

# Implicit Theories of Interest: Finding or Developing Your Passion

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**Abstract:** *People are frequently told to discover their passion, as if passions and interests are predetermined and must simply be discovered. However, this concept has hidden motivational implications. Five studies investigated implicit theories of interest—the idea that personal interests are either fixed (fixed theory) or developed (developed theory) (growth theory). A fixed theory, whether assessed or experimentally induced, was more likely to dampen interest in areas outside of people’s existing interests (study 1-3). Individuals who supported a fixed theory were also more likely to anticipating potential difficulties to pursue a new interest, people induced to hold a fixed rather than a growth theory of interest lost interest significantly more. (Study 5) urging people to discover their passion may lead to them putting all their eggs in one basket, only to drop that basket when it becomes too heavy to carry.*

**Keywords:** Motivation, Social Cognition, Interest, Passion, Implicit Self-Theories, Open Data, Open Materials, and Preregistration

## I. INTRODUCTION

The phrase “find your passion” has become increasingly popular in recent years. But where do interests come from and how do they manifest themselves? Are there hidden interests waiting to be discovered? Is it necessary to cultivate a spark of interest through investment and perseverance? This distinction is central to implicit theories of interest: whether interests and passions are conceived of as inherent and relatively fixed or as developed. We hypothesise that the belief that interests are inherent rather than developed has significant hidden implication. For starter, this belied implies that the number of interests one can have is limited, and thus that once people have discovered their interests, there is little reason to explore other areas. Second, the concept of inherent interests may imply that a strong and deeply internalised interest—a passion—provides constant motivation and inspiration; thus, engaging in the interest should come relatively easily, with little difficulty or frustration. However, if interests are developed, having a strong interest in one area does not preclude developing interests in other areas. Furthermore, the belief that interests are developed rather than revealed fully formed implies that this development may be difficult at times. If this is the case, a growth theory of interest may aid in maintaining interest in the face of frustration or difficulty.

## II. RESEARCH METHODOLOGY

We investigated how implicit theories of interest, both measured as an individual difference and induced to test their causal effects, influence people's openness to areas outside their core interests (Studies 1 to 3). The fourth study looked at how theories of interest influence expectations about how motivation should unfold. Finding a passion should imply that it will provide unlimited motivation, making its pursuit relatively easy for individuals who hold a fixed theory. Individuals who believe in growth theory, on the other hand, should expect difficulty in pursuing even strong interests at times. Finally, if a fixed theory is associated with the expectation that pursuing a strong interest will be simple, that belief may lead people to dismiss an interest if it proves difficult. In Study 5, we put this hypothesis to the test.

The current study is based on previous research on implicit self-theories, which shows that people can hold fixed and growth theories for a variety of attributes, including intelligence (see O'Keefe, 2013), personality (Erdley&Dweck, 1993), shyness (Beer, 2002), and willpower (Job, Dweck, & Walton, 2010). Importantly, believing that change is possible in one domain (e.g., intelligence) does not necessarily imply that change is possible in another (e.g., personality; e.g., Dweck, Chiu, & Hong, 1995; Schroder, Dawood, Yalch, Donnellan, & Moser, 2016). Theories of interest differ theoretically from

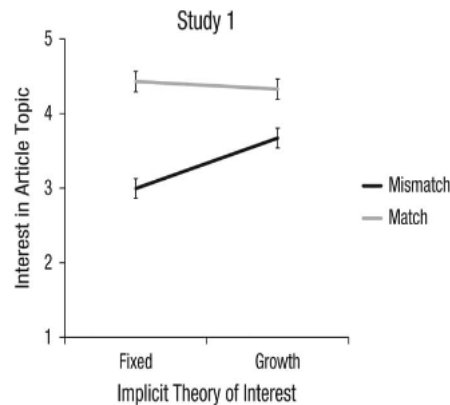
these other constructs. Although theories of intelligence—beliefs about the malleability of intelligence—can predict whether people pursue intellectual challenges, they cannot predict a person's openness to developing new interests in areas other than their current area of interest. The current study differs from previous research on beliefs about vocational passion (Chen, Ellsworth, & Schwarz, 2015), which focuses on occupational fit and deeply internalised passions rather than the broader spectrum of pursuits

### **III. STUDY: ADAPTABILITY TO NEW INTERESTS**

Do interest theories predict people's openness to new interests? University students expressed interest in two academic articles, one related to their existing interest and the other not. We anticipated that students endorsing fixed and growth theories would have equal interest in the article within their field of study, but that students endorsing a fixed theory would have less interest in the article outside of their field of study than students endorsing a growth theory.

- **Method:** This was a preregistered replication (<https://osf.io/dmfefq/>) of a previous laboratory study with nearly identical results. The previous study had a higher impact because it was delivered in a lab setting rather than online, but it had a smaller sample size (it is summarised in the Supplemental Material available online).
- **Participants:** We focused on college students in this and subsequent studies because they are typically exploring potential interests and are frequently encouraged to find their passion. For our primary hypothesis, we calculated that 84 people would be needed to have 80% power to detect a medium-sized effect with four predictors ( $=.05$ ). Our assumed medium-sized effect was based on the previous study's effect, which yielded a large effect size, but was carried out in a more controlled setting. Because the current study was conducted online, we expected a smaller effect size due to the less controlled setting. In exchange for a \$6 gift card, we recruited 126 university students (73 female students, 53 male students; age:  $M = 23.11$  years,  $SD = 5.30$ ) from a paid pool.
- **Procedure:** Participants were recruited for a study in which they were told they would read two articles and report their thoughts on them. First, they completed an online pre-screening that included personality tests and the degree to which participants self-identified as a "techy" (local slang for students interested in technology, math, engineering, and hard sciences) and a "fuzzy" (local slang for students interested in soft sciences). (Local jargon for students interested in the arts and humanities.) Only students who identified as one type and not the other (not both or neither) were immediately assigned to the main study, as described below.
- After providing informed consent, students completed an assessment of implicit theories of interest in the main portion of the study (also online) and were then told they would share their thoughts on two articles: one related to techy interests and the other to fuzzy interests. Participants read the article that matched their interest identity first, then the article that mismatched their techy or fuzzy identity. Participants reported their level of interest in the topic after reading each article. They were then debriefed after completing several secondary tasks and questions (see Supplemental Material), as well as demographic questions. The entire session lasted about 30 minutes.
- **Materials:** The technical article, published in *Science* (Hornby & Kurtoglu, 2009), discussed the future of the Internet and the potential for websites to use adaptive evolutionary algorithms rather than simply responding to user input. The hazy article was published in the *Proceedings of the Modern Language Association* (Klein, 2010) and discussed the future of literary criticism as well as Jacques Derrida's influence. Both articles were edited to be roughly similar in length and format (920 and 1,194 words, respectively), and images were removed from the technical article for consistency. Each article's source was provided.
- **Measures:** Receptivity to new experiences Participants completed the Ten-Item Personality Inventory during the pre-screening session (Gosling, Renfrow, & Swann, 2003). They were shown ten personality traits, two of which represented each of the Big Five personality dimensions, and asked to rate how strongly they agreed or disagreed that the item applied to them (1 = strongly disagree, 7 = strongly agree). We used the items "I see myself as open to new experiences, complex" and "I see myself as conventional, uncreative" (reverse scored;  $M = 5.04$ ,  $SD = 1.16$ ). Greater openness to new experiences may indicate a greater interest in the mismatched article. By including this covariate, we were able to test the effects of theories of interest that were not affected by this factor.

- Identification of technical and fuzzy** interests in addition, during pre-screening, students reported their level of agreement with two statements: "I am a Techy" ( $M = 3.70$ ,  $SD = 1.72$ ) and "I am a Fuzzy" ( $M = 3.55$ ,  $SD = 1.54$ ; 1 = strongly disagree, 6 = strongly agree). (In a previous laboratory study reported in the Supplementary Material, these measures were completed in an unconnected mass testing session embedded within many other measures 4 to 10 weeks prior to participation in the main study, rather than immediately before the study began.) Students who agreed with one statement (rating of 4, 5, or 6) but disagreed with the other statement (rating of 1, 2, or 3) were eligible for the main study. There were 64 self-identified techies and 62 self-identified fuzzies in total. In addition to assisting our selection procedure, the degree of self-identification of participants as a techy and a fuzzy were used as covariates. These variables were used to control for the strength of participants' interest identity in each area, which could predict their interest in the two articles. We were able to test the hypothesis that theories of interest would predict interest in the mismatching article beyond the strength of participants' interest identities using this procedure. Interest theories that are implicit Students who qualified for the current study indicated their level of agreement with four statements evaluating implicit theories of interest. These statements were adapted from Dweck's (1999) theory of intelligence scale: "To be honest, your core interests will stay the same. They're not going to change." "No matter how important your interests are to you, they can shift dramatically," "You can be exposed to new things, but your core interests will not change very much," and "Even if you have very strong interests, they can change dramatically" (1 = strongly disagree, 6 = strongly agree;  $r = .77$ ,  $M = 3.68$ ,  $SD = 0.89$ ). In a previous study (see Supplementary Material), implicit theories of interest were assessed weeks earlier in an unrelated mass testing session, which was similar to the procedure used in this study for technical and hazy interest identification That recruitment procedure, as well as the one used in Study 2, eliminated the possibility that demand processes could explain our findings.
- Topics of interest** for articles Participants' interest in the article topic was assessed after reading each article using a modified version of the interest scale developed by Linnenbrink-Garcia and colleagues (2010, Study 2). "Reading this article was exciting," "I'd like to learn more about the topic discussed in the article," and "I could see myself pursuing a career in the field discussed in the article" were among the 11 items (1 = strongly disagree, 7 = strongly agree; techy article:  $r = .95$ ,  $M = 4.67$ ,  $SD = 1.43$ ; fuzzy article:  $r = .96$ ,  $M = 3.63$ ,  $SD = 1.54$ ).
- Result:** An analysis of covariance with repeated measures revealed the predicted interaction between theories of interest and article type,  $F(1, 123) = 5.32$ ,  $p = .023$ ,  $\eta^2 = .04$ . The greater the number of participants who supported a fixed theory, the less interest they expressed in the article that did not match their interest identity,  $\beta = 0.22$ ,  $t(123) = 2.50$ ,  $p = .014$ . Theories of interest, however, did not predict interest in the identity-matching article,  $\beta = 0.04$ ,  $t(123) = 0.46$ ,  $p = .647$ .
- This interaction held,  $F(1, 120) = 6.70$ ,  $p = .011$ ,  $\eta^2 = .05$  (see Fig. 1), after controlling for the main effects of techy-identity strength,  $F(1, 120) = 12.34$ ,  $p = .001$ ,  $\eta^2 = .09$ ; fuzzy-identity strength,  $F(1, 120) = 10.08$ ,  $p = .002$ ,  $\eta^2 = .09$ ; and openness to experience,  $F(1, 120) = 1.97$ ,  $p = .162$ ,  $\eta^2 = .016$ . Theories of interest predicted interest in the identity-matching article,  $F(1, 120) = 0.09$ ,  $p = .766$ ,  $\eta^2 = .001$  for techy identity;  $F(1, 120) = 22.13$ ,  $p = .001$ ,  $\eta^2 = .16$  for openness to experience.
- The model with covariates revealed that, as in the model without covariates, a stronger fixed theory predicted relatively less interest in the mismatching article,  $\beta = 0.24$ ,  $t(120) = 2.88$ ,  $p = .005$ ; however, implicit theories of interest did not predict interest in the matching topic,  $\beta = 0.04$ ,  $t(120) = 0.42$ ,  $p = .678$ .
- Students' mean rating of interest in the articles that matched and mismatched their techy- or fuzzy-interest identity as a function of their theory of interest (Study 1). Fixed and growth theories of interest are plotted at 1 standard deviation below and above the mean, respectively. The analysis controlled for techy- and fuzzy-interest identities and openness to experience as well as their interactions with article type. The interest scale ranged from 1 to 7. Error bars represent standard errors.
- Discussion:** The belief that interests are fixed implies that people have some and not others. According to the findings of Study 1, a stronger fixed theory was associated with less interest in the topic outside of participants' pre-existing interest.



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