



Yousaf, O. and Gobet, F. (2016) 'The effect of personal attitudes on information processing biases in religious individuals', *Journal of Cognitive Psychology*, 28 (3), pp. 366-373.

This is an Accepted Manuscript of an article published by Taylor & Francis Group in *Journal of Cognitive Psychology* on 28/01/2016 available online:
<http://dx.doi.org/10.1080/20445911.2015.1135156>

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The effect of personal attitudes on information processing biases in religious individuals

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Acknowledgements

This research was funded by The John Templeton Foundation's Grant 10701 to Fraser N. Watts (PI) and John C. Polkinghorne (Co-I), and was conducted at the University of Cambridge. We would like to thank Nicholas Gibson for his guidance on this work.

Keywords: selective information processing, religious attitudes, selective exposure, selective attention.

Abstract

Selective exposure, the confirmation bias of preferring attitude-consistent over attitude-inconsistent information, is empirically a well-established phenomenon of human behaviour. However, most of the research on selective exposure has been conducted either on what material participants *select* or what they *attend* to once the material is presented. We extended a selective exposure paradigm by measuring biases at both the selection and the reading stages of information processing. After Christian participants ($n = 41$) were asked about their views on tithing (a religious practice of giving charity), selective exposure biases were not systematic but were moderated by participants' views on tithing. That is, those who were in favour of tithing showed a preference for anti-tithing material (i.e., attitude-inconsistent material), whereas those who were not in favour of tithing also showed a preference for anti-tithing material (i.e., attitude-consistent material). Our study indicates that resistance to persuasion might in some cases depend on attitude direction.

Keywords: selective information processing, religious attitudes, selective exposure, selective attention.

Selective exposure is the bias consisting in choosing attitude-consistent information and avoiding information that is inconsistent with one's attitudes, preferences, or goals. This bias, which is also sometimes referred to as *confirmation bias* (Jonas, Schulz-Hardt, Frey, & Thelen, 2001), has been demonstrated empirically in many contexts, including stereotypes (Johnston, 1996), attitudes about general social matters (Jonas et al., 2001), board-game and card-game decision-making (Bilalić, McLeod, & Gobet, 2008; Frey, 1982), and legal problem solving (Fischer, Schulz-Hardt, & Frey, 2008). In all these contexts, individuals show a selection bias toward attitude-consistent information when asked to choose information in order to make a decision. Studies have also shown that the bias is greater in cases where participants have personal attitudes concerning the topic (Schwarz, Frey, & Kumpf, 1980) and where they see the topic as particularly important (Brannon, Tagler, & Eagly, 2007; Chaiken, Giner-Sorolla, & Chen, 1996).

A proposed motivation-based mechanism for this bias is that, due to the potential ego threat of attitude-inconsistent information which can negatively affect one's self-esteem, individuals avoid such information because it can elicit negative emotions (Baumeister, 1996; Baumeister, Heatherton, & Tice, 1993; Newman & Baumeister, 1993). Selective exposure and attention biases have also been studied with regard to attitudes about important matters that are more central to individuals' self-concept, such as political attitudes (Knobloch-Westerwick & Meng, 2009), where there is a clear bias for attitude-consistent information at both the selection and reading stages of the information processing. A meta-analysis of selective exposure (Hart et al., 2009) showed that while there is an overall preference of attitude-consistent information, the bias is moderated by a number of factors. These include open-mindedness, confidence in the attitude, the quantity of available information, and attitude support prior to information selection. Hart et al.

(2009) argue that the overall preference of attitude-consistent information suggests that defence motivations are dominant most of the time during information selection.

What previous research has not investigated in depth is what happens when people process material that not only is highly self-relevant and important, but also has the potential to boost self-esteem such that attitude-consistent material becomes less important. If indeed selectivity of information processing is due, at least in part, to defence motivations related to ego protection (Baumeister, 1996), we should not expect such selectivity in cases where the ego is boosted, as opposed to threatened. A different prediction is made by consistency theories such as cognitive dissonance theory and self-verification theory (Festinger, 1957; Swann, Rentfrow, & Guinn, 2002): consistent information should be preferred generally because we have a fundamental need for consistency and coherence. One way of exploring this is to use a topic that individuals feel good about holding certain attitudes towards. This is what we did in the present work.

Despite the vast amount of research conducted on selective information processing in social psychology (e.g., Fischer et al., 2008; Frey, 1982; Johnston, 1996; Jonas et al., 2001; Sears & Freedman, 1967), there is surprisingly little research as to whether religious individuals show a selective exposure bias, and the results have been inconclusive. For example, in a correlational study, McFarland and Warren (1992) showed that, among Christian fundamentalists, those who scored highly on quest religiosity were more likely to read belief-opposing material. More recently, it has been shown that the awareness of one's religious shortcomings can lead to implicit activation and operation of goals related to religious pursuits (Wenger, 2007). Wenger's experiments indicate that, in religious individuals, a feeling of inadequacy with regard to their religious pursuits changes the way they process information. Hence, feelings of religious inadequacy or accomplishment seem

to have consequences for one's self-esteem, changing the way one processes information, as well as affecting attitudes and emotions (Yousaf & Gobet, 2013). Studying selective exposure in the religious context, therefore, promises to be fruitful because of the strong commitment that religious individuals have to their attitudes, as well as the implications for self-esteem that such attitudes are expected to have (Chaiken et al., 1996).

The Present Research

We extended a standard selective exposure paradigm (Fischer et al., 2008; Frey, 1981; Jonas et al., 2001), which measures the degree to which individuals show a selectivity bias by choosing to read information that verifies their attitudes. The selective exposure paradigm consists of two phases. In the first phase, participants are introduced to a topic regarding which two opposing views are presented, and they are asked which of these views they agree with more. In the second phase, they are told that they can change their decision about which view they agree with after getting an opportunity to read arguments from both sides. They are told that they can select however many arguments that they want to read before making a final decision. The arguments – or ‘short articles’ – can be chosen from their one-sentence titles that reveal the direction of the argument. However, this paradigm measures only the number of arguments that are selected for further reading, but does not measure whether participants actually read the statements, and if so, how much time they devote to their reading.

The present experiment aimed to improve on this paradigm by testing whether attitude consistent biases operate both at the *selection* and *reading* stages. The topic chosen for the study was *tithing*, which is a Christian practice of giving a tenth of one's income as an offering to God, typically by paying it to the church. The reason for choosing this topic was that we expected individuals who placed importance on tithing to be proud of doing so

because it is an act of generosity. Hence, this group of people were expected to feel an ego boost as a result of stating their attitudes on this matter. This, in turn, was expected to eliminate a preference for attitude-consistent material. Tithing is also controversial in some Christian circles, and individuals have opposing views on whether it is their duty to tithe (e.g., Burkett, 1999; Kioulachoglou, 2008; Narramore, 2004; Prince, 2002); this gave the study materials good face validity.

Our first aim was to test whether religious individuals who have reason to act defensively showed the selective exposure bias when *selecting* religious material to make a decision about a matter with implications for their self-esteem. Our second aim was to test whether participants also showed a selective attention bias when actually *reading* the full articles (as opposed to just the one-sentence title). While the bias of selective attention to desirable information has been demonstrated by various studies in pre- and post-decision-making situations (e.g., Mills & Jellison, 1968; Mischel, Ebbesen, & Zeiss, 1973; Olson & Zanna, 1979) as well as in clinical settings (for a review, see Mobini & Grant, 2007), no known attempt has been made to incorporate such a measure of reading into this paradigm. In previous research that has used this paradigm, the experiment ended after participants had selected which arguments they wanted to read, so they were not given a chance to read the full material. Hence, measuring how much attention individuals actually pay to the two types of information has not been possible in previous studies. For the purpose of extending this paradigm and measuring potential attentional biases, we produced short statements representing conflicting views on tithing. We hypothesised that religious individuals who were anti-tithing would show the usual selective exposure bias, as well as an attentional bias by spending less time reading attitude-inconsistent religious material compared to attitude-consistent religious material. If such a bias were found, it would be a useful paradigmatic extension for future research because an additional information processing bias would be

identified. We also hypothesised that individuals who were pro-tithing would have no need to be defensive because they subscribed to an apparently good cause. Hence, we expected this group to be motivated by accuracy – which is believed to govern behaviour when self-esteem is not threatened – (Baumeister, 1996), and thereby show a preference for attitude-inconsistent information in order to understand the other perspective as well as they understand their own. Hence, they were not expected to process attitude-consistent information at length because they are familiar with this side of the story, and have no motivation to boost their ego by reading material that supports their position.

Method

Participants

Forty-one Christian participants (24 females) from the student population of a British university took part in the study. The mean age was 21.9 years. Participants were recruited through advertising on one of the University's mailing lists. The two selection criteria for this study were that participants had to be over 18 years old and self-identify as Christians when asked about their religious affiliation. The participants were allocated to two groups as a function of their attitude to tithing (pro or con; see details below).

Materials

An introductory sheet was used to ask participants how familiar they were with the concept of tithing on a 9-point Likert scale. A separate sheet defining tithing and introducing the debate about whether or not Christians ought to tithe was used. This sheet also asked participants whether they considered tithing an important principle. Titles and paragraphs were presented on a computer screen using the reaction time software DMDX (Forster & Forster, 2003). A questionnaire was used to ask participants about their final attitudes toward tithing, after having read the material.

Sixteen one-sentence titles – half of which were supportive of tithing and the other half against it – were used as the *selective exposure* measure to test if participants selected more attitude-consistent titles than attitude-inconsistent ones. The production of the titles was inspired by several books on the topic (Burkett, 1999; Kioulachoglou, 2008; Narramore, 2004; Prince, 2002), as well as by arguments that Christians presented on online forums. The titles averaged 12.89 words in length (range: 9-15 words), and were all presented on a single sheet in a randomised order. Pro-tithing titles included: *'Tithing is an important commandment in both the Old and the New Testaments'* and *'It is the duty of every Christian to tithe so that the church can do its work.'* Con-tithing titles included: *'Tithing was never meant as financial giving and therefore it is obsolete'* and *'Christians who follow tithing literally are victims of a major misunderstanding.'* All the titles can be found in Appendix A. A pilot study conducted with Christian participants determined that the titles in favour of tithing ($M = 1.78, SE = 0.34$) did not differ from the titles against tithing ($M = 1.78, SE = 0.39$) in difficulty of reading, $t(12) = 1.00, p > .05$, on a 1-9 scale, where 1 was 'very easy' and 9 was 'very difficult'. Nor did the titles in favour of tithing ($M = 5.05, SE = 0.88$) differ from the titles against tithing ($M = 4.90, SE = 0.63$) in persuasiveness, $t(12) = 0.81, p > .05$, on a 1-9 scale, where 1 was 'very weak' and 9 was 'very strong'.

Sixteen 170-word paragraphs (Supplementary online material) elaborating each of the titles were used as the main statements for and against the practice of tithing. The measure of participants' reading times of these statements constituted the dependent variable of *selective attention*. Half the statements were critical of, while the other half were supportive of, tithing. The first sentence of each statement was identical to the title that was used to represent it, so that participants could easily recognise whether they had selected a

given statement when it would be presented on the computer screen. The statements were written specifically for this study so that any potential familiarity effects of using existing texts could be avoided. However, they were inspired by the same material that was used for the titles. Just like with the titles, the statements for tithing ($M = 2.37$, $SE = 0.42$) did not differ from the statements against tithing ($M = 2.13$, $SE = 0.29$) in difficulty of reading, $t(12) = -1.29$, $p > .05$, on a 1-9 scale. Nor did the statements for tithing ($M = 5.15$, $SE = 0.81$) differ from the statements against tithing ($M = 6.00$, $SE = 0.70$) in persuasiveness, $t(12) = 1.86$, $p > .05$, on the same scale.

Procedure

Participants took part in what they were told was ‘a study of the attitudes of religious people toward a religious matter’. When they arrived, they were given the introduction sheet which asked them how familiar they were with tithing, followed by a neutral definition of, and introduction to tithing and the debate concerning it. Following this, participants were asked if they thought that tithing was an important principle for them as Christians; they could only reply ‘yes’ or ‘no’ because this paradigm necessitates that participants commit to one side. They were then told that this was just a preliminary decision, and that they would be given the option to read more material on the topic so that they could make a final decision on the matter.

Next, participants were given the option of reading the views of ‘experts on the topic of tithing’. They were asked to select however many statements out of the 16 available that they wanted to read, and they did this on the basis of the titles of the statements (half represented pro-tithing, and the other half con-tithing arguments). After they had indicated on the sheet which statements they were interested in reading, they were told that all of the 16 statements were going to be presented on the computer screen one at a time. Participants were told that they could read both the statements that they had selected earlier and those

that they had not, and to press the 'enter' key when they wanted to move on to the next statement. Presenting all the statements to all participants was important for subsequent analysis of the attention data; if only the statements that participants had selected earlier were displayed, measuring attention to attitude-consistent versus attitude-inconsistent statements would be impossible if some participants had not selected any attitude-inconsistent statements (or attitude-consistent statements). The order of the statements was randomised. Finally, participants were asked about their final decision regarding the importance of tithing.

Results

Importance of, and Familiarity with Tithing

Of the 41 participants, 26 stated that tithing was an important principle for them (henceforth, the 'tithing-important-group', or TIG) and 15 participants stated that tithing was not important to them (henceforth, the 'tithing-unimportant-group', or TUG). When asked for a second time at the end of the study, one person from TUG changed his mind and thought that tithing was important, and four participants from TIG changed their minds and now thought that tithing was not important. The two groups, TIG and TUG, did not differ on how familiar they were with the topic on a 0-8 Likert scale where higher scores indicated more familiarity, $t(39) = 1.02$, ns, $r = .16$. However, the TIG had a slightly higher mean: $M = 4.77$, $SE = 0.64$, compared to the TUG: $M = 3.67$, $SE = 0.88$.

Selective Exposure

A mixed-factorial ANOVA with attitude group as between factor and type of statement as within factor revealed that, while there was no main effect of the type of statements (attitude-consistent or attitude-inconsistent), $F(1, 39) = 0.30$, ns, there was an interaction between type of statements and tithing group, $F(1, 39) = 12.12$, $p < .01$. This interaction is illustrated in Figure 1. The TUG on its own showed selective exposure bias by

selecting more attitude-consistent statements ($M = 4.07$, $SE = 0.42$) than attitude-inconsistent statements ($M = 2.80$, $SE = 0.50$), $t(14) = 2.87$, $p < .05$, $r = .61$. As predicted, the TIG did not show this bias; in fact, they showed the opposite bias: They selected more attitude-inconsistent ($M = 4.00$, $SE = 0.36$) than attitude-consistent statements ($M = 3.08$, $SE = 0.35$), $t(25) = -2.29$, $p < .05$, $r = .42$. This pattern is also reflected in the fact that the TIG selected more attitude-inconsistent statements than the TUG, $t(39) = 1.99$, $p < .05$, $r = .30$, and the TUG selected more attitude-consistent statements than the TIG, $t(39) = -1.78$, $p < .05$, $r = .27$.

Selective Attention

A mixed-factorial ANOVA showed that there was no main effect of the amount of attention paid to attitude-consistent or attitude-inconsistent statements, $F(1, 39) = 1.31$, ns. However, there was an interaction between attention and importance of tithing, $F(1, 39) = 5.21$, $p < .05$, as illustrated in Figure 2. The TUG did spend more time reading attitude-consistent statements ($M = 22.95$ s, $SE = 2.30$) compared to attitude-inconsistent statements ($M = 19.37$ s, $SE = 2.85$), $t(14) = -2.21$, $p < .05$, $r = .51$. For the TIG, however, there was no difference between attitude-consistent ($M = 22.57$ s, $SE = 1.85$) and attitude-inconsistent ($M = 23.76$ s, $SE = 1.96$) reading times, $t(25) = 0.93$, $p > .05$, $r = .18$.

Finally, a positive correlation was found between the number of attitude-consistent titles selected and the time spent reading attitude-consistent statements, $r = .43$, $p < .01$, validating the selective exposure measure because it indicates that participants actually read what they had selected.

Discussion

The current study has introduced a new moderator of the selectivity of information processing: attitude direction. Participants who stated that tithing is important to them showed the opposite behaviour to those who stated that tithing was not important to them.

For the *selective exposure* measure, it was found that, in contrast to previous results in social and cognitive psychology where the bias has predominantly been found toward attitude-consistency, the TIG had an attitude-inconsistent bias in that they were more interested in reading statements that argued that tithing is not important for Christians. The TUG, however, showed the opposite bias of wanting to read more attitude-consistent statements, or statements that were arguing that tithing is not important for Christians.

These findings support ego defence theories (Baumeister, 1996) and not consistency theories (Festinger, 1957; Swann et al., 2002). Participants in the TUG might have felt dissonant for first stating that they are Christians and then not prescribing to tithing, and thus showed a defensive tendency in their selections. They might have wanted to avoid information that could make them feel worse about themselves. The TIG, on the other hand, might have felt good about committing themselves to this group, and probably felt that their view that tithing is an important principle to them as Christians is both a pro-social and a pro-Christianity view. This could have boosted their self-esteem, making them wanting to read the other side of the story, motivated by accuracy goals. Indeed, this was reflected in the fact that four TIG participants changed their attitudes about tithing when asked the second time, whereas only one TUG changed his attitude. This supports the interpretation that the TIG was governed by accuracy motivations, and the TUG by defence motivations.

The results on selective exposure were supported by the results on selective attention. Only the TUG spent more time reading attitude-consistent statements. The results for this group thus supported the hypothesis of selective attention for the defensive group, a finding that shows that this paradigm is not only useful for detecting selective exposure but also for tapping into selective attention. The TIG, however, did not show any bias of attention. This might be because when the TIG were presented with the statements, they became interested in both sides of the story and took a more balanced approach toward their

reading of the material. The TUG, on the other hand, showed an avoidance of the attitude-inconsistent statements, which is suggestive of defence motivations.

For both groups, selective attention correlated positively with the selection of attitude-consistent titles. This means that the more attitude-consistent statements participants selected, the more time they spent reading these statements. This correlation is indicative of participants' consistent interest in the topic at the two levels of measurement (i.e., selection and attention), and it indicates that the selective exposure measure is a valid measure of intention to read, as well as a valid measure of the eventual reading of the material that they select. That is, when they selected the statements in the beginning of the study, they were actually planning on reading them and later did so, without changing their minds about the statements when eventually presented in their entirety.

A limitation of the present study is that it was correlative, the participants not being randomly assigned to each group. Another limitation is that the finding could be interpreted as anti-tithing information being more interesting to read. However, we offer a twofold argument for why this is unlikely to be the case. First, our pilot study did not show any differences in the persuasiveness of pro- and anti-tithing information. Second, if indeed anti-tithing statements were more interesting to read, both the TIG and the TUG should have shown a bias of spending more time reading these; however, only the TUG showed this bias. Finally, given that our participant sample was relatively small ($n = 41$), the present study is unable to provide strong evidence for the proposed effect. We hope that this interesting finding of attitude direction moderating cognitive biases will be replicated in the religious domain, as well as in other areas (e.g., political attitudes).

In conclusion, the finding of this study was that the behaviour of one of the two groups was the exact opposite to what was predicted by consistency theories. As predicted,

while one group avoided, the other did not. This finding departs from the pattern found in numerous experiments, and adds a new dimension to the research on selectivity of information processing by introducing the new moderator of attitude direction regarding matters that can influence self-esteem. The assumption here is that the two groups had different motivations during the information selection stage. Further research on this topic should disentangle the nature of these underlying motivations.

References

- Baumeister, R. F. (1996). Self-regulation and ego threat: Motivated cognition, self-deception, and destructive goal setting. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behaviour* (pp. 27-47). New York: The Guilford Press.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1993). When ego threats lead to self-regulation failure: Negative consequences of high self-esteem. *Journal of Personality and Social Psychology*, *64*(1), 141-156. doi: 10.1037/0022-3514.64.1.141
- Bilalić, M., McLeod, P., & Gobet, F. (2008). Why good thoughts block better ones: The mechanism of the pernicious Einstellung (set) effect. *Cognition*, *108*, 652-661. doi: 10.1016/j.cognition.2008.05.005
- Brannon, L. A., Tagler, M. J., & Eagly, A. H. (2007). The moderating role of attitude strength in selective exposure to information. *Journal of Experimental Social Psychology*, *43*(4), 611-617.
- Burkett, L. (1999). *Giving & Tithing: Includes serving and stewardship*. London: Moody Press.
- Chaiken, S., Giner-Sorolla, R., & Chen, S. (1996). Beyond accuracy: Defense and impression motives in heuristic and systematic information processing. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behaviour* (pp. 553-578.). New York: The Guilford Press.

- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, U.S.A.: Stanford University Press.
- Fischer, P., Schulz-Hardt, S., & Frey, D. (2008). Selective exposure and information quantity: How different information quantities moderate decision makers' preference for consistent and inconsistent information. *Journal of Personality and Social Psychology, 94*(2), 231-244. doi: 10.1037/0022-3514.94.2.94.2.231
- Forster, K. I., & Forster, J. C. (2003). DMDX: A Windows display program with millisecond accuracy. *Behavior research methods, instruments, and computers, 35*, 116-124. doi: 10.3758/BF03195503
- Frey, D. (1981). Postdecisional preference for decision-relevant information as a function of the competence of its source and the degree of familiarity with this information. *Journal of Experimental Social Psychology, 17*(1), 51-67. doi: 10.1016/0022-1031(81)90006-8
- Frey, D. (1982). Different levels of cognitive dissonance, information seeking, and information avoidance. *Journal of Personality and Social Psychology, 43*(6), 1175-1183. doi: 10.1037/0022-3514.43.6.1175
- Hart, W., Eagly, A. H., Lindberg, M. J., Albarracin, D., Brechan, I., & Merrill, L. (2009). Feeling validated versus being correct: A meta-analysis of selective exposure to information. *Psychological Bulletin, 135*(4), 555-588. doi: 10.1037/a0015701
- Johnston, L. (1996). Resisting change: Information-seeking and stereotype change. *European Journal of Social Psychology, 26*(5), 799-825.

- Jonas, E., Schulz-Hardt, S., Frey, D., & Thelen, N. (2001). Confirmation bias in sequential information search after preliminary decisions: An expansion of dissonance theoretical research on selective exposure to information. *Journal of Personality and Social Psychology, 80*(4), 557-571. doi: 10.1037/0022-3514.80.4.557
- Kioulachoglou, A. (2008). *Tithing, giving, and the New Testament*. London: Xulon Press.
- Knobloch-Westerwick, S., & Meng, J. (2009). Looking the other way: Selective exposure to attitude-consistent and counterattitudinal political information. *Communication Research, 36*(3), 426-448. doi: 10.1177/0093650209333030
- McFarland, S. G., & Warren, J. C., Jr. (1992). Religious orientations and selective exposure among fundamentalist Christians. *Journal for the Scientific Study of Religion, 31*(2), 163-174. doi: 10.2307/1387006
- Mills, J., & Jellison, J. M. (1968). Avoidance of discrepant information prior to commitment. *Journal of Personality and Social Psychology, 8*(1, Pt.1), 59-62. doi: 10.1037/h0025319
- Mischel, W., Ebbesen, E. B., & Zeiss, A. R. (1973). Selective attention to the self: Situational and dispositional determinants. *Journal of Personality and Social Psychology, 27*(1), 129-142. doi: 10.1037/h0034490
- Mobini, S., & Grant, A. (2007). Clinical implications of attentional bias in anxiety disorders: An integrative literature review. *Psychotherapy: Theory, Research, Practice, Training, 44*(4), 450-462. doi: 10.1037/0033-3204.44.4.450

- Narramore, M. E. (2004). *Tithing, low-realm, obsolete, and defunct*. London: Tekoa Publishing.
- Newman, L. S., & Baumeister, R. F. (1993). *Defensive preoccupation as a response to ego threat: When bad news gets a busy signal*. manuscript. Case Western Reserve University.
- Olson, J. M., & Zanna, M. P. (1979). A new look at selective exposure. *Journal of Experimental Social Psychology, 15*(1), 1-15. doi: 10.1016/0022-1031(79)90014-3
- Prince, B. D. (2002). *Why tithing is not for the Church*. London: AuthorHouse.
- Schwarz, N., Frey, D., & Kumpf, M. (1980). Interactive effects of writing and reading a persuasive essay on attitude change and selective exposure. *Journal of Experimental Social Psychology, 16*(1), 1-17. doi: 10.1016/0022-1031(80)90032-3
- Sears, D. O., & Freedman, J. L. (1967). Selective exposure to information: A critical review. *The Public Opinion Quarterly, 31*(2), 194-213.
- Swann, W. B., Rentfrow, P. J., & Guinn, J. (2002). Self-verification: The search for coherence. In M. R. Leary & J. Taguey (Eds.), *Handbook of self and identity*. New York: Guilford.
- Wenger, J. L. (2007). The implicit nature of intrinsic religious pursuit. *International Journal for the Psychology of Religion, 17*(1), 47-60. doi: doi:10.1207/s15327582ijpr1701_4
- Yousaf, O., & Gobet, F. (2013). The emotional and attitudinal consequences of religious hypocrisy: Experimental evidence using a cognitive dissonance paradigm. *The*

Journal of Social Psychology, 153(6), 667-686. doi:

10.1080/00224545.2013.814620

Figure 1. Number of attitude-consistent versus attitude-inconsistent statements selected by the two groups. Error bars represent ± 1 SE.

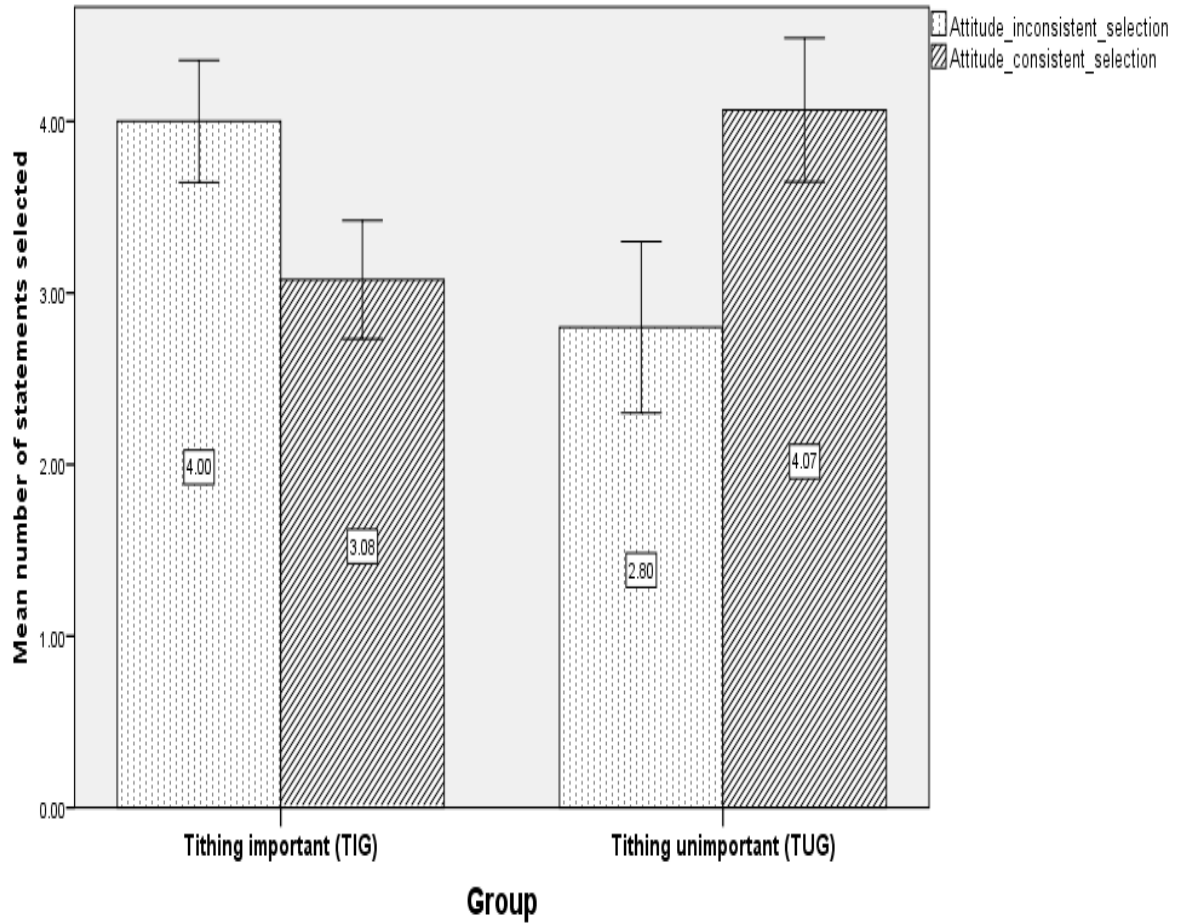
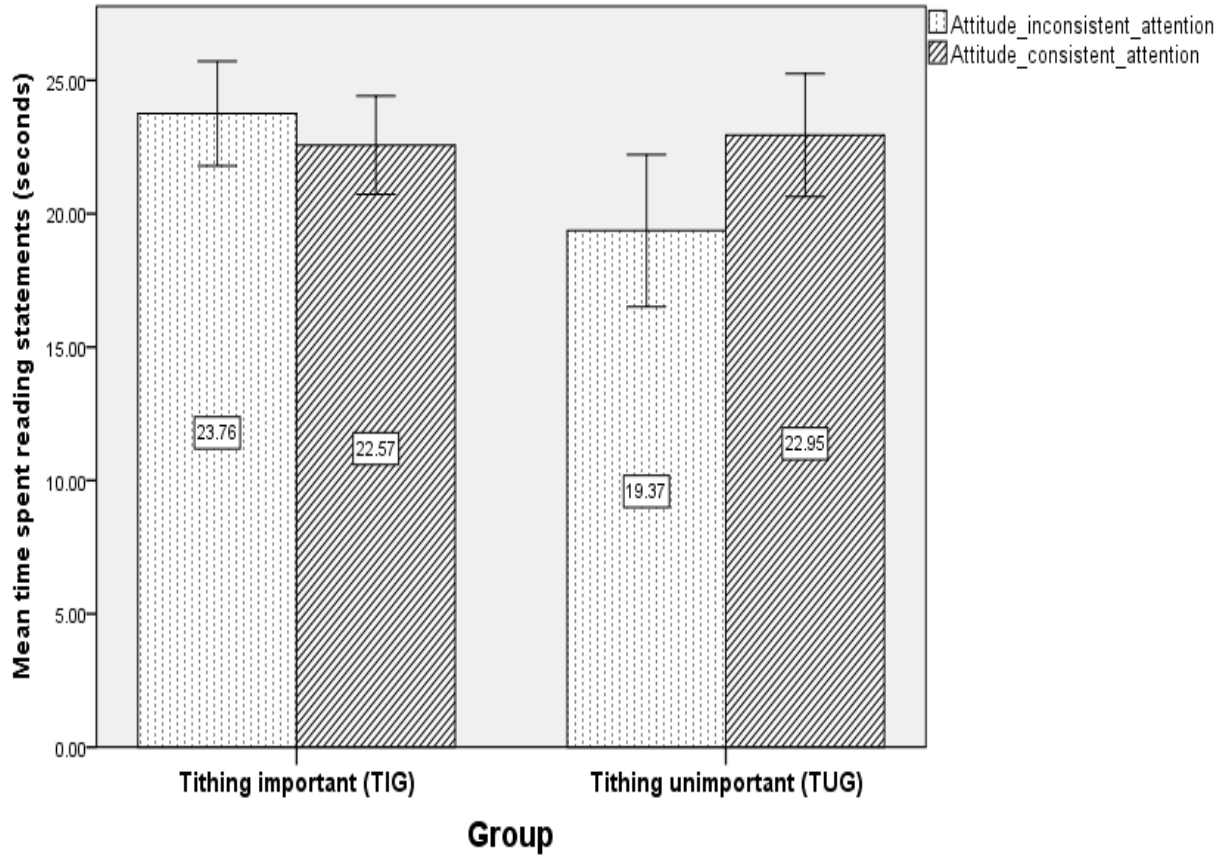


Figure 2. Average reading times of attitude-consistent versus attitude-inconsistent statements by the two groups. Error bars represent ± 1 SE.



Appendix A: Tithing titles

Tithing is not for the church because Jesus established a New Covenant. (Con)

Tithing is an important commandment in both the Old and the New Testaments. (Pro)

The doctrine of tithing distracts people from the ideal relationship with God. (Con)

People who tithe gain many more blessings from God than people who do not tithe. (Pro)

Tithing is an enriching practice because it increases our generosity. (Pro)

Tithing was never meant as financial giving and therefore it is obsolete. (Con)

Christians who follow tithing literally are victims of a major misunderstanding. (Con)

Obedience to God cannot be accomplished without practising tithing. (Pro)

It is the duty of every Christian to tithe so that the church can do its work. (Pro)

Tithing is one form of worship for Christians because it reminds us of God's grace. (Pro)

Tithing is absent from the passages regarding giving in the New Testament. (Con)

Tithing has no role to play in receiving God's mercy and in obtaining salvation. (Con)

In this materialistic world, tithing is one way to secure a treasure in Heaven. (Pro)

In light of biblical teachings, tithing is one road to prosperity. (Pro)

Tithing is not very useful because the church does not spend the money efficiently. (Con)

We should not insist on tithing when so much other good work can be done. (Con)

Supplementary material: Tithing statements

Tithing is not for the church because Jesus established a New Covenant. Before Jesus, there were different Laws of God but the cross changed that and a new Law was born at the cross. It is important for Christians to understand the significance of the New Covenant and the importance of following it. For example, In the Gospel of Luke 22:20 Jesus says: *In the same way, after the supper he took the cup, saying, 'This cup is the new covenant in my blood, which is poured out for you.* Why would Jesus make such a statement unless he wanted to emphasise the importance of the New Covenant, and encourage Christians to live in it? Surely, Jesus was implying that with the New Covenant comes a new way of relating to God. We cannot base our present relationship with God on the paradigms of the past. By doing this, we will only be limiting our understanding and development. Tithing was only meant for the past and today it has no value.

The doctrine of tithing distracts people from the ideal relationship with God. Central to the ideal relationship between humans and God is an internal, spiritual union, and not external practices like tithing. If God merely wanted us to engage in outward practices like tithing, He would not have made belief so central: *"I would like to learn just one thing from you: Did you receive the Spirit by observing the law, or by believing what you heard?"* (Galatians 3:2). This verse shows the importance of belief over simply obeying a Law.

Salvation is the ultimate goal of Christians, and the way to achieve it is through the grace of God, not through outward practices that may or may not be sincere. We should focus on internal qualities rather than on practices that are publicly attractive because our final destination is with God who loves us partly for our faith and partly for the fact that we are His children. He does not love us for our public practices.

Tithing is an important commandment in both the Old and the New Testaments. Some Christians today are in doubt about the extent to which tithing applies to them. If they read the Bible, they will come across statements that directly command believers to tithe. For example, in Leviticus 27:30 God commands: *"And all the tithe of the land, whether of the seed of the land, or of the fruit of the tree, is the Lord's: it is holy unto the Lord."* In Deuteronomy 14:22-23 it is further said: *"Be sure to set aside a tenth of all that your fields produce each year."* In the New Testament, there are also passages that emphasise tithing, e.g., Hebrews 7:4: "Just think how great he was: Even the patriarch Abraham gave him a tenth of the plunder!" All these passages unequivocally show the importance of tithing by either commanding it directly or by showing its significance through stories of great prophets who are praised for practising the commandment of tithing.

People who tithe gain many more blessings of God than people who do not tithe. There are certain practices commanded in the Bible that directly invite blessings from God, and tithing is one of them. Abraham tithed unto Melchizedek, Isaac tithed, his son Jacob and many others also tithed even before the law was given. Many Christians do not tithe because they have been taught that they are not under the law, but under grace. While this is true, God did not institute the tithe to bring us under the law, but to get blessings to His children. Abraham tithed before the law, and God blessed him supernaturally. We are under

grace that we might establish the law; not turn from it. Therefore sincere believers will naturally feel the need continuously to obtain more blessings from God, and if we want to belong to the group of believers who are constantly blessed by God, we need to practice tithing. It worked for great prophets, so why should it not work for us?

Tithing is an enriching practice because it increases our generosity. We always refer to God as being generous, however we tend to forget that generosity is a virtue that is also important for human beings. For example, in Luke 6:38 we find the following: *“Give, and it will be given to you. A good measure, pressed down, shaken together and running over, will be poured into your lap. For with the measure you use, it will be measured to you.”* We also find in Proverbs 14:21 that: *“He who despises his neighbour sins, but blessed is he who is kind to the needy.”* These two examples from the New Testament clearly illustrate the necessary and crucial practice of giving. Moreover, in Malachi 3:8 it is clear that not tithing is equivalent to robbing God: *“Will a man rob God? Yet you rob me. But you ask, ‘How do we rob you?’ In tithes and offerings.”* Thus, if we want to be generous and not rob God we should all tithe.

Tithing was never meant as financial giving and therefore it is obsolete. The common misunderstanding is that the Bible encourages giving a tenth of everything you earn, however God never meant tithing as a financial giving. In Leviticus 27:30 God says: *A tithe of everything from the land, whether grain from the soil or fruit from the trees, belongs to the LORD; it is holy to the LORD.*” God specifically commands the people to give tithing from what they earn from the land and not from what they earn from other things. God probably had a good reason for pointing out that tithing is what comes from the land. If God wanted us to offer Him a tenth of everything we earn, and not only from the land, He would

have made this clear in His revelation. There is always a very good reason for why God sends down the commandments in the words He does, and failure to understand this sometimes causes Christians to go astray.

Obedience to God cannot be accomplished without practising tithing. The purpose of Scripture is to inform us about what we should and should not do. God wants us to follow His commandments: *“See that you do all I command you; do not add to it or take away from it.”* (Deuteronomy 12:32). Without following His commandments we cannot be obedient, and disobedient believers can never be as good as obedient believers. Isaiah 1:19 says: *“If you are willing and obedient, you will eat the best from the land.”* Hence, obedience should not be underestimated. Despite this, some Christians ignore important passages from the Bible that command tithing. In Matthew 23:23 it is said: *“Woe to you, teachers of the law and Pharisees, you hypocrites! You give a tenth of your spices—mint, dill and cumin. But you have neglected the more important matters of the law—justice, mercy and faithfulness. You should have practiced the latter, without neglecting the former.”* This shows that we cannot neglect any of God’s commandments, including tithing.

Christians who follow tithing literally are victims of a major misunderstanding. Trying to practice tithing by giving exactly a tenth of one’s earnings is very naïve in light of the Bible. There are numerous examples where it is shown that generosity is more than following a percentage. One of the most popular examples is the case of the Widow’s Mite in the gospel of Mark 12:42-44: *Many rich people threw in large amounts. But a poor widow came and put in two very small copper coins worth only a fraction of a penny. Calling his disciples to him, Jesus said, “I tell you the truth, this poor widow has put more into the treasury than all the others. They all gave out of their wealth; but she, out of her poverty, put in everything—*

all she had to live on." This example demonstrates that the amount we should offer to God cannot be measured in percentages or numbers; instead every person should give out of their own will and ability.

Tithing is absent from the passages regarding giving in the New Testament. Although there are many passages in the New Testament about giving and its goodness, there is not any mention of tithing in any of these passages. This clearly points to the fact that tithing is not required by Christians as it was required in the Old Covenant. Moreover, in the New Testament there is no rebuke for non-payment of tithing whereas in the Old Testament non-payment of tithing was strongly rebuked in, for example, Malachi and Nehemiah. Tithing is also absent from the descriptions of how the early church gave, despite the numerous mentions of the givings of the church. So overall it is quite surprising that some Christians actually believe that tithing is an important practice when there is not any mention of it in the relevant passages of the New Testament. If tithing was so dear to God, He would surely have emphasized it in places where there is mention of giving and generosity.

Tithing has no role to play in receiving God's mercy and in obtaining salvation. Christians should focus on the things that will eventually save us, and tithing is definitely not one of them. In Titus 3:4-6 this is clear: *"But when the kindness and love of God our Saviour appeared, he saved us, not because of righteous things we had done, but because of his mercy. He saved us through the washing of rebirth and renewal by the Holy Spirit, whom he poured out on us generously through Jesus Christ our Saviour."* From this passage it is obvious that God saves us because of His mercy and grace, and not because of the righteous things that we do, let alone minor practices like tithing. God's kindness and mercy are far more important than His attention to formal givings like tithing which seem to be very

righteous but when we pay attention to the Bible it becomes apparent that they cannot save us on the Day of Judgment.

It is the duty of every Christian to tithe so that the church can do its work. Some Christians may believe that the church has done its job and that they cannot do anything to help its cause. However, they do not realize that Jesus himself said that the Gospel needs to be spread around the world to every place: *“And this gospel of the kingdom will be preached in the whole world as a testimony to all nations, and then the end will come.”* (Matthew 24:14). We cannot expect that the message will be spread automatically, without any effort from Christians; we all need to contribute in all ways that we can. This includes tithing which is a major contributor in spreading the message of Jesus around the world. By tithing we are not only helping the church do its job but we are also fulfilling our duty of spreading the Gospel so that all people in the world can understand and follow the beautiful teachings of the Gospel.

Tithing is one form of worship for Christians because it reminds us of God’s grace. We human beings tend to forget all the things that God has blessed us with. God is the one who provides us with subsistence and all the bounties in the world. All he asks us to do, is to offer Him a tenth of our earnings. In Ephesians 2:8-10 it is said: *“For it is by grace you have been saved, through faith—and this not from yourselves, it is the gift of God— not by works, so that no one can boast. For we are God's workmanship, created in Christ Jesus to do good works, which God prepared in advance for us to do.”* What can be a better reminder of God’s grace than to regularly offer Him tithings as an acknowledgement of His mercy and grace? Our forgetful nature requires us to engage in tithing so that we do not forget the reality that everything we own belongs to God.

Tithing is not very useful because the church does not spend the money efficiently. In biblical times, people used to help the poor directly, not through the church. In the Bible, we only find verses that speak about giving to the needy in person. For example, in Proverbs 22:9 it is said: *“A generous man will himself be blessed, for he shares his food with the poor.”* As the tradition of tithing through the church developed, the efficiency of helping the needy continued to fall since the poor were not getting the money or goods directly but instead through the church which usually spends part of people’s tithes on administration costs. This conflicts with the verses in the Bible that encourage us to help the poor directly. Thus, it seems more sensible to give money directly to the needy as one finds it appropriate, rather than relying on an inefficient system of tithing through the church which does not seem to work in an optimal way.

We should not insist on tithing when so much other good work can be done. The world we live in today is very different to what it used to be in Biblical times. Back then, there were no official charity organizations like there are today, and people lived under much poorer circumstances. Today, on the other hand, thousands of charities and human rights organizations that help poor people exist. Why, then, are some of us caught up in old formal practices like tithing? Although there are still many poor people in the world, there are also many other important things we can offer people. For example, we can do regular volunteer work on educating children, we can teach Christianity to make people’s lives more meaningful in this hectic world, or we can help people with emotional and social problems. There are more volunteer opportunities available than there are people to fill them. Helping our fellow human beings is something we can do in other ways than through the rigid practice of tithing.

In this materialistic world, tithing is one way to secure a treasure in Heaven. In the world today, the focus in people's lives seems to have become very materialistic: nothing we own is enough; we always want more and more. We work more and more so that we are able to afford the newest luxuries in our time. However, this is in contrast to what Jesus himself said in Matthew 19:21: "*Jesus answered, "If you want to be perfect, go, sell your possessions and give to the poor, and you will have treasure in heaven. Then come, follow me."*" Such passages in the Bible show to us the importance of giving rather than saving and buying because nothing we save or buy in this world will remain with us in the hereafter. Only by giving in this world can we receive in the hereafter. By tithing we are actually investing in our acceptance in Heaven, but unfortunately, not everyone is able to realise this, despite clear verses from the Bible.

In light of biblical teachings, tithing is one road to prosperity. Everybody wants to prosper and be happy in this life but most people do not try to find ways of achieving this through the Bible. Prosperity is important for human beings and God knows this; this is why God promises that He will bless us with affluence if we honour Him with our wealth: "*Honour the LORD with your wealth, with the firstfruits of all your crops; then your barns will be filled to overflowing, and your vats will brim over with new wine.*" (Proverbs 3:9-10). In return for our gifts to God in the form of tithes, God shows us His mercy and blessings. Just like with everything else in life, we have to take the first step toward something if we want to know what it holds for us. The same principle applies to tithing: if we show to God that we are dedicated to Him, He will certainly give us prosperity in return.