

FURTHER IMPROVING OUR UNDERSTANDING OF THE TAX AWARENESS, TAX LITERACY AND TAX MORALE OF YOUNG ADULTS

Phyllis Alexander¹, Merima Balavac-Orlic², Andy Lymer³, Suranjita Mukherjee⁴

Abstract

Developed countries have, for some years, been introducing policies that focus more on the individual's responsibility to engage with taxpaying obligations. At the same time, they have provided less state support and assistance except where taxpayers are motivated to self-serve online. This paper argues that, given this change of approach to compliance, a greater focus on tax education is needed, particularly amongst younger people as they prepare to engage with the tax system beyond consumption taxation payment, and in order to build a platform for compliance improvement efforts in the future that is better suited to this greater focus on the individual's responsibility for compliance. As such, it is also necessary to ascertain the most effective way in which to educate young people about the tax system. This paper seeks to contribute to this. It presents quantitative research into socio-demographic influences and the impact that tax tuition may have on young adults' tax morale. The results of a two-staged survey show that gender, tax tuition, and employment experience significantly influence tax morale. The study contributes to the literature on tax morale and tax literacy by showing, through regression analysis, that the effect of tax tuition on tax morale is negatively influenced by employment experience.

Keywords: Tax Morale, Tax Literacy, Tax Education, Work Experience.

1. INTRODUCTION AND CONTEXT

In a 2015 report, the Organisation for Co-operation and Development (OECD) and the International and Ibero-American Foundation for Administration and Public Policies (FIIAPP) recognise that global society is “witnessing a transformation of state-citizen relations and a cultural shift in tax administrations themselves” (OECD & FIIAPP, 2015, p. 17). Alexander and Balavac-Orlic (2022) note that, “resources directed at improving taxpayer education and facilitating a greater appreciation for individual contributions” to nations are deemed to be cost-beneficial in improving taxpayer compliance, particularly cost-effective voluntary compliance (p. 3; see also Loo et al., 2005). They add that “tax authorities, once reliant on a culture of fear (e.g., fear of being caught and penalized), recognize citizens as allies, rather than mere ‘obligation holders’” (p. 3; see also Aberbach & Christensen, 2007; Gangl et al., 2015). They state that “that said, culture shifts are slow” and, in many countries, it will take time for “the public perception of tax authorities” to shift from that of organisations involved in “coercion and repression” to that of organisations focussed on partnership, co-production, and alliance (p. 3; see also Alford, 2009; Currie, Tuck & Morrell, 2015; OECD & FIIAPP, 2015).

¹ Associate Professor in Accounting and Tax, Bournemouth University, U.K. Email: palexander@bournemouth.ac.uk

² Associate Professor in Economics, University of Sarajevo, B&H. Email: merima.balavac@efsa.unsa.ba

³ Professor of Taxation and Personal Finance at Aston University, and Honorary Professor at the University of South Africa. Email: a.lymer@aston.ac.uk

⁴ Principal Lecturer in Accounting and Finance. Email: smukherjee@bournemouth.ac.uk

The underlying objective of taxpayer education (i.e. educating taxpayers in all matters related to the assessment, compliance, and understanding of tax collection and administration) is to “foster attitudes of commitment to the common good, emphasising the social value of tax and its link to public expenditures” (OECD & FIIAPP, 2015, p. 17). A common aspect of recent taxpayer education initiatives in various countries is to highlight the detrimental impact of tax evasion and aggressive tax avoidance. Taxpayer education is most often achieved by the combined development of tax awareness (knowledge of tax principles, of how taxes operate and are charged, and how payment is enforced) and tax literacy (the ability to apply knowledge to comply with the principles and operational rules of a tax system) (OECD & FIIAPP, 2015).

In her discussion on external factors influencing internal motivations, Kornhauser (2007) states that “education can strengthen norms that are positively correlated with tax compliance such as honesty, morality, national pride, concern for others, and fairness” (p. 619).

The OECD and FIIAPP (2015) undertook a global survey of various tax education programmes and initiatives, and found that many countries specifically target school children and/or university students, the objective being to improve young adults’ tax literacy before they transition into the labour market. In 2019, the OECD followed this up with a report that provided further details about the principles that underpin tax education programmes in developing countries. One of the policy considerations for individuals centres on the provision of support for tax education programmes (OECD, 2019).

In the United Kingdom, tax education forms part of national curricula within the compulsory financial education programmes that must be provided by all state-maintained secondary schools. However, the impact of general financial education programmes, including taxation education programmes, and of education and materials produced and supported by HM Revenue & Customs (HMRC), is still poorly understood, particularly with regard to their longer term impact on behaviours. A recent survey conducted by Deloitte LLP (2019) found generally low levels of very basic tax knowledge in the United Kingdom. Furthermore, the researchers found tax knowledge to be robustly and positively associated with perceptions of fairness in the tax system and willingness to pay more tax (tax morale) (Deloitte, 2019).

Most people receive very little directed tax education following the formal education that they receive in school (unless they seek to become professionally qualified in related fields of work). Taxpayers are largely left to self-educate as needed, with limited support from HMRC other than via its website and some increasingly limited face-to-face and telephone services. Alternatively, they have to buy access to others’ knowledge where this can be afforded and is available (Deloitte, 2019).

General tax awareness within the United Kingdom is further hindered by the very nature of the tax system itself (Lymer, 2015). The majority of U.K. residents, who are typically employed and/or hold modest savings and investments, do not need to file self-assessment tax returns given the personal and investment exemptions, and the precision of Pay As You Earn (P.A.Y.E.) withholding on their earnings. As such, their direct engagement with income taxation is, at best, limited. Furthermore, as a result of rising personal allowance levels—a fourfold increase has been implemented since 1990/1991, when the level was £3,005, to the current level of £12,570 (Finance Act, 2021)—increasing numbers of people don’t have to pay income taxation at all. From a peak of 32.5 million income taxpayers in 2007/2008, 800,000 fewer people—particularly women and those under the age of 65—were expected to pay income tax in 2020/21 (HMRC, 2022). Furthermore, it seems that many do not think of Value

Added Tax (VAT) and other indirect taxes as “true” taxes, but instead view them simply as part of the cost of purchases made (Gemmell et al., 2003) so, if they do not pay income tax, they rarely feel that their purchasing behaviour makes them taxpayers.

Conversely, it behoves the self-employed to be tax aware from the outset of the formation of their businesses. The digital economy is facilitating the move to more adjunct work and self-employment (De Stefano, 2015). According to the Office for National Statistics (ONS), the number of self-employed workers in the United Kingdom has increased by approximately 40% since the turn of the century (see <https://www.ons.gov.uk/>). With an increasing number of individuals engaging in trade in lieu of employment, tax education will play an increasingly important role in their personal and professional development. Furthermore, *Making Tax Digital*, the United Kingdom’s HMRC-led programme to move most business-related tax interactions with the government into a digitally mediated form in the near future, commenced in earnest for all VAT-registered businesses in 2019. This means that self-employed people will need higher levels of tax education than was previously the case in order to interact with the tax authorities more routinely (on a month-by-month basis).

On the basis outlined above, it is becoming more of an imperative to raise young people’s levels of financial and tax literacy before they leave school and higher education. Beyond this point, there are limited opportunities for the collective development of a core understanding, and an awareness of, tax systems and taxpayer obligations. It is from such understanding and awareness that the desired behaviours of voluntary compliance are likely to naturally develop, and through which the development of greater levels of tax citizenship capability can evolve. These will provide the context for an improved public debate about the evolution of tax systems for the national good.

This paper contributes to the growing literature on the nature and form of effective taxpayer education, particularly amongst young people, by making an original contribution in relation to the moderating influence of initial experiences of work on tax literacy and tax morale. We report findings from an empirical study, conducted in the United Kingdom and funded by the Chartered Institute of Taxation (CIOT), in which we considered the financial and tax literacy of 377 young adults from two U.K. universities, the socio-demographic influences on their tax morale, and their perceptions of tax administration and compliance.

The remainder of this paper is structured as follows. Section two outlines the context for the research, and discusses relevant professional and academic literature in order to extend the motivation for this work. Section three provides details of the quantitative research methodology used in this study. The fourth section summarises the findings of the quantitative research. Finally, conclusions, policy recommendations, and suggestions for further research and outreach are offered in section five.

2. REVIEW OF THE LITERATURE

This section reviews existent literature outlining our current understanding of why tax education is needed and what impact it may have on tax morale, with a particular focus on young adults as they are the subject of this paper.

2.1. Consideration for Tax Education at the Genesis of Tax Morale Research

The existence of a role for suitable taxpayer education to aid the building of a compliant taxpayer community was evident from the earliest of formal studies into tax compliance. Allingham and Sandmo (1972) established:

the benchmark economic model of tax evasion. . . in which self-interested taxpayers decide how much income to report to the tax authority by trading off the benefits of evasion (lower tax payments) against the costs of evasion (the possibility of being caught and punished). (Luttmer & Singhal, 2014, p. 149)

Luttmer and Singhal (2014) note that this model “is a straightforward application of the Becker (1968) model of crime to the tax-evasion context: risk-averse individuals weigh the utility benefits and costs of evasion to optimize their compliance behaviour” (p. 151). Therefore, under this model, tax education could be deemed to be necessary in order to enable taxpayers to suitably determine their trade-off decisions, aiding their understanding of the full implications of the decisions to avoid tax payments that they may otherwise make. While this was a path-breaking model when introduced, it has since been widely criticised for only providing a limited view of the motivations for individual tax compliance (see, for example, Alm, 1991; Alm et al., 1992; Barone & Mocetti, 2011; Brink & Porcano, 2016; Frey & Feld, 2002; McKerchar et al., 2013; Torgler, 2007; Torgler et al., 2010).

Alm (1991) provided a survey of early theoretical and experimental research into taxpayer compliance. He recognised that the underlying expected utility theory in which taxpayers “pay taxes because they fear detection and punishment. . . cannot explain all compliance behaviour” (p. 577). He found relatively high compliance in spite of the very small possibility of audit and the fractional penalties on unpaid tax liabilities, surmising that enforcement activities alone could not explain taxpayer reporting. The other factors recognised by the author that may be influencing taxpayer compliance include valued government expenditures and social norms. These other compliance-motivating factors have collectively been titled “tax morale” in later literature. Tax morale is defined as the intrinsic motivations for individuals to pay taxes (see, for example, Alm & Torgler, 2006; Frey & Torgler, 2007; McKerchar et al., 2013; Onu et al., 2019). Alm (1991) concluded with a call for “an exploration of alternative theories of behavior under uncertainty” with regard to taxpayer compliance that pay greater attention to these other tax morale factors (p. 591). The role of effective taxpayer education would, therefore, need to be revisited in order to address these apparently wider motivations for compliant behaviours. Tax morale literature is, therefore, expanding.

2.2. How to Measure Tax Morale

Torgler (2002) notes that “the question about tax morale has more to do with why people do not cheat rather than why they do” (p. 658). This explains why tax compliance attitudes are often used as proxies for measuring tax morale in the literature. At the most basic level, tax compliance is the full payment of all tax obligations (James & Alley, 2009) so, by extension, tax non-compliance occurs if tax obligations are not met in their entirety.

According to Torgler (2003), evasion is an indication of a lack of intrinsic motivation to pay tax (i.e. low tax morale. The “measure of tax morale may consist of a single question as to the degree to which tax evasion is justified or not” (Lewis, 2009, p. 432), a series of questions that provides a more robust analysis through indexation or factor analysis, or “more complex

assessments of the perceived fairness of tax systems and the perceived legitimacy of governments” (Lewis, 2009, p. 432).

As noted by Alexander and Balavac-Orlic (2022), prior researchers (see, for example, Alm & Torgler, 2006; McGee & Tyler, 2006; Torgler, 2003; Torgler & Schneider, 2007) have used World Values Survey (WVS) and European Values Study (EVS) data when examining tax morale’s key determinants. In order to measure tax morale, empirical literature often refers to the following question from the WVS and the EVS: “Please tell me for the following statement whether you think it can always be justified, never be justified, or something in between. Cheating on taxes if you have the chance (10 – never, 1 – always).”

McGee (2006) established a comprehensive set of 18 questions representing 15 historical and three contemporary issues, and the three points of view found in tax evasion ethics literature: (1) duties to pay the state, (2) an anarchist view, and (3) evasion (ethical and unethical, under particular circumstances). McGee recognised that, as the vast amount of literature considered tax evasion from a public finance perspective, his contribution would be to focus on the ethics of tax evasion. He conducted a number of surveys using these 18 questions in various countries, involving university academics (McGee, 2006) and university students (McGee et al., 2005; McGee & Bernal, 2006; McGee & Tusan, 2008), and citizenry (McGee & Tyler, 2006). Many of these questions have been used, with some modifications, in subsequent surveys by other researchers, including Torgler (2007), and Wong and Lo (2015).

The tax morale literature is now extensive. Alexander and Balavac-Orlic (2022) note that:

Torgler et al. (2010) provided a review of the early literature (1960 through 2000) which considered various theoretical considerations, including an altruistic approach (e.g. Chung, 1976), the Kantian morality approach (e.g. Laffont, 1975; Sugden, 1984), and social customs (e.g. Akerlof, 1980; Gordon, 1989; Myles & Naylor, 1966; Naylor, 1989). (p. 3)

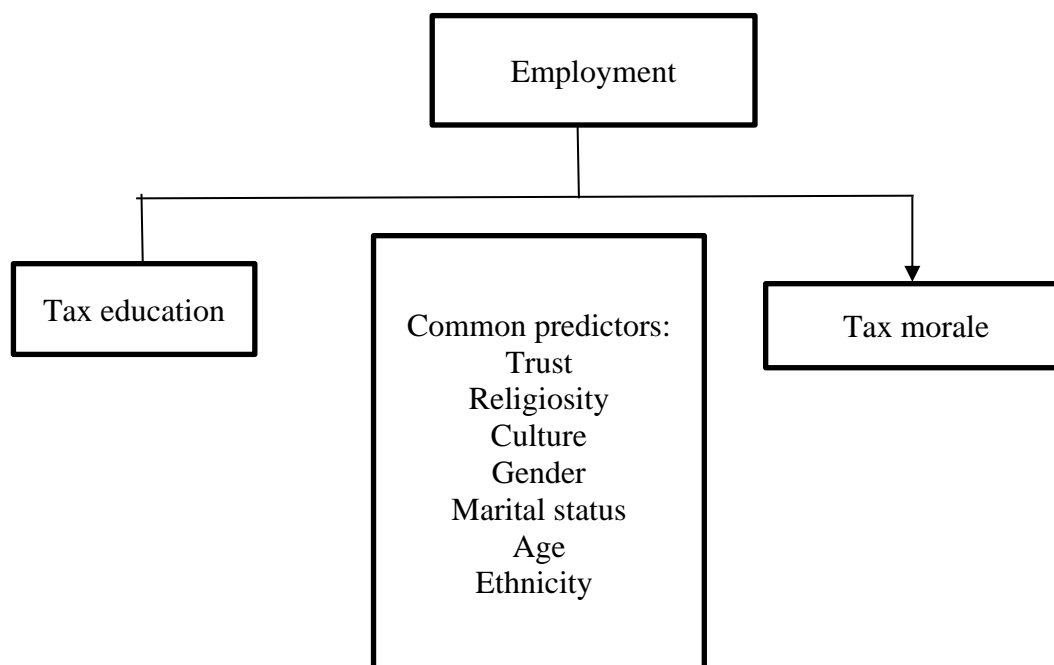
They add that:

Kornhauser (2007) provided a review of the next wave of literature (2000 through 2007), which further developed the theories and concepts established in the earlier literature. Her review considered tax morale research in three major areas: cognitive and affective processes (e.g., Cullis, et al., 2006; Hansen, 2003; Kahan and Braman, 2005), social norms and personal values/norms (e.g., Fehr and Fischbacher, 2004; Kolstad, 2007; Mazar and Ariely, 2006), and demographic factors (e.g., Hasseldine and Hite, 2003; McGee and Tyler, 2006; Torgler, 2003, 2006). (Alexander & Balavac-Orlic, 2022, p. 3)

The body of literature has grown significantly since the publication of Torgler’s seminal work in the 1990s. This is summarised by a systematic review of literature on tax morale provided by Horodnic (2018). This article made use of an institutionalist lens to detail the determinants (excluding socio-economic characteristics) of tax morale in the literature, which is characterised as belonging to either formal institutions—such as authorities—or informal institutions—such as social norms (Alexander & Balavac-Orlic, 2022). A key conclusion of Horodnic’s (2018) analysis was that trust has been found, across a range of research in this domain, to be “the most salient factor, especially with regard to horizontal (peer) and vertical (authorities) trust” (Alexander & Balavac-Orlic, 2022, p. 3).

The figure below provides a visual illustration of the estimates and relationships that we aim to explore.

Figure 1: Estimates and Relationships of Tax Morale Explored in this Research



Source: Authors' illustration.

According to Alexander and Balavac-Orlic (2022), evolving tax compliance literature has concentrated on identifying tax morale determinants and has explored various forms of TRUST and equity, as well as RELIGIOSITY, and CULTURE (p. 3). The relationship between tax morale and socio-demographic and economic factors (e.g. age, GENDER, MARITAL STATUS, EDUCATION, income, etc.) is also often examined (Rodriguez-Justicia & Theilen, 2018).

Torgler and Murphy (2004), among others, have found that TRUST in government supports tax morale. In their research into the framing effects of tax morale statements in such surveys, Alexander and Balavac-Orlic (2022) found that while more trust in government results in higher tax morale, the effect is significant only when the framing of the statement or question is negative.

With regard to GENDER, many have considered how tax morale may differ and studies have consistently found that women display higher levels of tax morale to men (see, for example, Alexander & Balavac-Orlic, 2022; Alm & Torgler, 2006; D'Attoma et al., 2020; Doerrenberg & Peichl, 2013).⁵

⁵ See Horodnic (2018) for a systematic review of the literature.

AGE is another common variable in the tax morale literature, with older people displaying higher levels of tax morale (see, for example, Alm & Torgler, 2006; Doerrenberg & Peichl, 2013; Torgler & Murphy, 2004).

When MARITAL STATUS has been considered in the research, studies have shown that married people have higher tax morale than single people (see, for example, Alm & Torgler, 2006; Doerrenberg & Peichl, 2013; Torgler & Murphy, 2004). However, McKerchar et al. (2013) did not find the effect to be statistically significant.

RELIGIOSITY has been found to be a significant determinant of tax morale by several researchers (see, for example, Alm & Torgler, 2006; Doerrenberg & Peichl, 2013; Torgler & Murphy, 2004). Conversely, it has made no difference according to Torgler (2006) and McKerchar et al. (2013). It has been observed that a more secular perspective might be taken in future research in order to suitably review the connections and differences between religiosity and personal integrity (McKerchar et al., 2013).

CULTURE has been found to have an impact on tax morale, with differences detected within and between countries (see, for example, Alm & Torgler, 2006; Brink & Porcano, 2016; D'Attoma et al., 2020; Doerrenberg & Peichl, 2013; Torgler & Murphy, 2004).

Some studies find that INCOME has a positive effect on tax morale (Konrad & Qari, 2012) while others report that it has a negative effect (Alm & Torgler, 2006; Doerrenberg & Peichl, 2013). The estimated effect of EDUCATION on tax morale is similarly ambiguous (for a review, see Rodriguez-Justicia and Theilen, 2018). The following sections focus on the literature on these two variables of interest.

In sum, as Alexander and Balavac-Orlic (2022) note, earlier studies have found that those more likely to have lower tax morale are younger people, men, the unemployed, and those in low-income or undeclared employment. They add that Horodnic (2018) and others suggest these groups could be targets for “policy measures related to awareness campaigns” and/or for “suitable tax education to seek to address their otherwise suboptimal tax compliance behavior from the perspective of the wider society” (p. 4).

2.3. Tax Education in Recent Tax Morale Research

Education has been considered as a potential influencing factor in many studies on tax morale, but mostly in the form of levels of formal education and not in terms of tax-specific education. General education, as a common control variable, has yielded mixed results in previous research. Some argue that improved education (both tax specific and other general education levels) enhances tax compliance. It is purported that better-educated individuals have a greater understanding of tax law and fiscal connections (e.g. state-provided benefits and services funded by tax revenues) and, therefore, are more tax-compliant (Lewis, 1982; Lewis et al., 2009; Torgler, 2007). The counterargument is that better-educated individuals have a greater awareness of possible government waste and the added advantage of understanding opportunities for evasion and avoidance (Torgler, 2007). Given these two alternate perspectives on education, due consideration should be given to the empirical evidence of its effects on tax morale and tax compliance.

In the works of Torgler (2003), McGee and Tyler (2006), Cullis et al. (2006), Lewis et al. (2009) and others, the education variable was general in nature (e.g. school, university, or

postgraduate studies). Relatively few have considered the impact of tax-specific tuition on tax morale. The exceptional studies were conducted by Erikson and Fallan (1996), Kasipillai et al., (2003), Goksu and Sahpaz (2015), Wong and Lo (2015), and Kurniawan (2020). These quasi-experimental and/or survey-based studies are reflected in Table 1 and the five studies in which tax-specific education was considered are briefly discussed below.

Eriksen and Fallan (1996) conducted a quasi-experiment that pre- and post-tested two groups of students from a Norwegian university on their tax knowledge and attitudes towards taxation. The experimental group of students (n=194) engaged in a tax law elective between pre- and post-testing while the control group did not. The tax law elective was considered the stimulus in the experimental group. The authors found that the experimental group of students who engaged in the tax law elective improved their tax knowledge significantly and changed their attitudes to tax evasion, whereas no such changes were observed in the control group. Thus, they concluded that such tuition had positive effects.

Kasipillai et al. (2003) undertook a survey study of Malaysian university students, looking at the degree to which taking a formal tax education course as part of their university studies produced a self-reported change in tax compliance intention levels. Having applied surveys before and after tax tuition, they find that while both sexes reported higher compliance intentions, females were more significantly affected by having received formal tax education in this particular instance.

Goksu and Sahpaz (2015) surveyed undergraduate students at two universities, one in Turkey and one in Spain. Their survey consisted of ten questions about tax morale and 12 questions about the students' perceptions of their respective countries' tax systems. The research only considered the differences between the two universities without controlling for any other factors (e.g. age, gender, work experience, etc). They simply speculated that the differences between the cohorts were attributable to social-culture structure, religious beliefs, and economic or political factors. The authors examined responses to specific questions, exploring correlations through Spearman Coefficient testing inferring that tax tuition had a positive effect on tax compliance attitudes.

Wong and Lo (2015) considered how tax compliance might be improved through tax tuition. They surveyed undergraduate and postgraduate students enrolled in a Hong Kong university between 2008 and 2010 on one of three tax courses: general tax education (n=53) or a technical tax course (n=68) at the undergraduate level and an identical tax-technical course (n=80) offered at the postgraduate level. The students were asked to complete the survey at the beginning and the end of their courses to explore how the acquired tax knowledge had impacted their tax compliance decisions (tax morale). The questionnaire had three sections: (1) tax compliance scenarios, (2) perceptions of the Hong Kong tax system, and (3) 16 statements about ethical attitudes to tax compliance. The methodology applied included factor analyses of the 16 tax morale questions based on the characteristics of the tax systems and the consequences of tax evasion, as well as the framing of the statements in which there was (or was not) an excuse for tax evasion. Wong and Lo (2015) concluded that general tax tuition (i.e. education about a broad range of topics, theories, and principles) was sufficient to improve the undergraduate students' sales tax compliance decisions, and technical tax tuition improved the postgraduate students' income tax and sales tax compliance decisions. However, there was no significant relationship between the technical tax tuition and tax compliance decisions made at the undergraduate level for either sales tax or income tax. The authors surmised that the "contents of a tax course and the educational levels of a program influence taxpayers' tax

Table 1: A Selection of Studies from 1996 to 2020 Including Education Variables to Explain Tax Morale

Reference	Dependent Variable	Education as an Independent or Control Variable	Sample and Econometrics	Source of Data	Findings
General Education					
Torgler (2003)	Tax morale: responses to ten statements about tax evasion and to the World Value Survey (WVS) question on tax morale.	The respondents were asked to confirm the highest level of education that they had attained.	Quasi-experiment: surveys of 644 university students and staff from an institution in Costa Rica and 1196 from Switzerland. Ordered Probit.	Own survey.	Education has a positive impact on tax compliance.
McGee and Tyler (2006)	Tax morale: responses to 18 statements about tax evasion and to the WVS question on tax morale.	The respondents were asked to confirm the highest level of education that they had attained.	Data extracted from 33 countries participating in a larger study on human beliefs and values. Mann-Whitney U Test.	Human beliefs and values survey.	Education has a negative impact on tax compliance.
Cullis et al. (2006)	Tax compliance: declarations of income given four differing scenarios of detection and penalty rates.	Participants were pursuing degrees in psychology or economics and inferences were drawn on the influence that degree choice has on tax compliance.	Survey of 539 U.K. university students enrolled on psychology or economics courses. Factor analysis.	Own survey.	Tax compliance is influenced by individual differences (gender and the degree of study).
Lewis et al. (2009)	Tax compliance: Declarations of income given four differing scenarios of detection and penalty rates.	Participants were pursuing degrees in psychology or economics and inferences were drawn on the influence that degree choice has on tax compliance.	Survey of 505 students enrolled on psychology or economics courses at two Italian universities. Factor analysis.	Survey produced by Cullis et al. (2006) - slightly modified.	Tax compliance is influenced by individual differences (gender and the degree of study).
Alexander and Balavac-Orlic (2022)	Tax morale: Responses to seven statements on tax evasion; positively or negatively framed.	The respondents were asked to confirm the highest level of education that they had attained.	Survey of 630 U.S. and U.K. public and private sector employees. Factor analysis	Selected statements taken from McGee (2006) - slightly modified.	Higher levels of financial and tax literacy increase tax morale and moderate the effect of fairness when negatively framed.

Tax-Specific Education					
Eriksen and Fallan (1996)	<p>Tax knowledge: responses to tax compliance questions (i.e. taxable income, allowances, and tax liabilities).</p> <p>Tax attitudes: questions relevant to others' evasion, self-evasion, other illegalities, and understanding of tax system fairness.</p>	Tax tuition was the stimulus in the experiment group.	Quasi-experiment. Pre/post surveys of university students. 149 students were tested before tax tuition and 123 students were tested afterwards. Factor analysis.	Own survey.	Specific tax knowledge improves tax ethics and perceived fairness.
Kasipillai et al. (2003)	<p>Tax compliance: behavioural responses to scenarios relating to personal tax compliance.</p>	Tax tuition was a pre-condition for the survey and inferences were drawn about the self-perceived influence of tax education on personal tax compliance attitude. This study suffered from the lack of a control group.	Quasi-experiment. Pre/post surveys of university students. 553 students were tested before tax tuition and 551 students were tested afterwards. Descriptive statistics.	Own survey.	Tax education has a positive influence on personal tax compliance and gender differences are not a factor in attitudes.
Goksu and Sahpaz (2015)	<p>Tax morale: responses to statements of tax evasion.</p> <p>Tax compliance: responses to statements on tax compliance and administration.</p>	Tax tuition was a pre-condition for the survey and inferences were then drawn about self-perceptions of the impact that tax education had on tax compliance. This study suffered from the lack of a control group.	Survey of 459 Turkish and Spanish students in two universities who had received tax tuition. Spearman correlation.	Own survey.	Tax education in university has a positive effect on the level of tax morale.
Wong and Lo (2015)	<p>Tax compliance: responses to compliance in given scenarios.</p> <p>Perceptions of country's tax system: responses to statements about tax administration matters.</p> <p>Tax morale: responses to statements about tax evasion.</p>	Tax tuition was a pre-condition for the survey and inferences were drawn about the influence of general or technical tax education on tax compliance attitudes, controlling for perceptions of the tax system and tax morale. Information was about work experience was collected, but it was not considered in the econometrics.	Quasi-experiment. Pre/post surveys of university students. 205 students were tested before tax tuition and 205 students were tested afterwards. Factor analysis.	Own survey, including selected statements about evasion from McGee (2006) in order to determine tax morale.	General tax tuition positively influenced tax compliance of undergraduates with regard to VAT but not to income tax. Technical tax tuition positively influenced tax compliance amongst postgraduates with regard to both VAT and income tax.

Kurniawan (2020)	<p>Tax compliance: responses to query from lecturers, “are they are compliant or not?”.</p> <p>Tax education: survey of students on three courses in which a tax module is required.</p> <p>Tax knowledge: responses to theoretical and practical tax queries in the survey (not provided).</p>	<p>Tax education delivered by (mostly) non-tax-specialist lecturers in one module common to students studying accounting, business administration, or managerial accounting undergraduate courses at a vocational state university in Indonesia. Information about work experience was collected, but it was not considered in the econometrics.</p>	<p>Mixed methods surveys of 100 vocational state university students, followed by an interview with two students, two lecturers and one tax official. Descriptive statistics, determination coefficient testing, and path analysis and Sobel testing.</p>	<p>Own survey (not provided).</p>	<p>Tax education had a significant (positive) effect on tax compliance among the surveyed undergraduates. The indirect effect of tax education though tax knowledge also significantly influenced tax compliance.</p>
------------------	--	--	---	-----------------------------------	---

compliance behaviors in distinct ways” (Wong & Lo, 2015, p. 21). The control variables were gender, age and, for the postgraduate cohort only, work experience.

In a mixed-methods study by Kurniawan (2020), the influence of tax education and tax knowledge on individual tax compliance was considered. They surveyed 100 undergraduate students enrolled on three courses in an Indonesian vocational state university after they had completed a module in taxation.⁶ Qualitative data was also collected from five interviews (two with students, two with tax lecturers, and one with a governmental tax employee). Kurniawan (2020), while recognising the weakness inherent in asking individuals directly about their intentions to comply in the future, concluded that tax education had a significant effect on tax compliance. While information regarding the length of work experience was collected from the survey respondents, it was not considered in the descriptive statistics or regressions.

2.4. Work Experience in Tax Morale Research Involving Young People

Given the suggested importance of the younger, poorer demographic for policy measures in targeting awareness campaigns and tax education (see Horodnic, 2018), we also considered the impact of tax tuition undertaken by university students in this research. However, rather than just providing another country’s set of descriptive statistics from which correlations may be deduced, we have performed some regressions to explore the possibility that WORK EXPERIENCE has a moderating influence on tax literacy and tax morale. Our hypothesis is underpinned by the pedagogical theory of enhancing learning through work experience. Whilst studying the experiences of U.S. school children, Hoffman (2015) purports that work experience gives the individual the power to exert themselves as more of a citizen in this world, beyond the role that they play in the family. We hypothesise that work experience instils a greater appreciation for taxation which, in turn, would positively impact tax morale. The potential moderating effect of work experience on the relationship between tax tuition and the tax morale of university students has not, to our knowledge, been considered in prior literature. As the sample populations in most of the earlier research transcend generations, the employment status variable has also been general in nature (e.g. unemployment, self-employment, part-time employment, full-time employment, retirement, etc.).

⁶ The survey questions were not provided by the author in this paper.

With regard to the five research studies conducted into the tax morale of university students noted above, only Wong and Lo (2015) and Kurniawan (2020) included work experience as a control variable. However, neither offered any further consideration of this characteristic within the presentation of their results. In related literature, Chen and Volpe (1998) considered work experience as an independent variable in their study of financial literacy involving circa 1,800 U.S. college students, finding it to be significant.

Our study contributes to the literature specifically on tax morale and tax literacy by considering the moderating effect of work experience. In the next section, we outline how this literature informed the research methodology that we adopted in our work.

3. DATA AND METHODOLOGY

3.1. Data

This paper is based on quantitative research undertaken in the academic year 2016/2017. The research⁷ undertaken examined the inter-relationships between tax literacy and tax morale amongst young people attending university. Following the examples of Eriksen and Fallan (1996) and Wong and Lo (2015), it was conducted through a series of surveys administered before and after curricula-based tax tuition.

A total number of 377 surveys were completed by young people in two universities in the autumn and spring semesters during the 2016/2017 academic year. The students surveyed were enrolled on various courses (i.e. accounting, business, and non-business courses). The control groups (i.e. business and non-business cohorts) did not receive any tax tuition in their respective courses, whereas the experimental groups (i.e. the accounting cohorts) received tax tuition during the academic year. The surveys were conducted at the beginning and the end of the academic year, before and after the delivery of the tax tuition relevant to the experimental group.

More than half (59.42%) of the students surveyed were from accounting cohorts and received formal tax tuition in their second year during the spring term. The other students surveyed were fairly evenly split between business majors (19.63%) and non-business majors (20.95%). The latter two groups of students comprised the control group as they did not receive any formal tax tuition as part of their courses. Most of the students (250) were surveyed in the spring. Of the 127 students surveyed in the autumn (before receiving tax tuition), 97 were surveyed again in the spring (after receiving tax tuition). As the surveys were performed anonymously and independently of each other, the researchers are unable to identify the exact number of students that were surveyed twice, although the overlap will have been significant (Alexander et al., 2019).

The literature outlined in the previous section provided the basis on which the surveys were created. The survey questions were largely drawn from prior studies where some validation had therefore occurred and were used to create a survey instrument for delivery.⁸

As it has been recognised that obtaining responses to multiple questions on tax compliance/morale improves the validity of the measure (Frey & Torgler, 2007; Torgler et al.,

⁷ This work was funded by the CIOT.

⁸ Further details of how this survey was constructed and applied can be found in Alexander et al. (2019).

2010), we chose to base the initial part of our survey on a selection of statements from prior validated research. These included 11 of the 18 statements in McGee's (2006) survey and seven other statements posed in Wong and Lo's (2015) survey.⁹

We made slight moderations to the terminology. Where the statements in the works of McGee (2006) and Wong and Lo (2015) referred to "tax evasion", we chose to use "underpaying taxes". Where the statements of McGee (2006) and Wong and Lo (2015) referred to an action that is "not unethical", we chose to use the term "justifiable", which is consistent with the terminology used in the WVS and EVS. The framing of our statements was intentionally softened to allow students to consider their responses without the impediment of the illegality of the action (evasion) or the social stigma of unethical behaviour.

The next subsection (3.2) summarises the descriptive and univariant statistics. We present our model in section 3.3 and its estimated results in section four, and discuss the implications of these results further in the fifth and concluding section.

3.2. Descriptive and Univariate Statistics

In terms of socio-demographic characteristics, just over half of the surveyed students were female (51.72%) and aged between 18 and 20 years of age (52.91%). Most were single (92.59%), white (74.87%), and U.K. citizens (87.17%). Of the students surveyed, 44.15% were employed and 28.18% reported that they had completed an income tax return at some point prior to completing the survey.

The respondents were asked to indicate their levels of agreement or disagreement with eighteen statements, in which underpaying taxes may be arguably more or less justified, by ticking boxes from one to seven, where one equals *strongly agrees* and seven equals *strongly disagrees*. Since the responses are Likert-type items, the recommended descriptive statistics were median and mode. In addition to the median and mode, we also report the average value and standard deviation. We base our discussion on the modal value (i.e. the most frequent answer) as the value of the median answers is similar across all statements. The statements together with the respective ranks and scores are reflected in Table 2.

Most of the respondents somewhat agree with statements that cheating is justifiable when most of the money collected is wasted and when the system is unfair. These are the statements that correspond to the lowest modal values in Table 2. The tax morale of the respondents is found to be highest when presented with statements that underpaying tax is justified when: it means that if they pay less, others will have to pay more; tax rates are low; and the tax system is simple. These are the statements that correspond to the highest median and modal values in Table 2.

A review of the literature (e.g. Alm & Torgler, 2006; Daude et al., 2013; Doerrenberg & Peichl, 2013; Frey & Torgler, 2007) shows that tax morale varies among different groups with different socio-demographic and socio-economic characteristics, such as gender, age, education, and employment. This research focusses on the relationships of tax tuition and work experience to the tax morale of young people, given the recognised importance of this demography to policymakers.

⁹ The seven statements posed by McGee that we chose not to replicate in our survey concerned matters beyond the scope of this research. These included matters of extreme prejudice: corrupt politicians, financing unjust wars, and racial discrimination.

We use the Wilcoxon-Mann-Whitney¹⁰ test to see if there are any statistically significant differences between the underlying distributions of the tax morale scores between the different genders, the employed¹¹/never employed, cohorts with/without tax tuition, and autumn/spring cohorts with tax tuition (performed in the latter case to provide some confirmation of results over a longitudinal basis, as well as to enable us to explore a pre- and post- tax tuition comparison). Table 3 summarises the findings.

Gender differences

The majority of the statements exploring respondents' tax morale show statistically significant differences between female and male students, with female students intimating higher tax morale (i.e. higher mean scores) in all cases where these differences were significant. This is consistent with the literature (Alm & Torgler, 2006; Daude et al., 2013; Frey & Torgler, 2007). The seven statements where no statistically significant differences are detected include three of the four questions with the highest mean scores noted above (i.e. the majority agree that the tax system is not simple, that it is arguably more unfair than fair, and that the rates are not too low).

On average, females tend to report higher levels of tax morale (Table 3). There is a statistically significant difference by gender in the responses to statements about the way in which collected money is spent (whether cheating is justifiable when the money is spent wisely or is wasted, and when it is spent on worthy projects or projects that do or don't benefit respondents etc.). Female respondents also appear to be less concerned with the actions of others, as they find less justification for cheating even if everyone is doing it, or if it means that if they pay less, others will have to pay more. Furthermore, women tend to disagree more with statements claiming that cheating is justified when the penalties and risk of being caught are low, and when the tax system is unfair.

However, the responses to most statements related to the characteristics of tax system itself (whether cheating is justifiable when the tax system is fair, when the tax system is simple/complex, or when the tax rates are low) do not significantly differ by gender.

Tax taught v non-tax taught cohorts

A key focus of our study was whether undertaking tax tuition as a university course influenced the opinions of our respondents. As Table 3 shows, only three of the eighteen statements are answered significantly differently between those who had completed at least one tax course and those who had not had any tax tuition.

Specifically, students enrolled on tax tuition courses claim more justification to underpay taxes (i.e. cheat) when they consider the tax system to be unfair or when money is spent on projects that they morally disprove of.

In this study, the tax tuition cohort members appear to have lower tax morale than the non-tax tuition cohort members. This is even the case when the students were asked their opinions on underpaying when the tax money is being spent on projects from which they directly benefit.

¹⁰ A nonparametric test for checking the equality of means on two independent samples (e.g. male vs. female).

¹¹ Respondents were coded as "employed" for this purpose if they had ever been involved in any employment, even if only for a short duration.

Table 2: Combined Scores on Tax Morale of Students Before Any Tax Tuition (1 = strongly agrees; 7 = strongly disagrees)

Rank	Statement: <i>Please tell me for each of the following statements whether you think underpaying taxes is justifiable if...</i>	Mean Scores	S.D.	Median	Mode
6	... most of the money collected is spent wisely.	4.11	1.76	4	3
9	... a large portion of the money collected is spent on projects that do benefit me.	4.32	1.65	4	4
4	... a large portion of the money collected is spent on worthy projects.	4	1.68	4	4
17	... tax rates are low.	4.83	1.63	5	6
15	... it means that if I pay less, others will have to pay more.	4.80	1.63	5	6
3	... the tax system is unfair.	3.91	1.74	4	3
2	... the tax system is complex.	3.81	1.83	4	4
7	... the risk of being caught is high.	4.2	1.79	4	4
13	... the penalty for underpayment is low.	4.59	1.65	4.5	4
5	... a large portion of the money collected is wasted.	4.13	1.81	4	3
8	... a large portion of the money collected is spent on projects that do not benefit me.	4.29	1.67	4	4
10	... a large portion of the money collected is spent on projects that I morally disapprove of.	4.39	1.56	4	4
14	... the risk of being caught is low.	4.72	1.54	5	4
12	... the penalty for underpayment is high.	4.54	1.54	4	4
1	... tax rates are too high.	3.82	1.66	4	4
11	... everyone is doing it.	4.43	1.67	4	4
16	... the tax system is fair.	4.9	1.55	5	4
18	... the tax system is simple.	5.21	1.45	5	6

Table 3: Tax Morale by Different Subgroups of the Surveyed Students

Statement:	Gender		Age		Cohort		Tax tuition		Employment		Tax return completed	
	Male Mean (median)	Female Mean (median)	18-20 Mean (median)	Over 20 Mean (median)	Without tax tuition Mean (median)	With (pre-) tax tuition Mean (median)	Pre-tuition Mean (median)	Post-tuition Mean (median)	Yes Mean (median)	No Mean (median)	Yes Mean (median)	No Mean (median)
<i>Please tell me for each of the following statements whether you think underpaying taxes is justifiable if...</i>												
... most of the money collected is spent wisely.	3.93 (4)	4.24* (4)	4.16 (4)	4.03 (4)	4.29 (4)	3.93 (4)	3.93 (4)	4.05 (4)	4.18 *** (4)	3.31 (3)	4.12 (4)	4.08 (4)
... a large portion of the money collected is spent on projects that do benefit me.	4.06 (4)	4.45** (4)	4.29 (4)	4.23 (4)	4.68 (5)	4.08** (4)	4.08 (4)	4.11 (4)	4.33** (4)	3.66 (3)	4.20 (4)	4.26 (4)
... a large portion of the money collected is spent on worthy projects.	3.97 (4)	4.06 (4)	4.11 (4)	3.92 (4)	4.11 (4)	3.94 (4)	3.94 (4)	4.08 (4)	4.08** (4)	3.46 (3)	3.89 (5)	4.07 (5)
... tax rates are low.	4.86 (5)	4.89 (5)	4.78 (5)	4.95 (5)	4.93 (5)	4.84 (5)	4.84 (5)	4.97 (5)	4.94** (5)	4.12 (4)	5.01 (5)	4.79 (5)
... it means that if I pay less, others will have to pay more.	4.56 (5)	5.05*** (5)	4.85 (5)	4.76 (5)	4.9 (5)	4.62 (5)	4.62 (5)	4.84 (5)	4.87** (5)	4.2 (4)	4.67 (5)	4.85 (5)

... the tax system is unfair.	3.56 (3)	4.14*** (4)	3.95 (4)	3.77 (4)	4.26 (4.5)	3.78* (4)	3.78 (4)	3.75 (4)	3.83 (4)	4.18 (4)	3.64 (4)	3.94 (4)
... the tax system is complex.	3.74 (4)	3.89 (4)	3.95 (4)	3.68 (1)	3.93 (4)	3.84 (4)	3.84 (4)	3.86 (4)	3.81 (4)	3.97 (4)	3.54 (4)	3.94 (4)
... the risk of being caught is high.	4.05 (4)	4.32 (4)	4.32 (4)	4.05 (4)	4.47 (4)	4.11 (4)	4.11 (4)	4.17 (4)	4.25 (4)	3.61 (4)	3.83 (4)	4.32 (4)
... the penalty for underpayment is low.	4.33 (4)	4.84*** (5)	4.54 (4)	4.66 (5)	4.65 (4)	4.47 (4.5)	4.47 (4.5)	4.61 (5)	4.65*** (5)	4 (4)	4.65 (5)	4.58 (4)
... a large portion of the money collected is wasted.	3.61 (3)	4.45*** (4)	4.18 (4)	3.89 (4)	4.46 (5)	4.09 (4)	4.09 (4)	3.82 (4)	4.04 (4)	4.12 (4)	4.13 (4)	3.79 (3.5)
... a large portion of the money collected is spent on projects that do not benefit me.	4.03 (4)	4.48*** (4)	4.33 (4)	4.18 (4)	4.46 (5)	4.3 (4)	4.3 (4)	4.18 (4)	4.28 (4)	4.09 (4)	4 (4)	4.34 (4)
... a large portion of the money collected is spent on projects that I morally disapprove of.	4.02 (4)	4.56*** (4)	4.57 (4)	4.12 (4)	4.7 (5)	4.32** (4)	4.32 (4)	4.02 (4)	4.34 (4)	3.94 (4)	4.21 (4)	4.34 (4)
... the risk of being caught is low.	4.4 (4)	4.66*** (4)	4.56 (4)	4.75 (5)	4.93 (5)	4.57 (5)	4.57 (5)	4.45 (4)	4.66 (5)	4.51 (4)	4.63 (5)	4.65 (5)
... the penalty for underpayment is high.	4.4 (4)	4.66 (4)	4.62 (4)	4.44 (4)	4.59 (4)	4.61 (4)	4.61 (4)	4.52 (4.5)	4.58* (4)	4.06 (4)	4.26 (4)	4.61 (5)

... tax rates are too high.	3.56 (3)	4.05*** (4)	3.92 (4)	3.69 (4)	4.13 (4)	3.85 (4)	3.85 (4)	3.7 (4)	3.83 (4)	3.67 (3)	3.7 (4)	3.86 (4)
... everyone is doing it.	4.23 (4)	4.61** (4)	4.31 (4)	4.57 (4.5)	4.69 (5)	4.34 (4)	4.34 (4)	4.44 (4)	4.47 (4)	4.06 (4)	4.38 (4)	4.47 (4)
... the tax system is fair.	4.68 (5)	4.94 (5)	4.81 (5)	4.83 (5)	4.98 (5)	4.71 (5)	4.71 (5)	4.58 (4)	4.9*** (5)	3.97 (4)	4.75 (5)	4.85 (5)
... the tax system is simple.	4.99 (5)	5.24 (6)	5.11 (5)	5.14 (5)	5.36 (6)	5.11 (5)	5.11 (5)	4.86 (5)	5.19** (6)	4.48 (4)	5.14 (5)	5.12 (6)

***p<0.01

**p<0.05;

*p<0.10.

Pre/post tax tuition differences

The answers derived from the cohorts after receiving tax tuition do not differ statistically from those of the pre/no-tax tuition cohorts. This intimates that the level of tax morale has not measurably improved (or decreased) as a result of improved tax literacy. This is contrary to the results presented by Eriksen and Fallan (1996), Goksu and Sahpaz (2015) and Wong and Lo (2015).

Employment experience

The responses to nine of the eighteen statements about tax morale show statistically significant differences, with higher levels of tax morale found in respondents without employment experience. The statements in which these differences are detected are the questions that are positively framed (i.e. the money collected is spent wisely and the tax system is fair etc.) and the differences are detected regardless of whether the penalties are high or low.

Employment effects on opinions about the structure and nature of the United Kingdom's tax system

As researchers, we were particularly intrigued by the employment-related results in our univariate analysis—these potentially imply that having some employment experience is correlated to lower tax morale in comparable groups of similarly aged young adults who were, at the time of the study, in full-time education. While our chosen quantitative research methodology could not, in itself, indicate whether this was a causal relationship (or the direction in which this may have been causal), we wanted to explore this further to better understand what may be driving this correlation.

To explore further the specific relationship between employment and tax morale that the univariate results produced, we undertook further analysis. In addition to the 18 questions asked of our respondents in respect of their opinions about when underpaying of taxes might be justified, the students were also asked to consider three directed statements about the structure and nature of the United Kingdom's individual personal tax system (i.e. the part of the tax system that is the most directly related to taxes paid on employment). They were asked to grade

the extent to which they agreed or disagreed that (1) the system was fair, (2) the system was simple, and (3) the rates of tax are low, again using a 7-point Likert scale.

We then tested whether an average response to these three statements significantly differs according to employment status. In so doing, we sought to explore whether employment experience would be positively/negatively associated with higher tax morale. We were specifically seeking to confirm and delve more deeply into the apparent failure of the univariate analysis to confirm this hypothesis in half of the survey's 18 statements. The univariate results from this analysis are presented in Table 4.

With p-values of much lower than 10% in each case, as reflected in the above table, statistically significant differences were found when there was consideration for students' work experience in each of these questions. In each case those who had had at least some employment experience were shown to be more likely¹² to believe that the tax system was unfair or complex, and that tax rates were not low than comparable cohorts who had no employment experience. Again, we recognise that this research approach does not give us the confirmation of causality required in order to enable us to say whether the employment experience itself actually created these results.

Table 4: Personal Perspectives on U.K. Tax Administration

Statements Regarding the U.K. Tax System	Status	Mean	Standard Deviation	Median	p-value
The tax system is fair	Employed	4.02	1.45	4	0.0022
	Never employed	3.18	0.98	3	
The tax system is simple	Employed	4.24	1.46	4	0.0374
	Never employed	3.69	1.24	4	
The tax rates are low	Employed	4.71	1.29	5	0.0009
	Never employed	4.03	0.95	4	

3.3. Model

In addition to carrying out the univariate analysis, we wanted to try to infer a causal relationship that may exist between tax morale and its constituent determinants. Our review of prior literature identified various potential determinants for this examination. In this study, we are particularly interested in the effect of tax education on tax morale and, moreover, whether that effect is conditional on the students' work experience (as proxied by employment). When the effect of one independent variable on the dependent variable depends on the value of the other independent variable, the line of causation is known as a "moderated causal relationship". On

¹² The means are higher, and the differences were statistically significant with $p < 0.1$ in all cases and below $p < 0.01$ in two of the three cases.

this basis, we undertook testing in which employment was hypothesised to moderate the relationship between education and tax morale. Moderated relationships are captured by introducing interaction terms between independent variables in the model.¹³ To do this, we have sought to examine the interaction between tax education and employment using the model below (utilising multivariate modelling).

$$\begin{aligned} Tax\ morale_i = & \beta_0 + \beta_1 Tax\ Educatation_i + \beta_2 Employment_i + \beta_3 (Tax\ Education_i * \\ & Employment_i) + \beta_4 Age_i + \beta_5 Female_i + \beta_6 UK_i + \beta_7 Marital\ status_i + \\ & \beta_8 White_i + \beta_9 Religiosity_i + \beta_{10} Trust_{UK} gov_i + \varepsilon_{i,t} \end{aligned} \quad (1)$$

The dependent variable (*Tax morale_i*) is calculated as a composite index from a factor analysis on the eighteen questions assessing tax morale, as adopted from McGee (2006) and Wong and Lo (2015), outlined above. According to the results of both Kaiser-Meyer-Olkin and scree tests, all the indicators were loaded on one distinct factor with factor loadings of more than 0.6, and this factor can therefore be said to represent a composite index measuring the tax morale of the respondents.¹⁴

The first set of independent variables are the main variables of interest: *Tax Education_i* representing an indicator of received tax tuition; *Employment_i* as a binary variable indicating whether or not the student is currently and/or has previously been employed; and their interaction (*Tax Education_i * Employment_i*). In this case, the coefficient on tax education (β_1) reflects the effect of tax tuition when the employment is zero (i.e. the student has never been employed) and the sum $\beta_1 + \beta_3 * (Employment_i)$ reflects the effect of tax tuition on students that are either currently employed or have been employed at some point in the past (i.e. employment is equal to 1). Similarly, the coefficient of employment (β_2) captures the effect of employment on tax morale when students did not receive tax education (tax education=0). Furthermore, the model includes the socio-demographic characteristics of the respondents as controls: age, gender, citizenship, marital status, and ethnicity.¹⁵ Finally, we also control for societal factors and personal beliefs, such as a respondent's trust in government and/or their religiosity.¹⁶

4. ESTIMATED RESULTS

The estimated results of our multivariate analysis (1) are summarised in Table 5.

A composite index measurement of the level of tax morale is estimated using the ordinary least square (OLS) method¹⁷ (Column 1 in Table 5). Diagnostic tests for OLS (tests for correct functional form, heteroscedasticity, normality, and multicollinearity) show that our model is

¹³ The interaction is introduced in the model as multiplicative term between moderated variables.

¹⁴ For a more detailed explanation of the execution of the factor analysis, see Alexander and Balavac-Orlic (2022).

¹⁵ Age is measured as the respondent's age. Gender, ethnicity, and citizenship are included as dummy variables (= 1 if a respondent is female, from the United Kingdom, and white, respectively; zero otherwise), while marital status is included as categorical variable with the categories married and separated/divorced/widowed in comparison to single (the reference group).

¹⁶ Respondents were asked to indicate personal trust in the government of the United Kingdom on a scale from 1 (very untrustworthy) to 10 (very trustworthy). The variable (government trust) is included in the model as a dummy variable, taking a value of 1 if the answer is greater than 5, and zero otherwise. Religiosity is measured as a dummy variable, taking a value of 1 if the respondent considers themselves to be religious and zero otherwise.

¹⁷ The OLS estimation method is used.

well-specified. We have also controlled for the sensitivity of our findings by measuring the tax morale with separate 7-point Likert scale questions. Given the ordinal nature of these variables, an ordered logit estimation method has also been utilised (Columns 2-6 in Table 4). Since both the OLS and ordered logit estimates are very similar, only the OLS estimates (Column 1 in Table 5) will be discussed below.

Therefore, to explore whether or not the influence of tax tuition on tax morale is dependent on a student's employment history, we estimate the interaction between the two variables (Course_taxtuition_spr#Employment). As the results in Table 5 show, the interaction is statistically significant in all specifications ($p < 0.1$). This shows that the effect of tax tuition on tax morale is conditional on the individual's employment experience. The coefficient for tax-course-enrolment (Course_taxtuition_spr#) measures the influence of enrolment on tax morale only for students *without* an employment history (i.e. when Employment=0). The effect of tax tuition on tax morale for students *with* employment history (i.e. when Employment=1) is then considered by estimating the coefficient of the interaction term. The estimated coefficient of tax-course-enrolment is positive, revealing that tuition increases the tax morale of students without employment histories ($\beta = 0.925$, $p < 0.1$). However, a negative coefficient on the interaction term shows that the effect of tax-course-enrolment diminishes for students with current or previous employment ($\beta = -0.949$, $p < 0.1$).

Our empirical findings indicate that the impact of tax tuition on tax morale might be better understood if the employment history of a student is considered jointly with tax tuition. These results may suggest that young people will not fully appreciate taxation in theory until they personally engage with the income tax system. As such, first-hand experience of the tax system (as an income tax payer, not just a VAT payer) and tax tuition taken together may produce a negative compliance outcome that tax tuition alone does not produce.

Rodriguez-Justicia and Theilen (2018) find that education levels have a positive influence on tax morale when the participant is a net beneficiary of the system and are negatively associated when the participant pays in more than they get out of it. Therefore, it is interesting to note that when our student participants enter the world of work and pay income taxes, we may observe that they behave as net contributors do. Referring to Feld and Frey (2002), Rodriguez-Justicia and Theilen (2018) suggest that each individual has a "psychological contract" with the state, where some personal benefits are realised from taxation (p. 20). Therefore, net beneficiaries may have higher tax morale (i.e. motivation for tax compliance).

The findings for the effects of the control variables in our study are in line with findings in the literature. Female residents of the United Kingdom and white respondents report higher levels of tax morale than their male, non-U.K.-resident and non-white counterparts—i.e. consistent with Alm and Torgler (2006), Frey and Torgler (2007), and Daude et al. (2013). Age and marital status do not have statistically significant influences, as was expected with this sample given the minor variations in respect of these variables.

5. CONCLUSIONS

The research described in this paper sought to explore the linkages between tax education and tax morale, specifically targeting young adults in the process of completing higher education and (in many cases, albeit not all) joining the workforce on a more full-time basis. This is a domain and subject group that several prior studies have explored, perhaps not unsurprisingly given the critical life change that this move creates, from primarily being substantially engaged

with education to primarily being a member of the workforce. As such, many of these individuals are likely to be about to become income tax payers, potentially for the first time. However, previous studies have not looked at whether or not prior employment and income tax paying experience has an effect on the way in which tax education influences tax morale.

Table 5: Estimated Results of Model (1)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	Ordered logit	Ordered logit	Ordered logit	Ordered logit	Ordered
	TM_total	Spent wisely	Project benefited	Worthy projects	Others pay more	logit Project not benefited
Age	-0.142 (0.209)	-0.283 (0.220)	-0.123 (0.232)	-0.366 (0.234)	-0.08256 (0.219)	-0.120 (0.245)
Over 25	-0.099 (0.407)	0.219 (0.483)	0.419 (0.525)	0.339 (0.438)	-0.44118 (0.454)	-0.996 (0.660)
Female	0.571*** (0.177)	0.291 (0.190)	0.349* (0.193)	0.111 (0.192)	0.55109*** (0.199)	0.513*** (0.190)
U.K.	0.612*** (0.225)	0.709*** (0.247)	0.979*** (0.307)	0.724*** (0.279)	0.74585** (0.320)	0.131 (0.271)
<i>Marital status</i>						
Married	-0.074 (0.468)	0.24288 (0.571)	0.47273 (0.769)	0.28453 (0.702)	0.01855 (0.504)	0.28597 (0.534)
Other (Separated, Widowed, Divorced)	0.072 (0.824)	0.68396 (1.079)	0.81523 (1.528)	-1.49331 (0.974)	0.79964 (0.576)	0.61801 (1.440)
White	0.389** (0.197)	0.21829 (0.242)	0.13872 (0.264)	0.13938 (0.242)	0.02117 (0.267)	0.50617** (0.257)
Religious	-0.125 (0.215)	-0.42787 (0.261)	-0.45404* (0.247)	-0.42648* (0.235)	-0.23797 (0.277)	0.33919 (0.268)
Trust_UKgov	-0.316* (0.178)	-0.30089 (0.197)	-0.36763* (0.198)	-0.26247 (0.196)	-0.27089 (0.198)	-0.04708 (0.205)
Course_taxtution_spr	0.925* (0.513)	2.27246*** (0.601)	1.56996*** (0.557)	2.02686*** (0.630)	1.36284** (0.663)	1.10018** (0.554)

Employment	0.354	1.41370***	0.84986**	1.04896**	0.87788**	0.55566
	(0.367)	(0.452)	(0.369)	(0.460)	(0.407)	(0.416)
Course_taxtution_spr#Employment	-0.949*	-2.2601***	-1.717***	-1.795***	-1.284*	-1.219**
	(0.535)	(0.625)	(0.592)	(0.654)	(0.701)	(0.567)
Constant	4.788***					
	(0.412)					
Observations	312	364	365	362	355	357
R-squared	0.12					

The results of this research show that gender, employment experience, and tax tuition all influence tax morale. Consistent with the literature, female respondents tend to have higher tax morale (i.e. are, on average, more willing to pay taxes due) than the male respondents. Respondents with employment experience tend to have a higher level of tax morale than those without employment experience. There is a general perception that the United Kingdom's individual tax system is fair, but that it is complex and the rates are too high. This perception is particularly strong for those in employment.

The research further shows that students who receive higher levels of tax tuition have higher levels of tax literacy. However, the researchers were unable to conclude whether enhanced tax awareness/literacy gained via tax tuition results in enhanced tax morale. Further research into the causation between tax awareness/literacy and tax morale would be necessary in order to draw such inferences.

The moderating effect of work experience on tax tuition to tax morale of university students has, to our knowledge, yet to be considered in the literature. Following the initial part of our research, we were intrigued by the employment-related results in our univariate analysis which potentially implied that having some employment experience appears to correlate with lower tax morale in comparable groups of similarly aged young adults in full-time education. As we were unable to establish whether this was a causal relationship (or the direction in which this may have been causal), we undertook further research using multivariate analysis in order to explore and better understand what may be driving the correlation.

The findings from this research, as reflected in Table 5, are that students who receive tax education and have employment experience have reduced levels of tax morale. Our research shows that the impact of tax tuition on tax morale is influenced by work experience, suggesting that young people will not fully appreciate taxation in theory until they have personally engaged with the income tax system. Our findings are consistent with those of Rodriguez-Justicia and Theilen (2018), who found education to have a negative impact on tax morale for net contributors to the system. This is an area that warrants further research as it poses interesting challenges for those engaged in tax education if it is creating these unexpected effects on tax morale in some of those who they are seeking to teach.

This research is subject to a number of limitations. First, the data has been extracted from relatively small cohorts of students from two universities within the United Kingdom and the

conclusions may not, therefore, be generalisable even to other students of a similar age. Second, tax morale and tax compliance behaviour have been measured using subjective survey ratings. This raises reliability concerns as these findings could be prone to measurement error. Furthermore, previous studies question the validity of survey instruments due to limited numbers of constructs. We partly address this concern by including a sizable number of constructs.

The results from this research suggest that there is more that could be done to develop taxpayer education. Taxpayer compliance and morale may be positively influenced by widely disseminating foundational tax education early, and then reinforcing and further developing knowledge at later life stages. However, the potential for this to decrease, rather than increase, voluntary compliance is a conundrum that is reflected in this study (as elsewhere) and is a concern that further research may seek to address.

BIBLIOGRAPHY

- Aberbach, J. D., & Christensen, T. (2007). The challenges of modernizing tax administration: Putting customers first in coercive public organizations. *Public Policy and Administration*, 22(2), 155–182. <https://doi.org/10.1177/0952076707071501>
- Akerlof, G. A. (1980). A theory of social custom, of which unemployment may be one consequence. *The Quarterly Journal of Economics*, 94(4), 749–775. <https://doi.org/10.2307/1885667>
- Alexander, P., & Balavac-Orlic, M. (2022). Tax morale: Framing and fairness. *Economic Systems*, 46(1), 100936. <https://doi.org/10.1016/j.ecosys.2021.100936>
- Alexander, P., Balavac, M., Mukherjee, S., Massey, D. & Lymer, A. (2019). *Improving tax literacy and tax morale in young people: End of project report for the Chartered Institute of Taxation*. <http://eprints.bournemouth.ac.uk/35081/>
- Alford, J. (2009). *Engaging public sector clients: From service delivery to co-production*. Palgrave Macmillan.
- Allingham, M. G., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, 1(3-4), 323–338. [https://doi.org/10.1016/0047-2727\(72\)90010-2](https://doi.org/10.1016/0047-2727(72)90010-2)
- Alm, J. (1991). The perspectives on experimental analysis of taxpayer reporting. *The American Review*, 66(3), 577–593.
- Alm, J., McClelland, G. H., & Schulze, W. D. (1992). Why do people pay taxes? *Journal of Public Economics*, 48(1), 21–48. [https://doi.org/10.1016/0047-2727\(92\)90040-M](https://doi.org/10.1016/0047-2727(92)90040-M)
- Alm, J., & Torgler, B. (2006). Cultural differences and tax morale in the United States and in Europe. *Journal of Economic Psychology*, 27(2), 224–246. <https://doi.org/10.1016/j.joep.2005.09.002>
- Barone, G., & Mocetti, S. (2011). Tax morale and public spending inefficiency. *International Tax and Public Finance*, 18, 724–749. <https://doi.org/10.1007/s10797-011-9174-z>
- Becker, G. S. (1968). Crime and punishment: An economic approach. In N. G. Fielding, A. Clarke, & R. Witt (Eds.), *The economic dimensions of crime* (pp. 13–68). Palgrave Macmillan.

- Brink, W. D., & Porcano, T. M. (2016). The impact of culture and economic structure on tax morale and tax evasion: A country-level analysis using SEM. *Advances in Taxation* (Volume 23, pp. 87–123). Emerald Group Publishing.
- Chen, H. & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, 7(2), 107–128. [https://doi.org/10.1016/S1057-0810\(99\)80006-7](https://doi.org/10.1016/S1057-0810(99)80006-7)
- Chung, P. (1976). On complaints about “high” taxes: An analytical note. *Public Finance*, 31(1), 125–131.
- Cullis, J., Jones, P., & Lewis, A. (2006). Tax framing, instrumentality and individual differences: Are there two different cultures? *Journal of Economic Psychology*, 27(2), 304–320. <https://doi.org/10.1016/j.joep.2005.07.003>
- Currie, G., Tuck, P., & Morrell, K. (2015). How hybrid managers act as “canny customers” to accelerate policy reform: A case study of regulator-regulatee relationships in the UK’s tax agency. *Accounting, Auding & Accountability Journal*, 28(8), 1291–1309. <https://doi.org/10.1108/AAAJ-12-2014-1889>
- D’Attoma, J. W., Volintiru, C., & Malézieux, A. (2020). Gender, social value orientation, and tax compliance. *CESifo Economic Studies*, 66(3), 265–284. <https://doi.org/10.1093/cesifo/ifz016>
- Daude, C., Gutiérrez, H., & Melguizo, Á. (2013). What drives tax morale? A focus on emerging economies. *Hacienda Pública Española/Review of Public Economics*, 207(4), 9–40.
- Deloitte. (2019). *The tax education gap – is it time to talk tax?* <https://www2.deloitte.com/uk/en/pages/tax/articles/tax-education-gap.html>
- De Stefano, V. (2015). The rise of the “just-in-time workforce”: On-demand work, crowdwork, and labor protection in the “gig economy”. *Comparative Labor Law & Policy Journal*, 37(3), 471–504.
- Doerrenberg, P., & Peichl, A. (2013). Progressive taxation and tax morale. *Public Choice*, 155(3–4), 293–316.
- Eriksen, K., & Fallan, L. (1996). Tax knowledge and attitudes towards taxation: A report on a quasi-experiment. *Journal of Economic Psychology*, 17(3), 387–402. [https://doi.org/10.1016/0167-4870\(96\)00015-3](https://doi.org/10.1016/0167-4870(96)00015-3)
- Fehr, E., & Fischbacher, U. (2004). Social norms and human cooperation. *Trends in Cognitive Sciences*, 8(4), 185–190. <https://doi.org/10.1016/j.tics.2004.02.007>
- Finance Act 2021, c.1.* <https://www.legislation.gov.uk/ukpga/2021/26/enacted#:~:text=2021%20CHAPTER%2026,provision%20in%20connection%20with%20finance>
- Frey, B. S., & Feld, L. P. (2002). *Deterrence and morale in taxation: An empirical analysis* (CESifo Working Paper Series No 760). <https://doi.org/10.2139/ssrn.341380>
- Frey, B. S. & Torgler, B. (2007). Tax morale and conditional cooperation. *Journal of Comparative Economics*, 35(1), 136–159. <https://doi.org/10.1016/j.jce.2006.10.006>
- Gangl, K., Hofmann, E., & Kirchler, E. (2015). Tax authorities’ interaction with taxpayers: A conception of compliance in social dilemmas by power and trust. *New Ideas in Psychology*, 37, 13–23. <https://doi.org/10.1016/j.newideapsych.2014.12.001>

- Gemmell, N., Morrissey, O., & Pinar, A. (2003). Tax perceptions and the demand for public expenditure: Evidence from UK micro-data. *European Journal of Political Economy*, 19(4), 793–816. [https://doi.org/10.1016/S0176-2680\(03\)00037-5](https://doi.org/10.1016/S0176-2680(03)00037-5)
- Goksu, G. G., & Sahpaz, K. I. (2015). Comparison of tax morale of Turkish and Spanish higher education students: The samples of Sakarya University and the University of Zaragoza. *Procedia - Social and Behavioral Sciences*, 186, 222–230. <https://doi.org/10.1016/j.sbspro.2015.04.027>
- Gordon, J. P. P. (1989). Individual morality and reputation costs as deterrents to tax evasion. *European Economic Review*, 33(4), 355–363. [https://doi.org/10.1016/0014-2921\(89\)90026-3](https://doi.org/10.1016/0014-2921(89)90026-3)
- Hansen, P. (2003). *Taxing illusions: Taxation, democracy and embedded political theory*. Fernwood Publishing.
- Hasseldine, J., Hite, P., James, S., & Toumi, M. (2005). Carrots, sticks, sole proprietors, and tax accountants. *The IRS Bulletin: Recent Research on Tax Administration and Compliance: Proceedings of the 2005 IRS Conference*, 191–210.
- HM Revenue & Customs. (2022, June). *Table 2.1 - Number of individual taxpayers*. UK Government, HMRC. <https://www.gov.uk/government/statistics/number-of-individual-income-taxpayers-by-marginal-rate-gender-and-age>
- Hoffman, N. (2015). Let's get real: *Deeper learning and the power of the workplace* (Deeper Learning Research Series). Jobs for the Future.
- Horodnic, I. A. (2018). Tax morale and institutional theory: A systematic review. *International Journal of Sociology and Social Policy*, 38(9/10), 868–886. <https://doi.org/10.1108/IJSSP-03-2018-0039>
- James, S., & Alley, C. (2009). Tax compliance, self-assessment and tax administration. *Journal of Finance and Management in Public Services*, 2(2), 27–42.
- Kahan, D. M., & Braman, D. (2006). Culture cognition and public policy. *Yale Law & Policy Review*, 24(2), 149–172.
- Kasipillai, J., Aripin, N., & Amran, N.A. (2003). The influence of education on tax avoidance and tax evasion. *e-Journal of Tax Research*, 1(2), 134–146.
- Kolstad, I. (2007). The evolution of social norms: With managerial implications. *The Journal of Socio-Economics*, 36(1), 58–72. <https://doi.org/10.1016/j.socec.2005.11.028>
- Konrad, K. A., & Qari, S. (2012). The last refuge of a scoundrel? Patriotism and tax compliance. *Economica*, 79(315), 516–533. <https://doi.org/10.1111/j.1468-0335.2011.00900.x>
- Kornhauser, M. E. (2007). A tax morale approach to compliance: Recommendations for the IRS. *Florida Tax Review*, 8(6), 599–640.
- Kurniawan, D. (2020). The influence of tax education during higher education on tax knowledge and its effect on personal tax compliance. *Journal of Indonesian Economy and Business*, 35(1), 57–72. <https://doi.org/10.22146/jieb.54292>
- Laffont, J. J. (1975). Macroeconomic constraints, economic efficiency and ethics: A Kantian economics. *Economica*, 42(168), 430–437. <https://doi.org/10.2307/2553800>
- Lewis, A. (1982). *The psychology of taxation*. Martin Robertson & Company Ltd.

- Lewis, A., Carrera, S., Cullis, J., & Jones, P. (2009). Individual, cognitive and cultural differences in tax compliance: UK and Italy compared. *Journal of Economic Psychology*, 30(3), 431–445. <https://doi.org/10.1016/j.joep.2008.11.002>
- Loo, E. C., Hansford, A., & McKerchar, M. (2005). An international comparative analysis of self assessment: What lessons are there for tax administrators? *Australian Tax Forum*, 20(4), 669–710.
- Luttmer, E. F. P., & Singhal, M. (2014). Tax morale. *Journal of Economic Perspectives*, 28(4), 149–168. <https://doi.org/10.1257/jep.28.4.149>
- Lymer, A. (2015, 4 December). Public attitudes to tax – who cares? *Tax Adviser Magazine*. <https://www.taxadvisermagazine.com/article/public-attitudes-tax-who-cares>
- Mazar, N., & Ariely, D. (2006). Dishonesty in everyday life and its policy implications. *Journal of Public Policy & Marketing*, 25(1), 117–126.
- McGee, R. W. (2006). *The ethics of tax evasion: A survey of international business academics*. <https://doi.org/10.2139/ssrn.803964>
- McGee, R. W., & Bernal, A. (2006, February 10-11). *The ethics of tax evasion: A survey of business students in Poland* [Conference presentation]. Sixth Annual International Business Research Conference, Jacksonville, Florida, FL, United States. <https://doi.org/10.2139/ssrn.875434>
- McGee, R. W., Nickerson, I., & Fees, W. (2005, October 12-15). When is tax evasion ethically justifiable? A survey of German business students. *Allied Academies International Conference, Academy of Legal, Ethical and Regulatory Issues: Proceedings*, 9(2), 33–34.
- McGee, R. W., & Tusan, R. (2008). The ethics of tax evasion: A survey of Slovak opinion. In R. W. McGee (Ed.), *Taxation and public finance in transition and developing economies* (pp. 575–601). Springer.
- McGee, R. W. & Tyler, M. (2006). Tax evasion and ethics: A demographic study of 33 countries (Andreas School of Business Working Paper). <https://doi.org/10.2139/ssrn.940505>
- McKerchar, M., Bloomquist, K., & Pope, J. (2013). Indicators of tax morale: An exploratory study. *eJournal of Tax Research*, 11(1), 5–22.
- Myles, G. D., & Naylor, R. A. (1996). A model of tax evasion with group conformity and social customs. *European Journal of Political Economy*, 12(1), 49–66. [https://doi.org/10.1016/0176-2680\(95\)00037-2](https://doi.org/10.1016/0176-2680(95)00037-2)
- Naylor, R. (1989). Strikes, free riders, and social customs. *The Quarterly Journal of Economics*, 104(4), 771–805. <https://doi.org/10.2307/2937867>
- Onu, D., Oats, L., Kirchler, E., & Hartmann, A. J. (2019). Gaming the system: An investigation of small business owners' attitudes to tax avoidance, tax planning, and tax evasion. *Games*, 10(4), 46. <https://doi.org/10.3390/g10040046>
- Organisation for Economic Co-operation and Development & The International and Ibero-American Foundation for Administration and Public Policies. (2015). *Building tax culture, compliance and citizenship: A global source book on taxpayer education*. OECD Publishing.
- Organisation for Economic Co-operation and Development. (2019). *Tax morale: What drives people and businesses to pay tax?* OECD Publishing.

- Rodriguez-Justicia, D., & Theilen, B. (2018). Education and tax morale. *Journal of Economic Psychology*, 64, 18–48. <https://doi.org/10.1016/j.joep.2017.10.001>
- Sugden, R. (1984). Reciprocity: The supply of public goods through voluntary contributions. *Economic Journal*, 94(376), 772–787. <https://doi.org/10.2307/2232294>
- Torgler, B. (2002). Speaking to theorists and searching for facts: Tax morale and tax compliance in experiments. *Journal of Economic Surveys*, 16(5), 657–683. <https://doi.org/10.1111/1467-6419.00185>
- Torgler, B. (2003). Tax morale and tax compliance: A cross culture comparison. *Proceedings: Annual conference on taxation and minutes of the annual meeting of the National Tax Association, 2003*, 96, 63–74.
- Torgler, B. (2006). The importance of faith: Tax morale and religiosity. *Journal of Economic Behavior & Organization*, 61(6), 81–109. <https://doi.org/10.1016/j.jebo.2004.10.007>
- Torgler, B. (2007). *Tax compliance and tax morale: A theoretical and empirical analysis*. Edward Elgar Publishing Ltd.
- Torgler, B. (2011). *Tax morale and compliance: Review of evidence and case studies for Europe* (World Bank Policy Research Working Paper 5922). <https://doi.org/10.1596/1813-9450-5922>
- Torgler, B., & Murphy, K. (2004). Tax morale in Australia: What shapes it and has it changed over time? *Journal of Australian Taxation*, 7(2), 298–335.
- Torgler, B., Schaffner, M., & MacIntyre, A. (2010). Tax compliance, tax morale, and governance quality. In J. Alm, J. Martinez-Vazquez, & B. Torgler (Eds.), *Developing alternative frameworks for explaining tax compliance* (pp. 56–73). Routledge.
- Torgler, B., & Schneider, F. (2007). What shapes attitudes toward paying taxes? Evidence from multicultural European countries. *Social Science Quarterly*, 88(2), 443–470. <https://doi.org/10.1111/j.1540-6237.2007.00466.x>
- Wong, R. M. K., & Lo, A. W. Y. (2015). *Can education improve tax compliance? Evidence from different forms of tax education* (Hong Kong Institute of Business Studies Working Paper Series 074-1415). <https://commons.ln.edu.hk/hkibswp/93/>