

Research Article

Measuring Beliefs in Conspiracy Theories: Developing the Turkish Conspiracy Mentality Scale (TCMS)*

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ABSTRACT

Scales that claim to measure generic conspiracy beliefs are significant instruments for understanding people's tendency to believe in specific conspiracy theories. Several studies have been conducted on conspiracy theories in Türkiye in recent years. However, there is a lack of a scale that measures generic conspiracy beliefs and a scale that can be developed by considering the local socio-cultural dynamics of Türkiye. This study aims to develop a psychometrically valid and reliable Turkish scale for assessing generic conspiracy beliefs. This study introduces the Turkish Conspiracy Mentality Scale (TCMS), which was developed to measure generic conspiracist beliefs and predict specific theory endorsements. The validity and reliability of the scale were evaluated with reference to three studies. Study 1 (N=112) explored four critical dimensions of conspiracy: deep state, sexuality, foreign powers, and health. Study 2 (N=374) confirmed the content, face, criterion, predictive, and construct validity and reliability of the scale, while Study 3 (N=1110) provided further evidence of the psychometric strength of the scale in a representative Türkiye sample. A recent study conducted in NUTS 1 regions has shown that the scale can be used in a large and representative sample. The findings of this study highlight the power of TCMS in measuring and predicting generic and specific conspiracy theory beliefs.

Keywords: Conspiracy, Conspiracy Mentality, Conspiracy Belief, Türkiye

1. Introduction

Academic studies on conspiracy theories have become an increasingly popular research area worldwide. The belief in conspiracy theory involves the idea that a malevolent force orchestrates undesirable events (Akcakaya, 2023). Such theories, which are widely believed (Granados Samayoa et al., 2022; Stojanov & Hannawa, 2022), have gained significant attention in the field of Turkish research and in society over the past decade (Erdoğan et al., 2022; Ertür, 2016; Gürpinar, 2020; Karaosmanoğlu, 2021; Nefes, 2019; 2015). These narratives intertwine hundreds of actors with real or imagined events, shaping perceptions of coups, sabotage, elections, assassination, and mind control. Understanding who believes in these narratives and their motivations to do so remains elusive (Nefes, 2015). The absence of a reliable Turkish scale prevents analysis of individual differences in conspiracist beliefs.

One of the most basic predictors of conspiracy beliefs in Türkiye is the Sèvres Syndrome. Sèvres Syndrome is described as a product of the fear of the Treaty of Sevres signed on August 10, 1920, after World War I (Guida, 2008). The treaty in question included the partition of Türkiye, which was within the borders of the Ottoman Empire, and its occupation by Western states (Gokcek, 2011). Although the treaty in question has not come into force, this fear of partition has caused serious concern in Türkiye (Nefes, 2015). For more than 100 years, the fear that Türkiye would be divided, especially by foreign powers, and that conspiracies would be organized against Türkiye, has fundamentally affected the way social actors make sense of their lives. Recent empirical studies have revealed that this fear predicts conspiracy beliefs (Akçakaya, 2023). However, it is observed that there are very few studies. The lack of measurement tools for quantitative applications can be considered one of the reasons why research cannot be conducted.

The Conspiracy Mentality Questionnaire (CMQ) developed by Bruder et al. (2013) is the only Turkish instrument, yet it has limitations (Swami et al., 2017) and has been used in a few studies (Akcakaya, 2023; Baserdem, 2019; Erdogan et al., 2022). Despite existing instruments for other countries, adapting these to Türkiye's socio-cultural context is theoretically challenging (Stojanov & Hannawa, 2022). The perspective of this study is consistent with the need for scales that are compatible with local cultures while acknowledging the limitations of cross-cultural translation (Stojanov & Hannawa, 2022). To address this lack, a Türkiye-specific scale was developed which capture; *health, sexuality, the deep state, and foreign powers* (Ertür, 2016; Gürpinar, 2020; Nefes, 2019). However, conspiracy theories cannot be easily categorized in Türkiye or anywhere else in the world. Accordingly, it can be concluded that conspiracy theories are intertwined. This generic, non-event-based approach to measuring conspiratorial ideation may overcome the theoretical and practical problems associated with measures that refer to specific conspiracy theories (Brotherton et al., 2013).

2. Academic Efforts to Measure Conspiracy Beliefs

Global consensus on the measurement of conspiracy beliefs has yet to be established (Butter & Knight, 2019). Despite ongoing efforts, a consistent measurement approach has remained elusive. Academic endeavors to address this issue manifest in two main methods of assessing beliefs in conspiracy theories in such studies (Brotherton et al., 2013; Granados Samayoa et al., 2022; Stojanov & Halberstadt, 2019; Swami et al., 2017). The basic method involves measuring beliefs in specific conspiracy theories by selecting from a myriad of conspiracy claims based on research objectives (Abalakina-Paap et al., 1999; Darwin et al., 2011; Douglas & Sutton, 2011; Goertzel, 1994; Leman & Cinnirella, 2007; Shapiro et al., 2016; Swami, Chamorro-Premuzic, & Furnham, 2010). On the other hand, the alternative method assesses broader constructs, such as conspiracy thinking, mentality, mindset, or conspiratorial worldview, without focusing on specific theories (Brotherton et al., 2013; Bruder et al., 2013; Lantian et al., 2016; Stojanov & Halberstadt, 2012). In these scales, real events and names are excluded, and the overall nature of the claims is subjected to analysis and subsequently transformed into scale items.

2.1. Measuring Specific Beliefs

Studies examining specific conspiracy theories aim to determine whether participants believe in one or more conspiracy theories (Granados Samayoa et al., 2022). In general, such assessments employ two distinct methods. The first method measures these beliefs using single items. For example, Goertzel (1994) measured various beliefs, such as AIDS, economic, and health conspiracies, using separate items. In such studies, the significance of conducting validity and reliability tests is often underemphasized (Swami et al., 2017). The second method assesses specific conspiracy claims with multiple items typically using scales whose psychometric validity and reliability tests are given prominence. For example, Shapiro et al. (2016) examined vaccine conspiracy beliefs using the Vaccine Conspiracy Beliefs Scale (VCBS), which contains multiple items regarding the concept. Comparable studies include beliefs surrounding the July 7, 2005 London bombings (Swami et al., 2011), beliefs regarding the kidnaping of Natascha Kampusch (Stieger et al.,

2013), and commercial conspiracy theories (Furham, 2013). These measurements cover a variety of cultural, social, temporal, and spatial contexts based on the narratives of societies.

Although measures focusing on a specific topic with single or multiple items are more reasonable for validity and reliability, they are insufficient for understanding generic conspiracy thinking or mentality (Brotherton et al., 2013). Belief in a single conspiracy theory or topic does not necessarily indicate a generic conspiracist belief (Basham & Dentith, 2018; Granados Samayoa et al., 2022). Conversely, determining which conspiracy theory to measure can be challenging for researchers who examine generic conspiracist beliefs, possibly involving an arbitrary process. Scales based on events and people may exhibit hypersensitivity to time and space and may not function effectively as societies change (Brotherton et al., 2013). The extent to which such scales measure the inclination to believe in conspiracist belief scales that focus on overarching tendencies rather than specific events (Stojanov, 2019). These scales introduce a second approach to measuring conspiracy beliefs (Bruder et al., 2013).

2.2. Measuring Generic Conspiracist Beliefs

Scales measuring generic conspiracist beliefs aim to predict an individual's propensity to believe in conspiracy theories as a whole and serve as predictive tools. Rather than separately assessing beliefs in a myriad of conspiracy theories, these scales seek to grasp the general tendency to believe in such theories (Granados Samayoa et al., 2022). Rooted in Ted Goertzel's discovery of the monological belief system, these scales have been built on the idea that belief in one conspiracy theory correlates with a likelihood of believing in others as well (Goertzel, 1994). Subsequent research affirms this tendency (Akcakaya, 2023; Alper, Bayrak, & Yilmaz, 2020 Swami et al., 2011); even suggesting that individuals may believe simultaneously in opposing theories (Wood, Douglas, & Sutton, 2012). The exploration of the monological nature of conspiracy theories has given rise to terms such *as conspiracy mentality, conspiracy ideation, conspiracy mindset, and conspiracy worldview* in research (Imhoff et al., 2022; Imhoff & Bruder, 2014; Milosevic et al., 2021; Moscovici, 1987; Stojanov & Halberstadt, 2019; Stojanov & Hannawa, 2022; Swami et al., 2011: 2017).

Recently, researchers have shifted their focus from individual conspiracy theories to measure the mentality underlying the belief in these theories. The term *conspiracy mentality*, introduced by Moscovici (1987), is commonly used in Turkish studies to describe a life comprehension approach (Akcakaya, 2023; Erdogan et al., 2022; Karaosmanoglu, 2009). Imhoff and Bruder (2014) posited that conspiracy mentality broadly indicates the inclination to believe in conspiracy theories. This philosophy guides contemporary scale studies that focus on the characteristic features of conspiracy mentality to understand generic conspiracist beliefs (Bruder et al., 2013; Lantian et al., 2016; Stojanov & Halberstadt, 2019; Stojanov & Hannawa, 2022). Although these scales are known not to provide precise data to explain specific beliefs, it is believed that they provide useful information to predict who is more likely to believe in specific conspiracy theories. In measurements investigating those with a conspiracy mentality, real events, names, and times are usually not included in the items (Bruder & et al., 2013; Lantian & et al., 2016). This situation strengthens generic conspiracist beliefs. The method mentioned above was also preferred in our scale.

Building on all of these, this study presents a scale to measure generic conspiracy beliefs in Türkiye. The current study's scale, the Turkish Conspiracy Mentality Scale (TCMS), was developed in line with the methodological and theoretical perspectives of the GCB (Brotherton et al., 2013). Although Stojanov and Halberstadt (2019) argued that conspiracy mentality is a unidimensional phenomenon, it is considered that this mentality consists of multidimensional components, as Brotherton and his colleagues (2013). Based on these principles, three analyses were conducted to validate and establish the validity and reliability of the TCMS.

3. Study 1: Exploring the Dimensions of Conspiracy Mentality in Türkiye

In Study 1, which was designed as a pilot study, we aimed to assess whether the Turkish Conspiracy Mentality Scale (TCMS) item pool is perceived or not by a low-educated sample and to explore the significant subdimensions of conspiracy mentality in Türkiye. It is suggested that studying these dimensions with a sample that includes individuals from different educational backgrounds will ensure that the TCMS items are understandable to a wide range of people.

3.1. Method

3.1.1. Participants and Procedures

Study 1 recruited participants using convenience sampling. The study included a sample of 112 individuals (57 female, 55 male, age M=32.26; SD=10.57), consisting of primary and secondary school graduates. The researchers

collected data through face-to-face interviews. Although the findings of this study are not applicable to descriptive and relational statistics, this is not a disadvantage because this study aims to carry out factor analysis.

3.1.2. Measurements

Two different measurement tools were used in the application phase of this study. The first measurement tool was the TCMS, which was developed for the purpose of this study. On the other hand, the second scale is the CMQ, which is the only Turkish scale likely to have a correlative relationship with the TCMS.

Turkish Conspiracy Mentality Scale Item Pool (TCMS): To measure conspiracy mentality, a 92-item pool was created from three sources. First, 43 items from the long form of GCB (Brotherton et al., 2013) were adapted to the TCMS. Then, 21 items were added to the item pool by conducting discourse and content analyses of four popular Turkish conspiracy theorists and reflecting the recurring themes (assassination, sexuality, homosexuality themes) in these books. Finally, another 28 items were added based on prominent themes in the academic literature on conspiracy theories (Bali, 2008; Ertür, 2016; Guida, 2008; Karaosmanoglu, 2009; Nefes, 2015; 2019). Like other generic conspiracy belief scales, items in the current scale avoid specific events and focus on a broad tendency to believe in conspiracies (e.g., *foreigners are making covert efforts to prevent the development of domestic capital*). The items were assessed on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree."

Conspiracy Mentality Questionnaire (CMQ): The CMQ was developed by Bruder and his colleagues (2013) to measure conspiracy mentality and has a Turkish version. The CMQ has relative validity and measures the tendency toward certain conspiracy theories using 5 items (α =0.80). Participants rated the likelihood of the accuracy of statements on a 10-point scale (0% to 100%). E.g., *I think that many very important things happen in the world, which the public is never informed about.*

3.2. Results

Utilizing a monological belief system assumption (Goertzel, 1994), Principal Component Analysis (PCA) with promax rotation revealed 4 evident factors in the scree plot. After removing items that did not appear as significant factors and items with weak factor loadings, a factor structure of 18 items emerged. The 4-dimensional construct of the 18 items explained 69.1% of the total variance. In the 18-item analysis, KMO= 0.852, and Bartlet's test was significant (χ^2 = 1193.187, p<0.001), indicating a sufficient sample size and correlational power for factor analysis (Tabachnick & Fidell, 2006).

The first factor, namely, the Sexuality Conspiracy (SC), comprises 6 items asserting secret manipulation toward homosexuality or sterilization attempts (α =0.90). The second, Deep State Conspiracy (DSC), is a Turkish-origin theme involving 5 items covering assassinations, terrorism, trials, and unsolved murders (α =0.82). Health Conspiracy (HC), the third factor with 4 items, encompasses medication, experiments, and mind control (α =0.84). The final factor, Foreign Powers Conspiracy (FPC), includes 4 items discussing claims of hindering mining by foreigners and evil pursuits by foreign capital (α =0.78). All item loads within the factor construct ranged from 0.41 to 1.02, and the internal consistency coefficient Cronbach's Alpha for the entire scale was 0.89.

In Study 1, strong correlations were observed between the CMQ and the TCMS. In addition, the subscales of the TCMS were significantly correlated with both the CMQ and each other (see Table 1). These figures strongly support the criterion validity of the TCMS.

Table 1. Correlations between TCMS and CMQ						
	CMQ	SC	DSC	HC	FPC	TCMS
CMQ	1					
SC	0.273**	1				
DSC	0.452**	0.268**	1			
HC	0.431**	0.361**	0.519**	1		
FPC	0.193*	0.607**	0.267**	0.383**	1	
TCMS	0.453**	0.813**	0.671**	0.739**	0.726**	1

*p < 0.05. **p < 0.01.

3.3. Discussion

The primary objective of Study 1 was to assess the perception of TCMS in a low-educated sample. Participants' limited education and unfamiliarity with the conspiratorial conceptual map led to their misunderstanding of some items. For example, some participants were unaware of the subliminal advertising claim. This demonstrated that the items needed to be generalized and simplified. The second aim of Study 1 was to explore the important subdimensions of TCMS. The result of the PCA was a 4-factor structure with 18 items. Termed deep state, health, sexuality, and foreign power conspiracies mirror prevalent themes of Turkey (Akcakaya, 2023; Bali, 2008; Guida, 2008; Gurpinar, 2020; Karaosmanoglu, 2009; Nefes, 2019). Each of the 18 items signifies a pivotal aspect of the Turkish conspiracy theorist mindset. The factor loads surpassed the acceptable criteria, and each TCMS factor exhibited highly reliable figures. Positive and significant correlations among subdimensions indicated that participants who scored high on one conspiracy theme tended to do so in others, supporting monological belief claims (Goertzel, 1994). The positive correlation between the CMQ and the TCMS supported the criterion validity of the TCMS.

4. Study 2: Psychometric Validity and Reliability of the TCMS

Study 2 was designed to test the validity and reliability of the TCMS, focusing on the dimensions explored in Study 1. In particular, to provide strong evidence of validity, participants in Study 2 were asked their belief in specific conspiracy theories, both real and fabricated.

4.1. Method

4.1.1. Participants and Procedures

In Study 2, participants were recruited using a convenience sampling method. The data were gathered voluntarily through a two-stage process. In the initial stage, online data were collected from university students (N=220). Previous studies in Türkiye have revealed that educated groups are less likely to believe in conspiracies, while men in coffee houses [kiraathanes] and housewives in rural areas are more likely to believe in conspiracies (Bozkurt, 2022; Sayin & Bozkurt, 2021). For this purpose, especially in the second stage, face-to-face data collection occurred, targeting less educated individuals, predominantly men who lived in coffee houses and housewives in rural households (N=154). This procedure was preferred because the participants were less likely to participate in online studies. This resulted in a combined dataset consisting of 374 participants, including both less educated and relatively highly educated individuals.

4.1.2. Measurements

Six measurement tools were employed in the application phase of this study. Each measurement tool is a scale that can be used to demonstrate the validity of the TCMS.

Turkish Conspiracy Mentality Scale (TCMS): The 18-item scale we obtained after Study 1 was sent to 5 academics who are experts in the field of conspiracy beliefs (N=3), language (N=1), and psychometrics (N=1). The experts' advice was analyzed using the Lawshe technique and, as a result of the analysis, 4 items were rewritten with minor semantic and semiotic corrections. In addition, 2 new items were added according to the experts' suggestions. As a result, the second version of the TCMS was expanded to include 20 items.

Conspiracy Mentality Questionnaire (CMQ): Study 2 also used the CMQ (α =0.81), which was developed by Bruder et al. (2013). Despite these criticisms, the fact that the CMQ is the only psychometrically reliable measure in Turkey led us to use it in this study as well.

The Yunk Project (YP): The YP is a fake conspiracy story developed for this study. The story claims that foreign powers are obstructing the mining of a non-existent mine, Junk, in Türkiye. The reason for including YP in the measurements was entirely related to the Treaty of Lausanne. There was a widespread and unfounded claim that underground mines could not be mined in Turkey until 2023 because of the secret provisions of the Treaty of Lausanne. Participants rated *the likelihood of the story being true* (i), *the likelihood of a similar event occurring elsewhere* (ii), and *its overall logic* (α =0.87) on a 100-point scale (0=not likely, 100=extremely likely).

Bangladesh Project (BP): BP is a conspiracy theory proposed for this study. Many conspiracy theories have been produced in Türkiye about the internal dynamics of other nations. BP was designed to measure belief toward conspiracy allegations against countries about which participants had little knowledge, with Bangladesh being one of them. The story claims that Israeli Freemasons encourage homosexuality and destroy their fertility by sterilizing them. This conspiracy allegation also contains extremely fake data. Participants rated *the likelihood of the story being true* (i), *the likelihood of a similar event occurring elsewhere* (ii), and *its overall logic* (α =0.87) on a 100-point scale (0=not likely, 100=extremely likely).

Specific Conspiracy Theories Form: After selecting specific and popular conspiracy theories in Türkiye, the participants were asked to what extent they agreed with 7 conspiracy theories (See Table 4). The selection was based on conspiracy claims discussed in academic studies (Gürpinar, 2020; Nefes; 2019; Bali, 2008; Guida 2008; Karaosmanoglu 2009) but not empirically measured. Statements were rated using a five-point Likert scale as follows: 1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, and 5: strongly agree.

Conspiratorial Thinking Form (CTF): This is a 9-item (see Table 3) one-dimensional scale that was developed to measure the characteristic features of conspiracy thinking (α =0.86). The CTS is not designed to measure the propensity to believe in conspiracy theories; rather, it aims to determine whether people have the worldview required to believe in conspiracy theories. In this sense, it is different from TCMS. Statements were rated on a five-point Likert scale as follows: 1: strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, and 5: strongly agree.

4.2. Results

4.2.1. Descriptive Statistics

Considering the scores of the TCMS items separately, we found that conspiracy statements were generally endorsed by the participants. Among the items, the statement '*Some additives that change a person's sexual preferences are put in food*' had the lowest score (M=3.05, SD=1.33); and the statement '*The deep state hides most information about terrorist activities*' had the highest score (M=3.98, SD=1.08). The mean TCMS score was 3.63 (SD=0.68).

The mean score of the 5-item CMQ was 71.5 out of 100 (SD=18.0). BP (M=66.8, SD=25.3) and YP (M=66.9, SD=23.9) were generally perceived as credible, logical, and events that could happen in other countries of the world. Among the specific conspiracy theories, the most accepted one was '*Muhsin Yazicioglu lost his life as a result of an assassination*' (M=4.3, SD=1.2), while the least accepted one was '*the Treaty of Lausanne has secret clauses that will not be revealed for 100 years*' (M=3.3, SD=1.4).

Among the CTF items, the statement '*There are people who will not give up on dividing Türkiye no matter what*' (M=4.3, SD=1.0), which can be regarded as Sevres Syndrome (Guida, 2008), received the most agreement. The CTF statement that reflects the Manichean worldview that '*people are either good or bad; there is no in-between*' (M=3.4, SD=1.3) was the least accepted. The mean of all CTF items was 3.9 (SD=0.8).

4.2.2. Validity Findings

Content and face validity: Before conducting the measurements in Study 2, expert opinions were obtained to confirm the content and face validity of the TCMS. The experts were very positive about the validity of the scale and changed the sentence structure of 4 items and added 2 new ones. After this process, data were collected in Study 2 on a 20-item scale.

Construct validity: To assess construct validity, Exploratory Factor Analysis (EFA) was conducted using promax rotation and Principal Axis Factoring. It was found that the scale created after the expert opinion maintained construct validity without the need to discard the items. This construct explained 64.6% of the total variance. Factor eigenvalues were λ =35.9% (SC), λ =14.9% (DSC), λ =7.1% (HC), and λ =6.5% (FPC), demonstrating the factors' respective contributions to the overall variance. It was found that the item loadings ranged from 0.427 to 0.811; inter-item correlations were moderate; inter-factor correlations ranged from r=0.173 to r=0.563 (p<0.01), and there was no multicollinearity among items (Determinant=2,320 >0.0001). The Bartlett test of sphericity (χ^2 =1193.187; p < 0.05) and the Kaiser-Meyer-Olkin test (0.898) indicated a high level of strength for the correlations and the sample (Tabachnick & Fidell, 2006).

Criterion and Predictive Validity: To provide evidence for the criterion validity of the TCMS, in Study 2, we examined correlations among the CMQ (M=71.5, SD=18.0), BP (M=66.8, SD=25.3), YP (M=66.9, SD=23.9), CTF (M=3.9, SD=0.8), and specific conspiracy theories.

	TCMS
CMQ	0.446**
BP	0.523**
YP	0.443**
CTF	0.551**

As shown in Table 2, all correlations were statistically significant. The results demonstrate that the proposed TCMS is valid in terms of criteria. When the correlations between the CTF items and TCMS were examined separately, it was found that they all had a statistically significant relationship (see Table 3).

Table 3. Correlation between CTF items and TCMS	
	TCMS
Nothing in life is as it seems.	0.497**
Nothing in life is random.	0.405**
Everything that happens in life is connected.	0.284**
Everything in life should be doubted.	0.383**
People, in general, should not be trusted.	0.283**
People are either good or bad; there is no in-between.	0.317**
Whoever benefits from a chaotic event has organized that event.	0.373**
The person who utters a word gives us an idea as to whether it is true or not.	0.382**
There are people who will not give up on dividing Türkiye no matter what.	0.574**
	Table 3. Correlation between CTF items and TCMS Nothing in life is as it seems. Nothing in life is random. Everything that happens in life is connected. Everything in life should be doubted. People, in general, should not be trusted. People are either good or bad; there is no in-between. Whoever benefits from a chaotic event has organized that event. The person who utters a word gives us an idea as to whether it is true or not. There are people who will not give up on dividing Türkiye no matter what.

p < 0.05. p < 0.01.

Furthermore, to understand the predictive validity of the proposed TCMS, the relationship between the TCMS score and beliefs in specific theories was examined. All correlations between specific conspiracy allegations and the TCMS were significant (Table 4, which supports the predictive validity of the TCMS.

Table 4. Correlations of specific conspiracy theories with TCMS.

		TCMS
1.	Muhsin Yazicioglu lost his life as a result of an assassination.	0.553**
2.	The coronavirus was deliberately removed from the laboratory.	0.550^{**}
3.	Turgut Ozal died in an assassination attempt.	0.501**
4.	The mining of the Bolex mine in Türkiye is being secretly prevented.	0.470**
5.	5 big families rule the world.	0.437**
6.	Secret efforts have been made to divide Türkiye with the Greater Middle East	0 410**
	Project [BOB].	0.410
7.	The Lausanne Treaty contains secret clauses that will not be revealed for 100 years.	0.382**

p < 0.05. p < 0.01.

4.2.3. Reliability Findings

Cronbach's Alpha: The internal consistency coefficient of the TCMS (Cronbach's alpha, was α =0.90. The subdimensions CSH (α =0.88), DSC (α =0.85), HC (α =0.83), and FPC (α =0.82) also had very good internal consistency coefficients.

Split-Half Method: When we divided the items into odd and even halves for the Split-Half method of the TCMS, we found that the correlation between the two halves was strong (r=0.873, p<0.01). The Cronbach's Alpha values of the two halves were 0.80 and 0.83, respectively. The Spearman-Brown coefficient, which is the reliability coefficient of the equivalent half method, was 0.93.

Guttman Method: When the reliability analysis was repeated using the Guttman method, it was found that all 6 different lambda values were high. Accordingly, each of the 6 different values among 0.85 (Lambda 1) and 0.93 (Lambda 6) provides evidence of the reliability of TCMS.

Item-total correlation: Considering the correlations of the scale items with the total scale score, it can be seen that these figures vary between 0.365 and 0.613 (p<0.01), which indicates that each item is compatible with the general logic of the scale; rather, the scale is reliable.

Discriminative item analysis: The 27% (N=101; M=46.6; SD=8.1) with the lowest TCMS score and the 27% (N=101; M=94.3; SD=3.2) with the highest score were divided into two groups. It was found that the TCMS scores of the groups differed from each other (t=34.3; p<0.05) and that the discriminative power of the TCMS was high.

4.3. Discussion

Study 2 was designed to understand the suitability of the TCMS in terms of validity and reliability. Based on this, we first obtained expert opinions to ensure content and face validity on the 4 basic dimensions we discovered in Study 1. After an expert opinion analysis using the Lawshe (1975) technique, a stronger measurement tool was obtained in terms of content and face validity. The experts' approval of each item strengthened the validity scale (DeVellis, 2017). However, measuring generic conspiracy beliefs can cause specific details to be overlooked (Bruder & et al., 2013; Brotherton, & et al., 2013; Stojanov & Halberstadt, 2019). The fact that the belief form measured here is monological (Goertzel, 1994) can overcome the disadvantages that scales might have regarding content validity.

In the EFA, an analysis was conducted to demonstrate the construct validity of the TCMS, and the same factors were obtained as in Study 1. As a result of the analysis, which explained 64.6% of the total variance, construct validity was demonstrated. In addition, the correlations of the CMQ, BP, YP, and CTF with the TCMS demonstrated criterion validity. The fact that all items of the 9-item CTF, which reflects the characteristic features of conspiracy thinking, correlated with the TCMS also strongly confirmed the criterion validity of the TCMS. Those who scored high on the TCMS implicitly assumed that nothing is as it seems, nothing is coincidental, and everything is connected, as pointed out in the literature (Barkun, 2003). In addition, Sevres syndrome (Guida, 2008), skepticism (van Prooijen, Spadaro, & Wang, 2022), distrust (Jennings & et. al., 2021), the tendency to look for perpetrators on the basis of cui bono (Osborne, 1999), a Manichean worldview (Buhari, 2021), and a way of thinking that includes logical fallacies (Akcakaya, 2023), which are prominent indicators of conspiracy thinking, showed significant relationships with TCMS scores. The fact that the TCMS is compatible with local sociological dynamics. This is because Sevres Syndrome is one of the most important predictors of conspiracy mentality in Türkiye (Guida, 2008; Akcakaya, 2023; Gürpinar, 2020; Nefes, 2015). Finally, the strong and significant correlations of specific conspiracy theories with the TCMS demonstrate the predictive validity of the scale.

When the reliability evidence of the TCMS was examined, it was found that Cronbach's alpha, Spearman-Brown coefficient, and 6 different lambda values obtained using Guttman's method reflected both excellent levels (Tabachnick & Fidell, 2006). It was found that the item-score-total correlation was moderate and that there was a significant difference in discriminative item analysis. All of these analyses indicated that our scale is a psychometrically reliable measurement tool and that the TCMS is adequate in terms of internal consistency (DeVellis, 2017). However, the sample form in both Study 1 and Study 2 carries the risk of not reflecting many differences within society.

5. Study 3: Additional Validity and Reliability Evidence in a Representative Sample

Study 3 was conducted to provide additional evidence of the validity and reliability of the TCMS in a more representative sample.

5.1. Method

5.1.1. Participants and Procedures

Study 3 was conducted using stratified sampling based on data from the Turkish Statistical Institute (TUIK). A sample size of 1110, with a 95% confidence interval and a 3% margin of error represented the Turkish population over 18 years of age. The categorical age distribution in Türkiye (M=36.0 SD=15.8), gender (female N=556 male N=554), and age by gender variables were proportioned according to NUTS 1 [Nomenclature D'unités Territoriales Statistiques] regions, which is the classification of statistical territorial units in Türkiye, to 1110 people. The data were collected face-to-face in 12 different provinces in 12 different regions by trained interviewers for an average fee of 15£.

5.1.2. Measurements

Turkish Conspiracy Mentality Scale (TCMS): The 20-item TCMS formed after Study 1 was used in its original form.

Conspiratorial Thinking Form (CTF): The CTF used in Study 2 was also used in Study 3 to determine whether the results could be confirmed in a representative sample of Türkiye.

Specific Conspiracy Theories Form: Respondents were asked about three specific conspiracy theories (Example theory: *The extraction of Carex in Türkiye is being secretly prevented*). The answers were collected on a Likert scale as follows: 1, strongly disagree, 2: disagree, 3: neither agree nor disagree, 4: agree, 5: strongly agree.

Conspiratorial Subject Scale (CSS): The CSS measures generic beliefs about whether popular figures are portrayed as conspirators in conspiracy theories 'disturbing the peace of Türkiye'. The CSS developed for this study included 22 different items/actors, such as freemasons, templars, and Jews (α =0.85). The scale does not specify an event but only asks whether or not the related actors disturb the peace in Türkiye. Those who believe that these people are disturbing the peace will also strongly believe in the conspiracies attributed to them. The scale has 5 sub-dimensions. The dimensions included internal or external actors, such as "esoteric conspirators" (α =0.93), "right-wing conspirators" (α =0.86), "foreign conspirators" (α =0.84), "left-wing conspirators" (α =0.84) and "institutional conspirators" (α =0.80). Respondents were asked whether these actors were disturbing the peace in Türkiye, and responses were scored as 1: not at all disturbing, 2: not disturbing, 3: neither disturbing nor not disturbing, 4: disturbing, and 5: very disturbing.

5.2. Results

5.2.1. Validity Findings

Confirmatory Factor Analysis (CFA): In Study 3, CFA was used to provide further evidence of construct validity. The fit indices could not be obtained at the desired level after analysis. One item was then removed, and the analysis was repeated (The removed item: *Some experiments are secretly carried out on the public without their knowledge and consent*). For the TCMS consisting of 19 items and 4 subdimensions, CFA was performed using the AMOS program with the maximum likelihood method. First, due to the large sample size in the proposed model, it was found that χ^2 /sd (CMIN / DF) was 9.05, which was above the acceptable value (Hu & Bentler, 1999). However, other fit indices were found to be at acceptable levels. To bring the value of χ^2 /sd to an acceptable level, covariances were drawn based on the M.I. values observed in the modification indices, and χ^2 /sd was brought to an acceptable level with a value of 3.78 (Wheaton, Muthen, Alwin, & Summers, 1977), and the others were brought to good fit values (Tabachnick & Fidell, 2006; Schermelleh-Engel & Moosbrugger, 2003; Hu & Bentler, 1999). From Table 5, it can be seen that the goodness-of-fit index is generally above the acceptable limits, and the values we found are generally good. This indicates that the proposed 4-dimensional 19-item TCMS was confirmed by CFA (p<0.05) and that the TCMS is constructionally valid.

İndex	Found Value	Acceptable Value
$[\chi^2/\mathrm{sd}]$	3.782	χ^2 /sd <3 (good); χ^2 /sd <5 (acceptable)
RMSEA	0.050	RMSEA<0.10
NFI	0.960	NFI≥0. 90
AGFI	0.935	$0.85 \leq AGFI \leq 0.90$
TLI(NNFI)	0.963	TLI(NNFI)≥0. 90
CFI	0.970	CFI≥0. 90
GFI	0.953	GFI≥0. 90

Table 5. CEA Fit Indices

Convergent and Discriminant Validity: Convergent and discriminant validity was also assessed using the data obtained from the factor analysis results. Four separate values were examined to identify validity cases. For convergent validity, CR (construct reliability) is expected to be 0.70 and above, and AVE (average variance extracted) is expected to be 0.50 and above. For discriminant validity, the AVE must exceed the ASV and MSV. ASV should also be less than MSV.

Table 6. Convergent and discriminant validity scores

	SC	DSC	НС	FPC	Acceptable Value	Validity Type	Validity Status
CR	0.90	0.90	0.84	0.82	CR > 0.70,	convergent validity	all valid
AVE	0.62	0.65	0.57	0.53	AVE > 0.50, indicating	convergent validity	all valid
MSV	0.386	0.346	0.242	0.282	AVE > MSV:	discriminant validity	all valid
ASV	0.328	0.209	0.289	0.328	AVE > ASV:	discriminant validity	all valid

Considering Table 6, it is apparent that TCMS is valid in terms of both convergent and discriminant values. This shows that the factors both measure similar situations in relation to each other and measure values that are slightly different, which may reflect their own originality.

Criterion and predictive validity: To confirm the criterion validity, CSS, CTFs, and specific conspiracy theories were added to the measurement instruments. Accordingly, the mean CTF was correlated with the mean TCMS by 0.398 (p<0.01). Specific conspiracy theories were correlated with TCMS, ranging from 0.471 to 0.549 (p<0.01). These correlations confirmed the criterion and predictive validity of the TCMS.

	TCMS
CSS	0.372**
Esoteric Conspirators	0.276**
Right Wing Conspirators	-0.016
Institutional Conspirators	0.398**
Left Wing Conspirators	0.208**
Foreign Conspirators	0.341**
*p < 0.05. **p < 0.01.	

Table 7. Correlations of CSS and subdimensions with TCMS

The CSS showed a significant relationship with the TCMS in both mean scores and subdimensions. As Table 5 shows, the CSS and its subdimensions—esoteric, institutional, left-wing, and foreign conspiracy factors—are related to the TCMS. The items that make up these factors include NATO, foreign intelligence services, Jews, Freemasons, and communists. Participants' attitudes about whether these actors disturbed the peace of the country were closely related to their conspiracy mentality (according to their score on the TCMS). Although the CSS does not include a specific conspiracy claim, it is consistent with the TCMS scores. Here, respondents' belief that some actor is disturbing the peace of the country is linked to their conspiracy thinking.

5.2.2. Reliability Findings

Cronbach's Alpha: The Cronbach's alpha value of the internal consistency coefficient for the 19-item TCMS was α =0.91. The values of the subdimensions were CSH = 0.91, DSC = 0.88, HC = 0.86, and FPC = 0.80 at very good levels.

Split Half Method: When the 19-item TCMS was divided into two halves as odd and even item numbers, the correlation between the two halves was found to be strong (r=0.922). The internal consistency coefficient of the first of the two halves was α =0.82, while that of the second was α =0.83. The Spearman-Brown reliability coefficient of the equivalent halves is 0.95. Both the α value of the two halves and the Spearman-Brown value indicated that the TCMS was highly reliable.

Guttman Method: 6 different lambda values were found to be high, ranging from 0.86 (lambda 1) to 0.95 (lambda 6), providing evidence of the reliability of the TCMS.

Item-total correlation: The correlations of the scale items with the total scale score ranged from r=0.446 to r=0.681 (p<0.01). The items generally showed moderate correlations with each other. This indicates that each item is compatible with the general logic of the scale and that the TCMS is a reliable measurement tool.

The discriminative item analysis: The 27% (N=300; M=51.9; SD=8.9) with the lowest score and the 27% (N=300; M=87.5; SD=4.9) with the highest score were divided into two groups. It was found that the scores of the two groups differed significantly (t=60.2; p<0.05). The discriminative power of the TCMS was high, which is an important criterion for reliability.

5.3. Discussion

After excluding one item from the analysis, the CFA provided strong additional evidence for the construct validity of the TCMS. The goodness of fit indices were excellent. Considering the sample size and the relationship between the sample and the population, this study is superior to Studies 1 and 2 in generalizability. We also used the factor analysis results to assess the convergent and discriminant validity of the TCMS. It was revealed that each TCMS factor can validly measure different themes in conspiracy theories. However, it was found that the themes in question cannot be completely distinct from each other, and that the finding of monological belief is a strong statistical reality.

In Study 3, the correlations of specific conspiracy theories, CTFs, and CSS with the TCMS confirmed the criteria and predictive validity. In particular, the relationship between the CSS, an instrument that focuses only on potential conspirators, and conspiracy mentality has not been tested in previous studies (Brotherton, & et al., 2013; Stojanov & Halberstadt, 2019; Stojanov & Hannawa, 2022; Bruder & et al., 2013). We use this new method to predict conspiracy beliefs by measuring attitudes toward popular groups (potential conspirators) in conspiracy theories. In contrast to other studies, we also focused on potential conspirators themselves and tested the criterion validity of the TCMS on actors who are considered potential conspirators.

When the reliability findings of the TCMS were examined, it was found that the internal consistency coefficient Cronbach's Alpha was quite good for both the total scale and its subdimensions. As additional evidence of internal consistency, the Spearman-Brown coefficient and 6 different lambda values were found to be high. The items were found to have moderate correlational relationships with the overall scale score, indicating that each item is compatible with the general logic of the scale and with each other (DeVellis, 2017; Tabachnick Fidell, 2006), and the TCMS is a reliable measurement tool. Additionally, discrimination analysis showed that the scores of the two groups differed significantly from each other, and the discriminative power of the TCMS was high.

6. General Discussion

In Study 1 for the TCMS, we generalized statements as much as possible and transformed them into easily understandable statements for everyone. In addition, based on the EFA results, we discovered four important dimensions of conspiracy thinking. These factors, which we call sexuality conspiracy (SC), Deep State Conspiracy (DSC), Health Conspiracy (HC), and foreign power conspiracy (FPC), have the flexibility to encompass hundreds of specific conspiracy claims. These dimensions are quite compatible with the conspiracy themes in Türkiye (Erdogan & vd., 2022; Bali, 2008; Akar, 2009; Ertür, 2016; Akcakaya, 2023; Baserdem, 2019; Buhari, 2021; Guida, 2008). The fact that the correlations between the factors were positively correlated confirms that respondents who scored high on one conspiracy theme tended to score high on another conspiracy theme (Goertzel, 1994).

Study 2 was designed to determine whether the TCMS is a psychometrically appropriate measure in terms of validity and reliability. In Study 2, expert opinion was obtained on the 4 basic dimensions identified in the previous study, and concerns regarding both content and face validity were minimized. In the EFA conducted to establish the construct validity of the TCMS, 64.6% of the total variance was explained, and construct validity was established (DeVellis, 2017). In Study 2, the correlations of the CMQ, BP, YP, specific theories, and CTF with the TCMS demonstrated criteria and predictive validity. The CTF in particular showed that many features of conspiratorial thinking were compatible with TCMS (Barkun, 2003; Guida, 2008; van-Prooijen, Spadaro, & Wang, 2022; Jennings & et. al, 2021; Osborne, 1999; Buhari, 2021; Akcakaya, 2023). The CTF has shown that some approaches to the nature of life and variables such as the Sevres Syndrome, skepticism, suspicion, the cui bono method, the Manichean worldview, and a way of thinking involving logical fallacies, which are frequently expressed in the literature and associated with conspiratorial thinking, are compatible with the TCMS.

In Study 3, additional evidence was revealed for the construct validity of the TCMS, with values obtained from CFA (Tabachnick & Fidell, 2006). This study, in which careful attention was paid to both sample size and the relationship between sample and population, is superior to our previous studies in terms of generalizability. In addition, the correlations of specific conspiracy theories, the CTF, and the CSS, which measure potential conspirators in people's minds, with the TCMS served to demonstrate criterion and predictive validity. In contrast to other studies in the literature, this study included potential conspiratorial subjects on the agenda and showed that those who believed that these subjects disturbed the peace of the country scored high on the TCMS. This provides additional evidence for the criterion validity of the TCMS and a new scale study method for measuring generic conspiracist beliefs. The goodness-of-fit indices and reliability coefficients in Study 3 were good or very good, providing strong evidence of validity and reliability. Furthermore, unlike the CMQ (Bruder & et al., 2013), which has been criticized for measuring rational beliefs (Swami et al., 2017) and is the only Turkish-language scale, the items of our scale were mostly focused on general conspiracy theories.

7. Conclusion

The TCMS is a valid and reliable measurement tool for both measuring conspiracy beliefs on different topics with its subdimensions, which include CSH, DSC, HC, and FPC, and for measuring the degree of conspiracy mentality with its 19 items as a whole (see, Appendix). A minimum score of 19 and a maximum score of 86 on the 19-item TCMS reflect the degree to which an individual exhibits a conspiracy mentality. There are no reverse-coded items in the scale. The scores can be used to predict how much people believe in specific conspiracy theories.

Although there have been many studies on conspiracy theories in Türkiye, there is a lack of measurement tools for quantitative empirical research. The TCMS attempts to address this deficiency. Recently, studies, especially in Western countries, have focused on testing variables related to conspiracy theories, such as trust, anomie, and paranoia. However, in Türkiye, no instruments are available that measure this belief by considering local cultural dynamics. As a result, it has become methodologically difficult to determine the variables associated with conspiracy beliefs. In this context, the TCMS was developed, taking into account local dynamics such as sexuality conspiracy and deep state conspiracy and providing a resource for future studies.

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Informed Consent: Consent was obtained from the participants.

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Appendix: TCMS Turkish Form [Türkçe Komplo Zihniyeti Ölçeği (TKZÖ)]

Bazı medya kurumları eşcinselliğin yayılması için gizli örgütlerle işbirliği yapmaktadır.

Dünya'da eşcinsellik kasıtlı olarak yayılmak istenmektedir.

Toplumu çökertmek için cinsellik üzerinden yürütülen gizli hesaplar mevcuttur.

Bazı ilaçlar cinsel sağlığı bozmak için kasten üretilmektedir.

İnsanları kısırlaştırmak için bazı gıdalara belirli kimyasallar konulmaktadır.

İnsanın cinsel tercihlerini değiştiren bazı katkı maddeleri gıdaların içerisine koyulmaktadır.

Derin devlet, bildiklerini konuşmaması için pek çok kişinin hayatına son vermiştir.

Faili meçhul cinayetlerin pek çoğunun sorumlusu, derin devletin müdahalesinden dolayı ortaya çıkartılamamaktadır.

Derin devlet, terörist faaliyetlere dair çoğu bilgiyi gizlemektedir.

Derin devlet, stratejik nedenlerden ötürü bazı terörist faaliyetlerin gerçekleşmesine izin verir.

Üst düzey politikacılar, utanç verici olayları halktan gizlemek için bazı insanların ölümünde rol oynamışlardır.

İnsanı insan yapan özelliklere karşı mücadele veren ve insanları robotlaştıran gizli çalışmalar vardır.

Yapay zekâ teknolojisi gizli amaçlar için insanların üzerinde test edilmektedir.

Zihin kontrol yolu ile bizi sürekli denetlemek isteyen gruplar vardır.

Yeni ilaçlar üretmek için halk üzerinde halkın bilgisi ve rızası olmadan gizlice deneyler gerçekleştirilir.

Bazı yabancılar dernek ve vakıf gibi kuruluşlar altında, bulundukları ülkeyi sömürme amaçlarını gizlemektedir.

Yabancılar yerli sermayenin gelişimini engellemek için gizli çabalar sarf etmektedir.

Türkiye'de petrol ve bor gibi madenlerin çıkartılması bazı yabancılar tarafından gizlice engellenmektedir.

Yabancı kurum ve kuruluşlara güvenmemek daima dikkatli olmak gerekmektedir.