 18yrs	0.16†	0.08	0.08	0.08	0.04	0.05	0.06	0.05	0.08	0.07	0.08	0.07
Live with significant other	−0.01	0.08	−0.02	0.08	0.12*	0.05	0.12*	0.05	−0.14*	0.07	−0.15*	0.07
Live with parents	0.38**	0.14	0.23	0.14	0.11	0.08	0.15†	0.09	−0.05	0.12	−0.07	0.12
Homeowner	0.04	0.07	0.12	0.07	0.07	0.04	0.05	0.04	−0.14*	0.06	−0.13*	0.06
Number of jobs	0.02	0.04	0.00	0.04	0.05†	0.02	0.05*	0.02	0.01	0.03	0.01	0.03
Subjective SES	0.05*	0.02	0.05*	0.02	−0.03*	0.01	−0.03*	0.01	0.05**	0.02	0.05**	0.02
Financial security	0.01	0.02	0.00	0.02	0.05***	0.01	0.05***	0.01	0.08***	0.02	0.08***	0.02
Generation X			−0.25***	0.08			0.09†	0.05			−0.11	0.07
Baby Boomer			−0.59***	0.10			0.14*	0.06			−0.03	0.08
R^2	0.028***		0.045		0.026		0.029		0.048		0.049	
R^2 change	–		0.017***		–		0.003*		–		0.001	
F	4.59***		6.51**		4.25***		4.11***		7.99***		7.17***	

Table IV. *Continued*

	Driving is dangerous				Want convenient mode				Want mode with co-benefits			
	Step 1		Step 2		Step 1		Step 2		Step 1		Step 2	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Constant	3.76***	0.12	3.94***	0.12	3.53***	0.07	3.54***	0.07	2.36***	0.09	2.45***	0.10
Gender	0.26***	0.05	0.26***	0.05	0.18	0.03	0.18	0.03	0.08*	0.04	0.08*	0.04
Education	−0.06†	0.03	−0.05	0.03	0.03	0.02	0.03	0.02	−0.09*	0.03	−0.08*	0.03
Number of adults	0.01	0.03	0.01	0.03	−0.01	0.02	−0.01	0.02	−0.02	0.02	−0.02	0.02
Number of children 0 − 4	0.04	0.04	0.00	0.04	−0.01	0.02	−0.01	0.03	−0.05	0.03	−0.07*	0.03
Number of children 5 − 10	0.03	0.04	0.02	0.04	0.05†	0.03	0.05†	0.03	0.09**	0.03	0.09**	0.03
Number of children 11 − 14	0.00	0.05	0.02	0.05	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.04
Number of children 15 − 17	−0.04	0.06	0.01	0.06	0.07†	0.04	0.07	0.04	−0.01	0.05	0.02	0.05
Have children under 18yrs	−0.09	0.06	−0.14*	0.06	−0.01	0.04	−0.01	0.04	0.16**	0.05	0.13*	0.05
Live with significant other	−0.05	0.06	−0.06	0.06	−0.07	0.06	−0.07	0.07	−0.14**	0.05	−0.14**	0.05
Live with parents	0.11	0.11	0.01	0.11	0.06†	0.03	0.06†	0.03	0.06	0.08	0.01	0.09
Homeowner	−0.06	0.05	−0.01	0.05	0.02	0.02	0.02	0.02	−0.06	0.04	−0.04	0.04
Number of jobs	−0.03	0.03	−0.04	0.03	0.01	0.01	0.01	0.01	0.05*	0.02	0.04	0.02
Subjective SES	0.01	0.02	0.00	0.02	0.01	0.01	0.01	0.01	0.06***	0.01	0.06***	0.01
Financial security	−0.08***	0.02	−0.08***	0.02	0.03**	0.01	0.03**	0.01	0.05***	0.01	0.04**	0.01
Generation X			−0.19**	0.06			0.01	0.04			−0.09†	0.05
Baby Boomer			−0.35***	0.07			−0.02	0.04			−0.20***	0.06
R^2	0.041		0.051		0.044		0.044		0.043		0.049	
R^2 change	–		0.010***		–		<0.001		–		0.005**	
F	6.70***		7.40***		7.25***		6.36***		7.17***		7.06***	

Table IV. *Continued*

| | Shop Online | | | | Use Technology for Travel | | | |
| | Step 1 | | Step 2 | | Step 1 | | Step 2 | |
	b	SE	b	SE	b	SE	b	SE
Constant	1.31***	0.08	1.51***	0.08	1.36***	0.09	1.68***	0.10
Gender	0.11***	0.03	0.10**	0.03	−0.08†	0.04	−0.09*	0.04
Education	0.03*	0.02	0.04†	0.02	0.13***	0.03	0.14***	0.03
Number of adults	−0.02	0.02	−0.02	0.02	0.01	0.02	0.01	0.02
Number of children 0 − 4	0.06	0.03	0.01	0.03	0.03	0.03	−0.04	0.03
Number of children 5 − 10	0.01	0.03	0.01	0.03	0.03	0.03	0.02	0.03
Number of children 11 − 14	0.02	0.03	0.05	0.03	−0.04	0.04	0.00	0.04
Number of children 15 − 17	−0.03	0.04	0.03	0.04	−0.15**	0.05	−0.05	0.05
Have children under 18yrs	0.11**	0.04	0.06	0.04	0.29***	0.05	0.20***	0.05
Live with significant other	−0.03	0.04	−0.03	0.04	−0.12*	0.05	−0.13**	0.05
Live with parents	−0.07	0.07	−0.17*	0.07	0.06	0.08	−0.12	0.08
Homeowner	−0.02	0.04	0.03	0.04	−0.18***	0.04	−0.10*	0.04
Number of jobs	0.01	0.02	0.00	0.02	0.13***	0.02	0.10***	0.02
Subjective SES	0.05***	0.01	0.05***	0.01	0.08***	0.01	0.08***	0.01
Financial security	0.04**	0.01	0.03**	0.01	0.06***	0.01	0.05***	0.01
Generation X			−0.22***	0.04			−0.33***	0.05
Baby Boomer			−0.36***	0.05			−0.63***	0.06
R^2	0.048		0.075***		0.116		0.166	
R^2 change	–		0.027***		–		0.049***	
F	8.01***		11.16***		20.78***		27.37***	

Note: $N = 2225$.
† $p \leq 0.08$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

transportation co-benefits, with Millennials desiring these added benefits only modestly more than Gen X'ers. Both groups indicate a higher preference for co-benefits than Boomers, however. Small differences were observed for the belief that driving brings independence, with Boomers endorsing these items more than Millennials, but not Gen X'ers ($b = 0.05$, $p = 0.39$). Generation cohort had a stronger influence on online shopping behaviours and use of technology for travel (supporting Hypothesis 3A). Notably, generational dummies explain an additional five percent of variance in travel-related technology use after controlling for socio-economic and life stage variables. In line with the ANOVA results, Millennials reported engaging in these behaviours significantly more often than either Gen X'ers or Boomers.

Overall, our quantitative analysis established that Millennials, on average, display significantly different driving behaviour than earlier generations, and that these differences are not primarily due to socio-economic factors but rather to their attitudes about driving. Millennials have stronger pro-environmental norms, are more likely to believe that driving has an opportunity cost, less likely to believe that driving gives independence, more likely to believe that driving is dangerous, and more desirous of a travel mode that offers co-benefits such as exercise or the ability to read or use social media. Despite what we heard from them in our qualitative work, Millennials are not much different than other generations in their desire for experiential purchasing, preference for high-density living, views about the instrumental value of cars, or beliefs that driving is fun. Even more surprisingly, they were actually more likely to believe that cars have symbolic value. These inconsistencies between our qualitative and quantitative findings provide important clues about the mechanisms at work here, and we discuss them in more detail below.

A MODEL OF CORRELATED GROUPS AS FIELD ACTORS

Our multimethod design allowed us to inductively develop theory and testable hypotheses about the behaviour of Millennials around automobile use. In doing so, we began to understand that Millennials display similar attitudes and behaviours, and that in many ways cohort members were paradoxically acting and identifying as a collective field actor despite lack of formal coordination or strategy. We term such seemingly coordinated social groups *correlated groups* and argue that social groups such as generation cohorts with powerful shared experiences will facilitate actions that are similar enough to appear collective.

We are mindful of the critique that when studying macro-level phenomena, 'Much of modern social theory has a tendency… to label, relabel, and to describe rather than to explain' (Hedstrom and Swedberg, 1998, p. 1.). Thus, we seek to identify the underlying mechanisms by which an uncoordinated macro-level entity can function as a collective actor. We conceive of mechanisms as 'bits of theory about entities at a different level (e.g., individuals) than the main entities being theorized about (e.g., groups), which serve to make the higher-level theory more supple, more accurate, or more general'. (Stinchcombe, 1991, p. 367). In this section we elaborate on the correlated group findings from our analysis by building a more generalizable theory upon four key mechanisms by which correlated groups may behave in an apparently collective, although unorganized, manner as a field actor.

The first two mechanisms are drawn out of our qualitative analysis in Study 1 and are confirmed by our quantitative testing: *correlated imprinting* and *cohort as conduit*. In the typology of Hedstrom and Swedberg, (1998, pp. 22–3), these are 'situational mechanisms' by which an 'individual actor is exposed to a specific social situation, and this situation will affect him or her in a particular way'. The second two mechanisms we conceptualized from discrepancies between our preliminary theory building from Study 1 and the outcomes of Study 2; we term these *cohort myth apathy* and *cohort myth creation*. In the typology of Hedstrom and Swedberg (1998, pp. 22–3) these are 'action formation mechanisms' that show 'how a specific combination of individual desires, beliefs, and action opportunities generate a specific action'. (In our quantitative data, our key outcome is driving behaviour). Although the interactions and overlap among these mechanisms are complex, we develop a preliminary theoretical model from our data and analysis to better understand how these mechanisms allow uncoordinated groups to function as field actors (see Figure 1).

In the case of generation cohorts, correlation is created first by the shared exposure to foundational events and experiences during an early and particularly malleable phase of the human growth and development process, a phenomenon we refer to as *correlated*
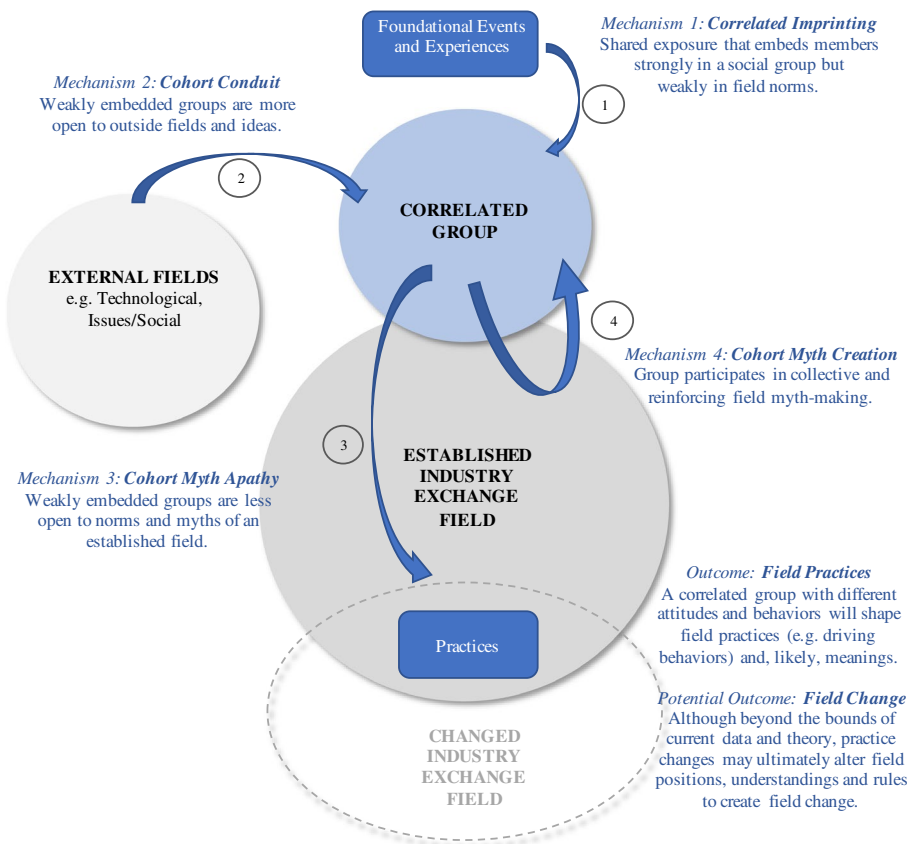

Figure 1. A model of correlated groups as field actors [Colour figure can be viewed at wileyonlinelibrary. com]

imprinting. Of course, not every generation or social group necessarily experiences a powerful set of shared events, in which case they may be largely indistinguishable in behaviour from preceding generations. In contrast, Millennials were exposed to two powerful imprinting events: the attacks on the World Trade Center on 11 September 2001 (which came shortly after the mass shooting at Columbine High School on 20 April 1999), and the Great Recession of 2008–09. Being attacked on home turf caused Americans to become more fearful, with parents controlling children's experiences more carefully to ensure safety; the Recession created long-lasting difficulties for young people entering the work force (Kahn, 2010). These experiences are unlikely to be forgotten or undone, creating a form of cognitive correlation that is expressed in shared attitudes, emotions and values and rooted in a set of foundational events and experiences.

Our quantitative findings highlight these observations, showing that cohorts differ in substantive ways around key attitudes and in their approach to the automobile field. Indeed, we find evidence consistent with the notion that via correlated imprinting the norms of the cohort and their shared experience prove, in some cases, more powerful than existing field and institutional norms. From job opportunities to availability of transportation options and housing, the reality facing new field entrants at a stage when they are not yet constrained by prior choices can lead a given cohort to impose its own circumstances and identity on prior field norms. Although we focus in our study on generation cohorts, we expect that a variety of social groups similarly share experiences, expectations, and culture that also afford correlated imprinting of values and attitudes that differ from those of other groups.

Second, weakly embedded field actors are likely to be more open to influences from outside fields. We observe that Millennials may not only be more flexible and less embedded in field norms around automobile ownership, as discussed above, but may also be more embedded, or multiply embedded, across certain other fields (such as the exchange field of information technology or the issue field of the natural environment) than are other cohorts. As such, Millennials may not only be the impetus for normative field change in and of themselves but may also serve as an important and overlooked conduit for external change to enter an established field. Thus, we identify a second mechanism whereby a cohort may serve as a *cohort conduit* for outside field technologies and movement ideas or issues to enter an established field. Our theorizing here comports well with the literature on the adoption and diffusion of new technologies (Karshenas and Stoneman, 1995), which finds that costs of adoption are lower for organizations that are not locked into prior technologies, and hence have low switching costs (Geroski, 2000, p. 613). From our perspective, a new cohort of less-embedded actors has the low switching costs that facilitate early adoption of technology and ideas. Moreover, this effect will be reinforced if the new cohort also places higher value on the network effects associated with joint adoption by a set of peers, a condition made more likely by powerful correlated imprinting. The combination of low switching costs and high network effects allows a correlated group to serve as a conduit for bringing new technologies, ideas and issues from one field to bear on a neighbouring field. These experiences create a form of lifestyle correlation that reinforces the cognitive correlation mentioned earlier. This phenomenon is related to but distinct from the more space-based notions of interstitial and liminal field spaces

discussed in prior literature that also theorize on how some field actors span field boundaries (e.g., Furnari, 2014).

Finally, and perhaps most tantalizingly, our findings suggest the importance of the role of numerous reinforcing collective myths through two mechanisms we posited abductively in attempting to synthesize our analyses and to reconcile areas where these conflict. Myths by their very nature are shared and collective constructions, and reinforce correlation amongst individuals as they increasingly recognize themselves as part of a cohort group with a shared narrative. Myths and ceremonies of course hold a seminal role in the study of institutions, as organizations both adapt and contribute to their environments and seek legitimacy and survival (Meyer and Rowan, 1977). The automobile field is an exemplar of such rationalized myths with the automobile seen as part of the 'fabric' of American life and intimately related to the country's own mythology around 'freedom' (Wells and Nieuwenhuis, 2012, p. 1687). However, building on our first two mechanisms, our analysis shows Millennials who are less embedded and more open to outside ideas to be unengaged with and even indifferent to the current rationalized field myths. Similarly, any correlated group that is less embedded or multiply embedded and more open to new and external ideas and outside fields may be less engaged in accepted rationalized myths. We term this third mechanism *cohort myth apathy*.

Following on cohort myth apathy, we distinguish a final mechanism, which we term *cohort myth creation*, whereby a cohort may rebuild their own myths to supplant those they have disregarded or rejected. In their theoretical exploration of localized cohorts and entrepreneurship, Lippmann and Aldrich (2016) posit that as a generational unit seeks to build self-awareness and collective identity, it will build and maintain 'shared symbols, myths, creation stories, and other boundary objects' (p. 663). Our qualitative findings show evidence of shared identity building as participants frequently acknowledge 'stereotypes' about their generation, or use language such as 'experience-oriented,' made popular in media coverage of Millennials. Yet, our quantitative findings show that Millennials in fact are no more experience-oriented than the prior generations we surveyed. Similarly, while interview participants often claimed they are less status-oriented than other generations, our quantitative findings show that Millennials as a whole are just as status-oriented as other generations. Finally, both our quantitative and qualitative findings show the prevalence of ideas such as 'driving is dangerous' among this cohort, although statistics show that driving is in actuality less dangerous than ever and only half as dangerous as it was in 1975 on a per-mile-travelled basis (IIHS, 2018).

The internal contradictions or inconsistencies we document suggest that Millennials are participating in myth-making around their cohort and its behaviours. We posit that these myths are initially fed by both other driving attitudes (e.g., concern for the environment) and exogenous circumstances (e.g., financial constraints). Myths around driving and Millennials in turn feedback to other new field entrants and begin to shape cohort members' collective identity and their experience and engagement with the automobile, perpetuating their lack of interest. Although it is beyond the scope of our study to establish, it is possible that such collective cohort myths may be self-fulfilling (Merton, 1948),

meaning that Millennials may actually mould their behaviour in response to their beliefs about themselves as a group.

DISCUSSION

We set out to better understand how an uncoordinated social group or societal sphere, such as a generation cohort, might play an important role in field dynamics as a collective field actor. Beginning with a qualitative study of Millennial driving behaviour we developed a series of hypotheses regarding key distinguishing characteristics of Millennials as a field actor that we then tested in a large-scale ($N = 2,225$) in-depth survey of the automobile field. We found that Millennials display significantly different driving behaviours than prior generations – and that these differences are not driven primarily by socio-economic differences, but attitudinal ones. This is a striking result that has not previously been established in the literature. We also found that Millennials are somewhat more influenced by the dynamics of other fields, being more open to information technology than other generations. The differences we observed pointed to a set of social mechanisms through which generation cohorts, or other correlated but unorganized social groups, may behave collectively as field actors.

   We make two contributions to the academic literature on fields and field actors, which also have important implications for research on energy and transportation. First, we introduce the unique notion of *correlated groups* to understand social groups that behave in a parallel but uncoordinated fashion as field actors. Second, we identify and model a specific set of mechanisms through which correlated groups interact with the field and within themselves and we identify group myth making as a key aspect of these activities. These two contributions suggest a rethinking of received wisdom both about who field actors are and how they enact agency, and also about when and how established exchange fields might expect non-linear and even disruptive change. Finally, the empirical findings of our research and the introduction of qualitative methodology and field thinking offer important insights to research on energy and transportation. Below, we discuss the implications of our findings for theory and practice.

Generation Cohorts as Field Actors: Correlated Groups

Our study extends research that has begun to examine the role of individual and micro-level actors and less strategic and purposeful field actors. Prior research has viewed micro-level actors as focusing primarily on small scale or practice-level change (Smets et al., 2012) and as being largely unstructured and disparate (Ansari and Phillips, 2011). In contrast, our findings explore the potential for correlated imprinting to situate a group of individuals within a set of common cognitions that allow these uncoordinated actors to behave in a seemingly coordinated fashion, and thereby have important impacts on the field. This mode of correlated behaviour is a distinctly 'meso'-level phenomenon lying between the completely disparate behaviour of individual consumers (Ansari and Phillips, 2011) and the conscious and collective behaviour of groups such as generational units of entrepreneurs (Lippman and Aldrich, 2016) in prior research on field actors. Our findings on correlated groups complement emerging work on collective solutions

to sustainability challenges in both management (Montgomery and Dacin, 2020) and economics (Pelenc et al., 2015), which explore the foundations of collective agency. Although the 'paradox of embedded agency' has been an enduring issue in institutional theory (Holm, 1995; Zietsma et al., 2017), correlated groups present a particularly striking case of this phenomenon, as they are uncoordinated yet display behaviour that appears agentic.

The meso-level behaviour of correlated groups suggests that field theory needs to reconceptualize the types of actors that are able to cross field boundaries, as a new cohort here appears well qualified to span boundaries between fields. As actors occupying multiple fields, a correlated social group can drive innovation much as professionals and elites have been found to do in the past (Zietsma et al., 2017). Our paper suggests that a generation cohort's openness to social and technological changes from other fields may be an important mechanism of field change. While technologies and ideas may sometimes be introduced from the periphery (e.g., Leblebici et al., 1991) they are thought to be most often introduced or adopted by elite actors seeking to augment their positions (e.g., Zietsma et al., 2017). In contrast, our participants offer numerous examples of how a correlated group can present an opening for social and technological changes to enter and change the automobile field – from ride-hailing and ride-sharing, to public transportation schedules, online shopping and entertainment, and mobile and flexible work. Yet although elites and central actors are striving to respond to industry shifts (e.g., the introduction of Maven car-sharing by General Motors) the bulk of their attention has tended to focus on making automobile ownership more appealing to Millennials, and maintaining current field norms and positions. This suggests that the power of generation cohorts is implicitly recognized by the industry, even if it is not yet able to offer a vision of the future that appeals to the specific preferences of the new cohort.

Our notion of correlated groups also has a number of important implications for the nature of change in industry exchange fields. Conventional wisdom holds that in such fields 'change is likely to be rather linear as industry members will pay more attention to their own organizations rather than those of their competitors…' (Zietsma et al., 2017, p. 411). Our findings suggest that the presence of correlated groups calls this conclusion into question. A key feature of generation cohorts is that members are similar along certain dimensions due to crucial formative events that create correlated imprinting. We argue that this correlated imprinting, along with a generation cohort's role as a conduit for technological and social influences and its capacity for self-referential myth creation, can lead to non-linear and potentially disruptive change. This change is for very different reasons than recognized previously in the literature, forcing us to reconceptualize change in industry exchange fields as potentially non-linear.

To better understand the nonlinear impact of generation cohorts, consider a reference case of a market with a series of 25-year cohorts producing customers and an identical number of children born annually. Each year, 1 year of the oldest cohort's customers is replaced by 1 year of the youngest. If there are no significant imprinting events, then cohort preferences will not change over time and the field will remain stable. Moreover, if external shocks have roughly similar impacts on all cohorts, change will continue to be linear in nature after the shock. However, if external shocks affect cohorts differently there will be an inflection point when a new cohort first enters the market. In addition, if

the imprinted cohort is unusually large in size, then a sharp nonlinear change may result. The nonlinearity of change will be exacerbated if incumbent producers fail to respond to customer change until it involves a large critical mass of customers. In this case change may be truly disruptive (Christensen and Bower, 1996).

Mechanisms of Correlated Group Agency: Cohorts and Myth-Making

Tensions between our qualitative and quantitative findings led us to engage in abductive reasoning to generate plausible explanations for the discrepancies (Behfar and Okhuysen, 2018). In particular, we sought to understand the gap between certain beliefs stated by Millennials about themselves relative to other groups (in Study 1) and the objectively measured lack of difference between groups on these same beliefs (in Study 2). Our model posits that in addition to acting as a conduit for technological change from other fields, a correlated group may be able to build and maintain self-awareness and collective identity through their affinity for, use of, and aptitude with new technologies. While Ansari and Phillips (2011) note that younger users may have been particularly adept with the introduction of texting technology, Millennials have been particularly adept with social media advances that have extended identity and self-awareness among the cohort and perpetuated myth-building. In light of the oft-noted phenomenon of homophily within social networks (Golub and Jackson, 2012; McPherson et al., 2001), which creates an 'echo chamber' effect within groups, it is not surprising that shared beliefs might diverge from reality. This insight, and our mechanisms of group correlation, pushes us to reconceptualize meaning making in fields and further illuminate the role of 'people doing things together' to create, maintain and change fields (Leibel et al., 2018). Leibel et al. (2018) point out the importance of social interactions and mechanisms as a key source of meaning in fields, one that has been overlooked. Our work pushes this development further, suggesting first that subgroups may be important instigators and perpetuators of such meanings as they interact and understand one another in ways that differ from other field members and actors. Second, and importantly, our study points to the potential for meanings to be created and even fictionalized as myths, but nonetheless be important factors in field dynamics. In doing so we underline the power of meanings in fields but also point to how the impact of this meaning may not be fully understood when the dynamics of correlated groups are not captured.

  In addition, the creation of correlated group myths itself has important implications for theory. When the myths and meanings created within groups diverge from reality, for example, two possible futures emerge: one in which myths gradually lose credence in the face of contradictory evidence, and another in which myths become self-perpetuating. The former possibility is predicted by formal models of learning on networks (Golub and Jackson, 2012). The latter possibility has long been recognized in institutional theory in the context of organizations, for example, that decoupling between policy and practice may eventually give way to a recoupling around the stated policy (Bromley and Powell, 2012). We infer abductively that a phenomenon similar to recoupling may be at work in the context of correlated groups such as generation cohorts. If so, Millennial beliefs that they privilege experiences over things and do not confer status to individuals based on what they own may reinforce a pre-existing tendency not to rely on personal automobiles.

The possibility of multiple path-dependent processes of coupling and decoupling between cohort myths and realities presents profound implications for fields, as well as for strategy. For example, the literature on industry exchange fields has paid relatively little attention to customers, especially as collective actors (Zietsma et al., 2017), and no attention to the role of myth-creating correlated groups. It is widely recognized that producers have incentives to differentiate their products in order to relax price competition, but economic models emphasize producer decisions based on knowledge of customer preferences (Rosen, 1974) while sociological accounts emphasize producer decisions based on mutual observation and imitation, due to a radical lack of information about customers (White, 1981). In the context of emerging generation cohorts, our findings suggest there may be great uncertainty, and even contradictory evidence, about customer preferences. In such a setting, producers may attempt to claim a customer segment and structure a market based on the myths perpetuated by customers as well as on their own organizational myths and ceremonies and the decisions of other rival producers. This can lead to a wide range of possible self-fulfilling paths of market development.

To the extent Millennials value their sense of shared identity, and remain a correlated group in the future, they may have a tendency to 'tip' towards one vision of the future or the other. Alternatively, subcultures may emerge within the group over time as their life paths diverge. Nevertheless, producers may also have a role to play in exacerbating that divergence. Producers must change their market myths to the extent that Millennials are becoming apathetic towards the received ones. As they develop new ones they may be able to shape, to some extent, whether competition is 'for the market' (as in a winner-take-all market) or 'within the market' (as in more traditional markets). The former case is likely to lead to a turbulent period of excess capacity followed by industry shakeout (Klepper, 1996). In the latter case, the market may settle into a stable configuration if myths come to more closely resemble reality, either because they yield to lived practice or because they become self-perpetuating. Alternatively, markets may go through a period of disruption and reconfiguring if customer myths persistently diverge from reality or if customer myths react to producer attempts at segmentation, perhaps becoming self-fulfilling prophecies (Deveraj et al., 2001). Overall, the recognition of correlated groups with myth-making capacity points towards a much more complex, and fascinating, process of contention and change within industry exchange fields than has previously been recognized.

Implications for Transportation & Energy Research

The transportation literature has taken a strong recent interest in the impact of Millennials on vehicle ownership and use, but it has not reached firm conclusions on whether Millennials really display different behaviour with respect to automobiles from prior generations (Klein and Smart, 2017; Knittel and Murphy, 2019; Leard et al., 2016). Some work concludes that after controlling for income and other demographics, Millennials drive significantly less than younger households did a generation earlier (Leard et al., 2016). Other work concludes that although Millennials do appear to drive less, this may be simply because a disproportionate number still live with their parents (Klein and Smart, 2017). Yet other work finds that controlling for demographic variables,

rates of vehicle ownership appear to differ little across generations but that Millennials may actually drive more miles per year (Knittel and Murphy, 2019). Our work differs from all of these studies in that we probe much more deeply into Millennial attitudes, not just economic and demographic variables. Our mixed methods approach began with in-depth qualitative research that was largely, but not completely, confirmed by results from a large-scale survey. Our findings suggest that it is Millennial attitudes, not sociodemographic status, that distinguish this generation from prior ones. As a result, vehicle-miles travelled may not track economic and other sociodemographic trends going forward. Moreover, we distinguish a set of social mechanisms that can explain why this divergence may be persistent.

Implications for Management Practice

In addition to implications for theory, our results have important implications for practice in the automobile industry, and industries facing similar challenges. If Millennials are indeed permanently imprinted, and likely to remain different from earlier generations, then traditional models of vehicle sales may be threatened. Because Millennials are highly sensitive to the economic costs of vehicle ownership, we would expect them to be particularly open to new forms of shared mobility, such as Maven, Zipcar, Uber, and Lyft. This suggests that while the total stock of vehicles may decline as Millennials become a larger share of the market, the vehicle stock will likely be utilized more intensively, resulting in more rapid turnover and creating incentives for owners to seek out vehicles that emphasize fuel-efficiency over horsepower. The net effects of these changes will have important implications for investments in vehicle manufacturing, vehicle design, and vehicle marketing.

Because Millennials are more concerned about vehicle safety and more aware of the opportunity costs of driving, we would expect them to be strongly attracted to connected and automated vehicles (CAVs). We would also expect Millennials to be early adopters of CAV technology, especially if CAVs are integrated with other consumer information technology, as seems likely. Because Millennials have a stronger environmental ethic than earlier generations, we would also expect they will be disproportionately drawn towards electric vehicles, which are already cleaner than internal combustion engines, on average, and will only become more so (Holland et al., 2018). The impacts of this generation cohort on the automobile industry and beyond will be felt for many years to come, and will create ongoing challenges and opportunities for managers and researchers alike.

Limitations, Boundary Conditions, and Future Research

Our study has a number of limitations that make it challenging to fully explore the generalizability of our findings and the boundary conditions of our theorizing. Most importantly, our study is limited to one continent and one industry exchange field. This is especially important as the relationship with the automobile in many Western countries is unique and enduring. However, we contend that the strong norms, embeddedness and 'stickiness' of this field actually make the collective actions and impacts of Millennials that we find surprising rather than predictable, and, therefore, likely more applicable to fields in which customers are less deeply embedded.

A further limitation is that we focus on one generation cohort, Millennials, a cohort that has had unique experiences and who may be differentially impacted by events and norms across national, cultural and socio-economic boundaries. Therefore, our contention that correlated groups may have unique impacts as field actors bears further study in new contexts and industries. As well, examining new social groups will provide fruitful opportunities to extend our findings and test the boundaries of our theory. Another possible limit to the generalizability of our analysis is that we focus on a generation cohort that is larger than many and may be unusually imprinted and cohesive. Examining the role of unorganized social groupings that share bonds such as religion, nationality (refugees etc.), demographics, and even gender (in the age of #MeToo) will provide important insights.

Finally, our study is limited because it is cross-sectional in nature, capturing current Millennial attitudes and behaviours only. As such, in our study we can only seek to understand the nature of correlated groups and cannot make casual statements about changes in the automobile industry. In addition, the automobile industry is historically slow to change due to the durable nature of the manufacturing process and the longevity of automobiles themselves, making decisive studies of change impossible in the near future. Future research exploring which of the factors we identify persist and which disappear as Millennials age and become wealthier will provide valuable insights into the impact of generation cohorts.

In sum, we posit that our model of correlated groups will be applicable in field contexts where three boundary conditions exist: (1) social groups are bound together by uniquely powerful events or experiences, (2) social groups have the ability to communicate self-referential attitudes and behaviours within the group, and (3) established fields have identifiable norms and expectations. While it is beyond the bounds of our current study, we expect that conditions 1 and 2 may hold, and allow correlated groups to function as field actors in fields that are not as established, thus making correlated groups also agents of creation and maintenance. In this way, and importantly, our theory takes both an unagentic stance (in that correlated social groups are bound together in predetermined ways) and a very agentic stance (seeing these bonds as a powerful foundation for making rapid and successful field change).

In conclusion, while the popular media will no doubt continue to debate the implications of Millennials, and emerging members of Gen Z, on a variety of industries and markets, our study illustrates their potential for important field impacts. The correlated effects and feedback mechanisms we identify herein will only increase as social media increasingly provide gathering places for powerful subcultures. The impact of previously disparate social groups increasingly behaving as correlated field actors will go well beyond the automobile and may be central to how we deal with a host of social and environmental issues more broadly.

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